





## Quality, Safety and Experience Committee - 18 February 2020

18 February 2020, 09:00 to 13:00

### Agenda

<b>1</b>		
<b>Standing Items</b>		10 minutes
<b>1.1</b>		
<b>Welcome and Introductions</b>		Susan Elsmore
<b>1.2</b>		
<b>Apologies for absence</b>		Susan Elsmore
<b>1.3</b>		
<b>Declarations of Interest</b>		Susan Elsmore
<b>1.4</b>		
<b>Minutes of the Committee Meeting held on 17 December 2019</b>		Susan Elsmore
	1.4 - QSE Mins 17.12.19.pdf	(13 pages)
<b>1.5</b>		
<b>Action Log - 17 December 2019</b>		Susan Elsmore
	1.5 Action Log Dec 2019 - AF 23.12.2019NF.pdf	(3 pages)
<b>1.6</b>		
<b>Chair's Action taken since last meeting</b>		Susan Elsmore
<b>2</b>		
<b>PATIENT STORY</b>		
Multi agency care pathway for patient with multi drug resistant tuberculosis		
<b>2.1</b>		
<b>Clinical Board Assurance Report: Medicine</b>		20 mins
		Aled Roberts
	2.1 - Medicine Clinical Board Quality Paper February 2020 v4 (003) - COMPACT.pdf	(24 pages)
<b>3</b>		
<b>ITEMS FOR REVIEW AND ASSURANCE</b>		
<b>3.1</b>		
<b>Health Inspectorate Wales Assessment Unit Update Report</b>		10 mins
		Ruth Walker
	3.1 - HIW EU-ASU update -Final.pdf	(4 pages)


 3.1.1 - HIW EU-ASU action plan.pdf (42 pages)


3.2


NCEPOD - Know the Score - Pulmonary Embolism Report


5 mins

Stuart Walker

 3.2 - QSE18\_02\_20 NCEPOD KNow the Score FINAL.pdf (3 pages)

 3.2.1 - Appendix 1 QSE Know the Score PE algorithm July 2019.pdf (1 pages)

 3.2.2 - Appendix 2 PEguidelines July 2019 update.pdf (12 pages)

 3.2.3 - Appendix 3 QSE KNOW the Score PE\_Recommendation.pdf (6 pages)

3.3

National Clinical Audit

5 mins

Stuart Walker


 3.3 - Clinical Audit QSE 20200130.pdf (6 pages)

3.4

National Hip Fracture Database

5 mins

Stuart Walker

 3.4 - NHFD-Feb QSE FINAL 20200130.pdf (6 pages)

3.5


Cancer Peer Review

5 mins

Stuart Walker

3.5.1

Children and Young Adults

 3.5 - Cancer Peer Review - Children and Young Adults.pdf (12 pages)

3.5.2

Lung

 3.5a - Lung Peer Review report for QSE Feb 2020.pdf (6 pages)

3.6

Ophthalmology Insourcing Incident Overview

5 mins

Ruth Walker


 3.6 - QSE Insourcing Ophthalmic Incident v7 FINAL (new template).pdf (6 pages)

3.7

Health Inspectorate Wales Activity Overview

5 mins

Carol Evans

 3.7 - HIW Activity update February2020 -QSE v4 (new template) FINAL.pdf (4 pages)

4

ITEMS FOR APPROVAL / RATIFICATION

4.1





Policies:

10 mins

4.1.1

Optimising Outcomes Policy



Sian Griffiths

	4.1.1 - Optimising Outcomes Policy Cover Report.pdf	(2 pages)
	4.1.1a - 200218 OOP Policy FINAL.pdf	(4 pages)
	4.1.1b 200218 OOP Procedures FINAL - COMPACT.pdf	(23 pages)
	4.1.1c - 200106 OOPs EQIA and HIA_REVISIED_FINAL.pdf	(28 pages)

4.1.2

Laser Risk Management Policy




Ruth Walker

	4.1.2 - Laser Risk Management Policy.pdf	(2 pages)
	4.1.2b - Laser Risk Management Procedure.pdf	(18 pages)

4.1.3

Procedure and Policy for the Pregnancy Testing of Girls of Children Bearing Age


Ruth Walker

	4.1.3 - Pregnancy Testing in Girls Policy.pdf	(3 pages)
	4.1.3b - Procedure for Pregnancy Testing in Girls final.pdf	(20 pages)
	4.1.3c - Pregnancy Testing EHIA Final.pdf	(21 pages)

4.1.4

South Wales Trauma Network Guidelines

Stuart Walker

	7.1 - SWTN Clinical Guidelines Jan 2020.pdf	(3 pages)
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4.1.5

Abdominal Injury CG08

	7.1.1 - Abdominal Injury CG08 Jan2020.pdf	(13 pages)
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4.1.6

Analgesia for Rib Fractures CG06

	7.1.2 - Analgesia for Rib Fractures CG06 Jan2020 - COMPACT.pdf	(5 pages)
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4.1.7

Burns CG15

	7.1.3 - Burns CG15 Jan2020.pdf	(3 pages)
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4.1.8

Compartment Syndrome CG12

	7.1.4 - Compartment syndrome CG12 Jan2020.pdf	(10 pages)
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4.1.9

Damage Control Resuscitation CG07

	7.1.5 - Damage Control Resuscitation CG07 Jan2020.pdf	(7 pages)
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4.1.10

Emergency Anaesthesia CG01

	7.1.6 - Emergency Anaesthesia CG01 Jan2020.pdf	(13 pages)
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4.1.11

Emergency Surgical Airway CG02

	7.1.7 - Emergency Surgical Airway CG02 Jan2020.pdf	(7 pages)
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4.1.12

Interventional Radiology CG17

	7.1.8 - Interventional Radiology CG17 Jan2020.pdf	(7 pages)	
<b>4.1.13</b>			
<b>Open Fractures CG11</b>			
	7.1.9 - Open fractures CG11 Jan2020.pdf	(5 pages)	
<b>4.1.14</b>			
<b>Paediatric Trauma CG18</b>			
	7.10 - Paediatric Trauma CG18 Jan2020 - COMPACT.pdf	(78 pages)	
<b>4.1.15</b>			
<b>Pelvic Injury CG09</b>			
<b>4.1.16</b>			
<b>Radiology CG16</b>			
	7.11 - Pelvic Injury CG09 Jan2020.pdf	(5 pages)	
<b>4.1.17</b>			
<b>Spinal Injury CG14</b>			
	7.12 - Radiology CG16 Jan2020.pdf	(7 pages)	
<b>4.1.18</b>			
<b>Traumatic Cardiac Arrest CG20</b>			
	7.14 - Traumatic Cardiac Arrest CG20 Jan2020.pdf	(7 pages)	
<b>4.1.19</b>			
<b>Vascular Injuries CG13</b>			
	7.15 - Vascular injuries CG13 Jan2020.pdf	(3 pages)	
<b>4.2</b>			
<b>Annual Committee Workplan</b>			
			10 mins
			Carol Evans
	4.2 - QSE Annual Committee workplan v1.pdf	(2 pages)	
	4.2.1 - Copy of QSE Committee Workplan 20-21 v2.pdf	(2 pages)	
<b>4.3</b>			
<b>Committee Annual Business Report</b>			
			5 mins
			Nicola Foreman
	QSE Annual Report Cover paper.pdf	(2 pages)	
	4.4.1 - ANNUAL REPORT QSE 2020.pdf	(10 pages)	
<b>5</b>			
<b>ITEMS FOR NOTING AND INFORMATION</b>			
			10 minutes
<b>5.1</b>			
<b>Minutes from Clinical Board Quality Safety and Experience Sub Committees -</b>			
<b>Exceptional Items to be raised by the Assistant Director, Patient Safety and Quality</b>			
			Carol Evans
<b>5.1.1</b>			
<b>Children and Women - 22.10.19</b>			
	5.1.1 - CW QSPE Minutes 22 10 19.pdf	(7 pages)	
<b>5.1.2</b>			
<b>Clinical Diagnostics and Therapeutics - 13.11.19 and 11.12.19</b>			
	5.1.2 - CD&T - Minutes 13.11.19.pdf	(11 pages)	
	5.1.2 - CD&T - Minutes 11.12.19.pdf	(11 pages)	
<b>5.1.3</b>			
<b>Mental Health - 17.10.19 and 21.11.19</b>			



 5.1.3 - MHCLC Mins - 17 October 2019.pdf (7 pages)


 5.1.3a - MHCLC Mins - 21 November 2019.pdf (5 pages)

#### **5.1.4**

#### **Specialist Services - 19.09.19, 11.10.19 and 22.11.19**

 5.1.4 - Specialist Services Mins 19.09.19.pdf (8 pages)

 5.1.4b - Speicalist Services Mins 11.10.19.pdf (7 pages)

 5.1.4c - Specialist Services Mins QSE 22.11.19.pdf (6 pages)

### **6**

### **ITEMS TO BRING TO THE ATTENTION OF THE BOARD / COMMITTEE**

### **7**

### **ANY OTHER BUSINESS**

### **8**

### **Review of the meeting**

### **9**

### **Date and time of next meeting:**

#### **9.1**

**14 April 2020 at 9.00am - Coed y Bwl, Ground Floor, Woodland House**

**UNCONFIRMED MINUTES OF QUALITY, SAFETY AND EXPERIENCE COMMITTEE  
HELD ON TUESDAY, 17 DECEMBER 2019  
COED Y BWL, WOODLAND HOUSE**

**Present:**

Susan Elsmore	SE	Committee Chair and Independent Member – Local Government
Gary Baxter	GB	Independent Member - University
Michael Imperato	MI	Independent Member – Legal
Dawn Ward	DW	Independent Member – Trade Union

**In attendance:**

Stephen Allen	SA	South Glamorgan Community Health Council
Sue Bailey	SB	CD&T Clinical Board Director for Quality and Patient Experience
Mike Bond	MB	Director of Operations - Surgery
Karen Bonham	KB	Lead Speech & Language Therapist, Welsh Neuropsychiatry service
Nia Came	NC	Lead for Adult Speech & Language Therapy
Jessica Castle	JC	Director of Operations – Specialist Services
Steve Curry	SC	Chief Operating Officer
Carol Evans	CE	Assistant Director of Patient Safety and Quality
Nicola Foreman	NF	Director of Corporate Governance
Carys Fox	CF	Director of Nursing – Specialist Services
Angela Hughes	AH	Assistant Director of Patient Experience
Abigail Harris	AH	Executive Director of Strategic Planning
Fiona Jenkins	FJ	Executive Director of Therapies and Health Science
Fiona Kinghorn	FK	Executive Director of Public Health
Alun Morgan	AM	Assistant Director of Therapies and Health Science
Hywel Pullen	HP	Assistant Director of Finance
Richard Skone	RS	Clinical Board Director Specialist Services
Matthew Temby	MT	Director of Operations – Clinical Diagnostics and Therapeutics
Ruth Walker	RW	Executive Nurse Director
Stuart Walker	SW	Executive Medical Director
Glynis Mulford	GM	Secretariat

**Observers:**

Sian Passey	SP	Assistant Director of Nursing, Quality, Assurance, Safeguarding & Professional Regulation, Hywel Dda UHB
Adele Roberts		Head of Quality and Patient Care, WHSSC
Alena Ball		Senior Clinical Audit Coordinator

**Apologies:**

Robert Chadwick	RC	Executive Director of Finance
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QSE 19/12/001	<b>WELCOME AND INTRODUCTIONS</b>  The Committee Chair welcomed everyone to the meeting.	<b>ACTION</b>
QSE 19/12/002	<b>APOLOGIES FOR ABSENCE</b>  Apologies for absence were noted.	
QSE 19/12/003	<b>DECLARATIONS OF INTEREST</b>  There were no interests to declare.	
QSE 19/12/004	<b>MINUTES OF THE COMMITTEE MEETING HELD ON 17 SEPTEMBER 2019 AND 15 OCTOBER 2019</b>  The Committee reviewed the minutes of the meetings held on 17 September and 15 October 2019.  <b>The Committee resolved that:</b>  a) The minutes of the meetings held on 17 September and 15 October 2019 be approved as a true and accurate record.	
QSE 19/12/005	<b>ACTION LOG FROM 17 SEPTEMBER 2019 AND 15 OCTOBER 2019</b>  The Committee reviewed the action log and noted the following updates:  <b>19/09/008 – Children and Women’s Clinical Board Assurance Report:</b> This item would be brought to a future meeting of the Committee as the Clinical Board was undertaking further work.  <b>19/09/016 - Centralisation of Endoscopy Decontamination:</b> The Decontamination Committee was still reviewing the centralisation of endoscopy decontamination and an update would be brought to a future meeting of the Committee.  <b>19/06/011 – Patient Notification Exercises: ESSURE (Issues with the failure of the process):</b> An item on Hepatitis C Patient Re-engagement was on the agenda for today. There was no further action needed. <b>COMPLETED.</b>  <b>19/06/013 - Ophthalmology Report:</b> Work was being finalised and a report would be brought to a future meeting.  <b>19/06/020 – Cwm Taf UHB Maternity – Cardiff and the Vale Lessons Learnt:</b> The Chief Operating Officer informed Members that it had been agreed with Cwm Taf and Aneurin Bevan UHBs that a further 200 patients would be referred over the course of this year. This was dependant on flows between Cwm Taf and Aneurin Bevan UHBs bringing the total to 400. There was also the potential for a further 180 patients to be directed to Cardiff and Vale UHB.	

	<p><b>19/02/008 – PCIC Clinical Board Assurance Report:</b> A report would be presented to Management Executives regarding the two mobile units that needed to be replaced. Action was being taken to address the issues and to provide the service in a different way with long and short term plans being drawn up. Decontamination equipment was being replaced with single use items and patients were being redirected elsewhere. <b>COMPLETED</b></p> <p><b>QSE 18/155 – CD&amp;T Minutes - Bone Marrow Transplant Unit:</b> £1m had been spent to make improvements to the Bone Marrow Transplant Unit and work was due to be finished imminently. <b>COMPLETED</b></p> <p><b>The Committee resolved that:</b></p> <ol style="list-style-type: none"> <li>1. The action log and verbal updates be noted</li> </ol>	
<b>QSE 19/12/006</b>	<p><b>CHAIRS ACTION TAKEN SINCE LAST MEETING</b></p> <p>No Chair's action had been taken since the last meeting.</p>	
<b>QSE 19/12/007</b>	<p><b>PATIENT STORY - ELAINE</b></p> <p>Nia Came and Karen Bonham from the Speech and Language Therapy Service presented the patient story on Elaine and shared the difficulties she encountered around her communication impairment.</p> <p>The Speech and Language Therapy (SLT) service, which is based at the Neuropsychiatry Unit in Hafan y Coed, was described. It is the only tertiary service NHS unit in Wales. A range of services are provided including an in and out patients day unit, rehabilitation and community services. The service supports people who have sustained moderate to severe cognitive emotional, behavioural and psychiatric difficulties arising from Acquired Brain Injury (ABI). The SLT service was engaged in a range of services to support service users and families and also provide assessment of communication difficulties.</p> <p><b>Elaine's story</b> – Elaine was referred to the SLT service after four years of being at home without help. The service deals with the most vulnerable people within the population who suffer with pre-existing psychiatric issues. Elaine presented with dysphasia and dyspraxia. The SLT service was engaged to help Elaine to regain her confidence and find her new identity following her ABI.</p> <p>A short video was shown where Elaine shared her story.</p> <p>Elaine had written and produced the video and was currently editing the video with the support of the neuropsychiatry SLT service. It took Elaine 10 hours to complete the video. This was part of a series of videos that a small group of patients produced to help staff. A training package had been created by the patients and was delivered to staff. The project was designed to be challenging but the outcome measures demonstrated gains for all those involved and included improvements within individual communication skills, self-confidence, participation and wellbeing. The team found it a privilege to show the video.</p>	

The Chair invited comments and questions:

In response to using technology options to interact from home so patients did not have to travel, it was stated this area was still in its infancy. Video conferencing was used for satellite clinics and in-reach services but currently this consisted of clinical and not therapy intervention and it was recognised that there was a need to do more.

The Chair thanked the team and asked them to communicate to the rest of the team and Elaine how impressed the Committee were with the story. She added that what would be taken from the presentation was how it provided the person with purpose and showed partnership between all involved.

The Executive Nurse Director commented that neuropsychiatry was looked at in the context of mental health and not as a therapeutic service. Further communication would be sent to Elaine and the service on behalf of the Committee.

### **CLINICAL BOARD ASSURANCE REPORT: CLINICAL DIAGNOSTICS AND THERAPEUTICS CLINICAL BOARD**

Sue Bailey, Quality Lead for CD&T presented the report which provided assurance around the improved quality and care outcomes for patients.

Matt Temby Director of Operations, updated the Committee regarding the work the Clinical Board had undertaken in collaboration with Public Health on the "Work Health, My Health". The initiative aimed to provide advice and information on simple steps to make small changes around being more active, eating and drinking healthily and improved wellbeing. The Clinical Board (CB) used its own resources and raised extra funds to look after the physical and mental wellbeing of its staff. A broad set of actions were put in place to help and drive forward some of the projects.

The Executive Director for Public Health stated that the programme was an exemplar of how the system could be rolled out to other CBs and further praised the CB as being the flu vaccination lead with a 65% uptake. The Director of Operations confirmed that he supported the health and wellbeing of staff and in particular provided training opportunities for those who managed staff with health and wellbeing issues.

The Chair invited questions and comments:

The Executive Nurse Director asked if they could share their approach to regulation and compliance. In response it was stated there had been a real shift by inspectorates in raising the bar. Two main factors which impacted were senior management oversight and the timeliness of closing actions. In terms of oversight, the CB had developed a Regulatory Compliance Group and a dashboard was used in the system which allowed the CB to view how services were measuring. The new system in place saw improved metrics.

The Director of Operation confirmed that performance management and Q&S did not previously have a standard to measure QMS data underneath the dashboard. The dashboard provided intelligence to indicate where the problems and challenges were with some predictive nature. There had been a cultural shift in having a day to day visualisation of the dashboard, which encouraged services to make a change and drive improvements.

The Chair asked if the data was available in 'real time'. It was stated the data was collated on a monthly basis but the CB would look at how this could be developed further.

The Executive Director of Therapies and Health Sciences commented that the report provided a good breadth of what the CB undertook, the challenges it faced and how these would be addressed. It pulled a range of different services together and asked that assurance be provided to the Committee that cross Clinical Board working would be strengthened. The Director of Operations – Clinical Diagnostics and Therapeutics responded that this was developing well through the Director of Operations Forum. Each morning the team looked at how they could help another CB. Strong relationships had been developed through cross CB working. The central point would be to support CBs with pathway changes and how this could generate improvements to the whole system through the commissioning framework and joining events.

Independent Member – University queried in regard to workforce, that there were a number of professions that were in shortage across the UK. How was recruitment and retention being managed? In response it was stated that some important work was undertaken with workforce planning principles and the change approach. There was a shift from relying on hard to recruit roles to using a different skill mix and support worker framework. Using staff differently had shown some elements of improvement. There was a need to provide and develop services so that people would want to come and work here. It was highlighted that HEIW could have a significant impact on recruitment as they would be training staff on a Wales only basis and could flag when recommissioning may deteriorate.

It was recognised that incidents year on year had almost doubled in causing service disruption. It was explained that in the last 12 months there had been 13 business continuity events, some of which were outside of the CBs control. The committee were advised that the CB was working with the Business Continuity team and were assured that the CB had grown in sophistication in how to manage these events.

The Assistant Director of Quality and Patient Safety highlighted that the CB had dealt with a number of challenging Serious Incidents and coordinated on some big issues. One of the biggest risks and frustrations was the failure to act on abnormal results and she was looking for an end to end solution from NWIS with a tracking system for requesting reporting. Had there been any progress? It was confirmed that work was being undertaken with NWIS to look at an alternative

	<p>solution so that radiologists could easily flag significant results quickly to a referrer via an electronic platform.</p> <p>The Executive Medical Director asked what were the biggest three quality risks faced by the CB and how would these would be highlighted in the report? In response it was stated there was concern regarding regulatory compliance, radiopharmacy and issues around the sustainability of ongoing estates issues and delays with turnaround times in the reporting of results and results notification.</p> <p>The Executive Medical Director commented on his concerns regarding the escalation process and what he considered should be in place locally. In addition, regarding the delays in reporting there were solutions based in transformation and QI. In regard to the IT situation it was pleasing to see that reporting was now aligned to the national reporting processes where our results could be viewed outside the Health Board, and showed we could work within the national agenda.</p> <p>The Chair thanked the team by being open in terms of responding to colleagues questions and acknowledged the challenges that the CB faced.</p> <p><b>The Committee Resolved that:</b></p> <ol style="list-style-type: none"> <li>a) the progress made by the Clinical Board to date and its planned actions be noted;</li> <li>b) the approach taken by the Clinical Board be approved;</li> <li>c) To note the areas to be addressed and some of the challenges faced by the Clinical Board</li> </ol>	
QSE 19/12/008	<p><b>HEALTH CARE STANDARDS SELF ASSESSMENT PLAN AND PROGRESS UPDATE</b></p> <p>The Assistant Director of Quality provided an overview of the report and confirmed that its purpose was to recognise the changed approach on self-assessment and the priorities that fall out of these.</p> <p>The following comments were made:</p> <ul style="list-style-type: none"> <li>• There had been alignment of Health and Care Standards to established groups and committees within the organisation and it was their responsibility to progress the actions throughout the year. The report was an update based on actions that each group was committed to deliver this year and evidence that most actions had been delivered.</li> <li>• There was a lack of resource in the Clinical Audit team and the Health Board were looking for solutions around this issue.</li> <li>• There was a consultation being undertaken in relation to the Health and Care Standards. Clarity was needed whether this was the main framework to underpin quality and safety within Health Boards and how it aligned with the Quality and Safety Bill. Currently, procedures did not align and would feedback comments to Welsh Government.</li> </ul>	



	<ul style="list-style-type: none"> <li>Independent Member – Legal suggested the need to focus on issues we should be concerned about due to the amount of information presented. The Executive Nurse Director replied that the focus should centre on key areas of the standards and to monitor what needed to be progressed. Key indicators would be added following the self-assessment in order to demonstrate that we were seeing improvements in key areas over the year.</li> <li>Independent Member – Legal raised that some of the reports came back each year and suggested that three or four key points be brought back to see how these had progressed. In response it was stated that a report was presented in April 2019 and an update provided six months later. The detail would be in those reports with the maturity of where we were against each standard and also that the Health Board would want to see an increase in maturity by April 2020.</li> <li>The Executive Nurse Director confirmed that in the future she would bring to the Committee a report on an area of work that was not doing well and the action being taken to address the issue it would also include areas of good practice.</li> </ul> <p><b>The Committee resolved that:</b></p> <p>a) the progress made against the actions identified in each of the Health and Care Standards be noted.</p>	RW
QSE 19/12/009	<p><b>POINT OF CARE TESTING</b></p> <p>Executive Medical Director provided an overview of the Point of Care Testing report. He stated that there were a number of challenges in the department relating to a number of factors and there were a set of significant clinical processes that did not have the right structure and governance in place. Therefore the Committee was being informed and made aware of the challenges faced by the department and asked to provide support to the service on how to manage these issues. The report will also be taken to the next Board meeting.</p> <p>The Chair invited questions and comments:</p> <p>Independent Member – Trade Union commented that this was an opportunity for transformation using the technology available to the Health Board and stressed that the Health Board should not underestimate the concern around capacity and leadership issues.</p> <p>The need for a systematic approach was recognised. It was queried why the services had not been escalated to a committee. It was stated that POCT had been on the radar for a long time and became an acute problem because of the lack of succession planning which was explained. It was acknowledged that the current leader in POCT was excellent but there was a need for a stronger level of governance and leadership to be put in place.</p> <p><b>The Committee resolved that:</b></p>	SW



	<ul style="list-style-type: none"> <li>a) Clarification should be obtained regarding the governance reporting arrangements/ escalation route for the PoCT Group on an organisational level.</li> <li>b) Plans are to be put in place to ensure ongoing engagement from all Clinical Boards at the POCT Group. <ul style="list-style-type: none"> <li>1. a succession plan for a Head of Service/ Clinical Lead should be put in place.</li> <li>2. Plans shall be put in place to secure sustained funding for the PoCT Dept.</li> <li>3. Plans shall be put in place to source suitable premises for the PoCT Dept.</li> </ul> </li> </ul>	
<b>QSE 19/12/010</b>	<p><b>UPDATE ON STROKE REHABILITATION AND MODEL WORKFORCE</b></p> <p>The Executive Director of Therapies and Health Science gave a verbal update on the Stroke Rehabilitation and Model Workforce. The following comments were made:</p> <ul style="list-style-type: none"> <li>• There were no longer any quality issues on the Stroke Rehabilitation Unit.</li> <li>• As part of their plans to move the unit forward the team had reviewed the staffing issues. Work had been undertaken with the lead nurse and lead therapist on the workforce model to move towards a rehab focused unit by using staff in different ways with a different skill mix. An initial meeting with the Medicine CB and CD&amp;T CB would be undertaken and would be discussed in Stroke Strategy Group on Friday, 20 December. Assurance had also been provided by the HIW with a positive report.</li> </ul> <p><b>The Committee resolved that:</b></p> <ul style="list-style-type: none"> <li>a) The verbal update be noted</li> </ul>	
<b>QSE 19/12/011</b>	<p><b>LOCAL CLINICAL AUDIT PLAN UPDATE</b></p> <p>The Executive Medical Director stated the report provided a summary of the current audits on Tier 1 and Tier 2 national and local audit mandates for 2019/20. It was key to remember that there was no specific cycle and to note there were a number of audits in progress.</p> <p><b>The Committee resolved that:</b></p> <ul style="list-style-type: none"> <li>a) the progress being made against the 2019 / 20 Clinical Audit Plan and the overall clinical audit activity for 2018/19 be noted.</li> </ul>	
<b>QSE 19/12/012</b>	<p><b>CANCER PEER REVIEW</b></p> <p>The Executive Medical Director provided a report which summarised the Cancer Peer Review. It was highlighted that the lung report had been omitted from the report but had been received earlier that day. The Teenage and Young Adult report had not been submitted to the UHB but clinical teams were able to take forward actions to improve the service</p>	

	<p>based on verbal feedback. There were actions outstanding against previous reports but there were no concerns to highlight as a risk.</p> <p><b>The Committee resolved that:</b></p> <ul style="list-style-type: none"> <li>a) the contents of the report and the delayed action plans awaited from the Wales Cancer Network be noted.</li> <li>b) It be noted that the reports and action plans will be submitted to the next meeting.</li> </ul>	
<b>QSE 19/12/013</b>	<p><b>INTERNAL INSPECTIONS</b></p> <p>The Executive Nurse Director informed the Committee that 109 inspections had been carried out during 2019. There were no areas to be overly concerned about but it was recognised that there were some areas of practice that could be improved. There was learning to be had regarding the audit process itself and change would be introduced by using an electronic platform. An App had been designed to improve the quality and consistency of audit outcomes and the Health Board had started to see improvement following the introduction of the App. Information was being triangulated in a systematic way to inform the Health Board about the inspections. It was realised that more work was needed in this area. The themes that were coming out of inspections, complaints and Serious Incidents needed to be collated so that improvement could be measured and featured in the quality and safety feedback.</p> <p>It was requested that the App be shared with the Community Health Council.</p> <p><b>The Committee resolved that:</b></p> <ul style="list-style-type: none"> <li>a) the content of the paper be noted</li> </ul>	RW
<b>QSE 19/12/014</b>	<p><b>PATIENT NOTIFICATION EXERCISES IN CARDIFF AND VALE OF GLAMORGAN POPULATIONS: HEPATITIS C VIRUS INFECTION RE-ENGAGEMENT PROJECT</b></p> <p>The Executive Director of Public Health presented the report and informed Members that some patient notifications exercises (PNE) were led by Public Health Wales. It was explained that over 5000 individuals who had been diagnosed with hepatitis C, but for various reasons had never been linked to care or who had never received follow up investigation or treatment, had been identified through laboratory data searches in Wales. Those patients with an identified General Practitioner (GP) who had provided consent, were contacted and offered treatment as Phase 1 of an on-going re-engagement programme throughout Wales and directed by Welsh Government. The PNE carried out showed commitment to the World Health Organisation (WHO) goal to eliminate Hepatitis C by 2030. The measures outlined by the WHO had been fully complied with.</p> <p>There would be a phase 2 approach in finding patients who were not</p>	

	<p>registered with GPs or were in prison and had fully complied with the piece of work.</p> <p><b>The Committee resolved that:</b></p> <p>a) the progress made so far in this exercise be noted and support provided for on-going implementation</p>	
QSE 19/12/015	<p><b>POLICIES FOR APPROVAL</b></p> <p>An overview of the policies and procedures were provided to the Committee for approval, these were the:</p> <p><b>1. Consent to Examination or Treatment Policy</b></p> <p><b>The Committee resolved that:</b></p> <p>a) the Consent to Examination or Treatment Policy be approved; b) the full publication of the Consent to Examination or Treatment Policy in accordance with the UHB Publication Scheme be approved</p> <p><b>2. Management of a Throat Pack Policy and Procedure</b></p> <p><b>The Committee resolved that:</b></p> <p>a) the policy and procedure for the management of a Throat Pack be approved. b) the chairs action to approve the policy and procedure for the management of a Throat Pack be ratified. c) the full publication of the policy and procedure for the management of a Throat Pack in accordance with the UHB publication scheme be approved.</p> <p><b>3. Update of Healthy Eating Standards for Hospital Restaurant and Retail Outlets</b></p> <p>The Executive Director of Public Health introduced the policy, which had also been discussed at a recent Management Executive meeting. It was realised there was more work to be undertaken as it was not completely clear how the market would respond and there was a need to assess the impact in more detail. Therefore the policy would be brought back to the Committee at a later date. A communications plan would be put in place.</p> <p>There was wider discussion on affordability, getting the message right and sharing with the public what the policy was aiming to achieve.</p> <p><b>The Committee resolved that:</b></p> <p>a) Progress of the policy be noted b) A revised policy be brought back at a later date.</p>	FK

QSE 19/12/016	<p><b>NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE GUIDANCE</b></p> <p>The Executive Medical Director informed the Committee that recently the National Institute for Health and Care Excellence Guidance (NICE) lead had undertaken a stock take of processes in Wales and reported that a well-documented system was in place at the Health Board. The NICE lead also flagged areas where other processes needed strengthening. No benchmarking had been undertaken with other HBs. In the future an all-Wales assessment would be undertaken to further strengthen processes. Technology appraisals were not currently being mandated but this would be addressed in the future. In the meantime, the Health Board should be measured against the process and work on this was currently being undertaken.</p> <p>In regard to CG192 Antenatal and post- mental health, the Executive Nurse Director asked that it be noted that when the Health Board met with Welsh Government on performance indicators, CG192 was an area where concerns were expressed by our staff that there was no post-natal psychology support in place.</p> <p>The Community Health Council queried in regard to NG80 - chronic asthma management, if the report was indicating that diagnostic testing would not be undertaken in primary care and that it was not part of QUAFF. In response it was stated that chronic asthma management was not in QUAFF and there had been a reduction in barometry testing across Wales. The Cardiff and Vale position was that GPs were doing much less barometry testing than they were and this had been raised as an issue.</p> <p><b>The Committee resolved that:</b></p> <p>a) The processes in place to consider NICE Guidance and the levels of implementation be noted</p>	
QSE 19/12/017	<p><b>HEALTHCARE INSPECTORATE WALES ACTIVITY OVERVIEW</b></p> <p>The Assistant Director of Quality and Patient Safety informed members that the outcome of an unannounced inspection by HIW to the Maternity Unit on 18 November reported with positive feedback. An immediate assurance issue had been identified with resuscitation trolleys and was rectified immediately. A safety notice was issued and the safety team completed a piece of work on this issue. Subject to discussion there would be better solutions across the Health Board. There were also positive outcomes with HIW visits to the Stroke Rehabilitation Centre and Rookwood Hospital.</p> <p>The Committee was made aware of the issues expressed by the Nurse Directors regarding the HIW template. It was deemed to be too bespoke in relation to the issues that arose from the Cwm Taf Review. This has been raised with Welsh Government.</p>	

	<p><b>The Committee resolved that:</b></p> <ul style="list-style-type: none"> <li>a) The level of HIW activity across a broad range of services be noted</li> <li>b) It be agreed that the appropriate processes are in place to address and monitor the recommendations made.</li> </ul>	
QSE 19/12/018	<p><b>HEALTHCARE INSPECTORATE WALES PRIMARY CARE CONTRACTORS</b></p> <p>The Assistant Director of Quality and Patient Safety informed members that the report focused on dental and surgery practices. There were two immediate assurance issues in terms of healthcare waste and a robust process was in place around this. Dental practice advisers would work with practices to address the concerns.</p> <p>There was a recurring trend with immediate assurance regarding DBS checks with non clinical staff. Discussions had been undertaken with HIW as their thresholds were higher than Shared Services. The Health Board did not require DBS checks for non clinical staff but this was being requested by HIW.</p> <p>Members were informed that primary care indemnity arrangements now came under the responsibility of the Health Board. The Health Board would therefore see more primary care issues coming through private providers.</p> <p>The Community Health Council will bring a paper to a future Committee relating to their visits to Primary Care Contractors.</p> <p><b>The Committee resolved that:</b></p> <ul style="list-style-type: none"> <li>a) the contents of this report and the inspections undertaken by HIW to GMS and GDS contractors be noted</li> <li>b) they be assured that appropriate remedial actions are being taken by practices in relation to immediate assurance notifications;</li> <li>c) it be noted that there is a robust process in place within the Primary Care Team to manage the receipt of inspection reports and ensure review and follow up by the practice.</li> </ul>	
QSE 19/12/019	<p><b>ITEMS RECEIVED FROM CLINICAL BOARDS QUALITY SAFETY AND EXPERIENCE COMMITTEE</b></p> <p>Independent Member – Trade Union observed that the Mental Health Clinical Board was lacking in terms of minutes submitted to the Committee. It was confirmed that the CB had a different approach to minute taking but that the Executive Nurse Director would take the comments back to the CB.</p> <p><b>The Committee resolved that:</b></p> <ul style="list-style-type: none"> <li>a) The minutes of the Clinical Boards be noted</li> </ul>	RW

QSE 19/12/020	<p><b>ITEMS TO BRING TO THE ATTENTION OF THE BOARD AND OTHER COMMITTEES</b></p> <p>Whilst there are no immediate concerns the audit finding that the retention rate had come up high may be referred to another committee or discussed externally to assure the committee that there were strong processes in place to resolve this and to show that due process would be observed.</p>	
QSE 19/12/021	<p><b>REVIEW OF MEETING</b></p> <p>The Committee Chair facilitated a review of the meeting. Members confirmed that:</p> <ul style="list-style-type: none"> <li>• There was openness and a very strong performance from the CD&amp;T Clinical Board. Much work had been undertaken and the importance of triangulating processes was highlighted.</li> <li>• It was acknowledged by the Executive Nurse Director to be the most challenging meeting to collate and prepare papers. The processes were changing and she thanked everyone for their patience.</li> </ul> <p>The Chair invited the observers to provide comments:</p> <ul style="list-style-type: none"> <li>• It was observed that there was a good structure in place and it was recognised that although the Committee was on a journey it had found a balance between operational and strategic reporting. The strategic element came through strongly and the CBs were picking up on the operational elements. In addition, the patient story presentation was excellent.</li> </ul>	
QSE 19/12/022	<p><b>DATE AND TIME OF NEXT MEETING</b></p> <p>Thursday, 18 February 2020 at 9.00am Coed y Bwl Room, Ground Floor, Woodland House, Heath, Cardiff</p>	

# ACTION LOG

## QUALITY, SAFETY AND EXPERIENCE COMMITTEE

### DECEMBER 2019 MEETING

MINUTE REF	SUBJECT	AGREED ACTION	DATE BY	LEAD	STATUS/COMMENT
<b>Actions Completed</b>					
<b>QSE 19/09/017</b>	Update on Stroke Rehabilitation and Model and Workforce	A verbal update to be presented at next Committee meeting in November.		F Jenkins	<b>COMPLETED.</b>
<b>QSE 19/06/011</b>	Patient Notification Exercises: ESSURE (Issues with the Failure of the Process)	To provide a report to the Committee on Patient Notification exercises in the public health arena relating to Cardiff and Vale population as and when they occur		F Kinghorn	<b>COMPLETED.</b>
<b>QSE 19/02/008</b>	PCIC Clinical Board Assurance Report	To provide an update on issues concerning the mobile units in the Ely Hub and Splott Clinic.		A Harris	<b>COMPLETED.</b>
<b>QSE 18/155</b>	CD&T Minutes	Update on refurbishment works on the Bone Marrow Transplant Unit		A Harris	<b>COMPLETED.</b>
<b>QSE 19/06/008</b>	Specialist Clinical Board Assurance Report	To bring back to Committee a paper on cardiac surgery waiting times if progress was not evident by end of Calendar.		S Curry	<b>COMPLETED.</b>
<b>QSE 19/12/020</b>	Items Received from Clinical Boards Quality Safety and Experience Committee	To take comments back to the Mental Health Clinical Board in regards to the lack of minutes from their QSE Meetings.		R Walker	<b>COMPLETED</b>
<b>QSE 19/06/13</b>	Ophthalmology Report	A short update report including benchmarking data to be brought to Committee	18.02.20	R Walker	<b>COMPLETED – In Ophthalmology Report</b> <i>(Agenda Item 3.6)</i>



MINUTE REF	SUBJECT	AGREED ACTION	DATE BY	LEAD	STATUS/COMMENT
<b>Actions In Progress</b>					
<b>QSE 19/12/009</b>	Health Care Standards Self-Assessment Plan and Progress Update	To bring a report on areas of work not doing well but to also include areas of good practice		R Walker	To come to a future meeting of the Committee. The Executive Nurse Director to provide a date.
<b>QSE 19/12/014</b>	Internal Inspections	To share the App designed to improve the quality and consistency of audit outcomes with the Community Health Council.		R Walker	App not shared as work is now ongoing to review internal inspections and improvement priorities.
<b>QSE 19/12/016</b>	Update on Health Eating Standards for Hospital Restaurant and Retail Outlets	Revisions to be made to the Policy and brought back to a future meeting.		F Kinghorn	To come to a future meeting of the Committee. The Executive Director of Public Health to provide a date.
<b>QSE 19/12/019</b>	Healthcare Inspectorate Wales Primary Care Contractors	The Community Health Council to provide a paper to a future meeting of the Committee relating to their visits to Primary Care Contractors		S Allen	To come to a future meeting of the Committee. Stephen Allen to provide a date.
<b>QSE 19/09/008</b>	Children and Women's Clinical Board Assurance Report	An update was requested for a future meeting detailing the steps taken with the Children's Charter		C Heath	To come to a future meeting of the Committee. <del>The Executive Nurse Director to provide a date.</del>
<b>QSE 19/09/011</b>	Gosport Review	To provide timeframes from the recommendations of the Gosport Review		C Evans	To be completed within 12 months.
<b>QSE 19/09/016</b>	Centralisation of Endoscopy Decontamination	To keep the Committee update of progress		F Jenkins	The Executive Director of Therapies and Health Sciences to provide a date.
<b>QSE 19/06/009</b>	Quality and Safety Improvement Framework	For the next strategy for period 2021 – 2024 to be brought to Committee in April 2020	14.04.20	C Evans	To be added to agenda 14.04.20
<b>QSE 19/06/20</b>	Cwm Taf UHB Maternity – Cardiff and Vale Lessons Learnt	To provide an overview of the impact in terms of patient flow to Cardiff and Vale UHB and how this is being mitigated	Ongoing	S Curry	Further verbal update to be provided at each committee meeting.



MINUTE REF	SUBJECT	AGREED ACTION	DATE BY	LEAD	STATUS/COMMENT
Actions referred to Board / Committees					
QSE 19/12/010	Point of Care Testing	The report to go forward to the next Board meeting.		SW	Report to be submitted to the next Board meeting.



<b>Report Title:</b>	Medicine Clinical Board Quality, Safety and Experience Report					
<b>Meeting:</b>	Quality, Safety and Experience Committee			<b>Meeting Date:</b>	18/02/2020	
<b>Status:</b>	<b>For Discussion</b>		<b>For Assurance</b>	X	<b>For Approval</b>	<b>For Information</b>
<b>Lead Executive:</b>	Executive Nurse Director					
<b>Report Author (Title):</b>	K Prosser, Quality and Governance Lead Medicine Clinical Board					

### Background and current situation:

This report provides detail of the clinical governance arrangements within Medicine Clinical Board in relation to Quality, Safety and Patient Experience (QSPE). It identifies the achievements, progress and planned actions to maintain the priority of QSPE. This is aligned to the UHB's Shaping Our Future Well Being Strategy 2015 – 2025, underpinning the development of our services by working collaboratively with Wyn and UHB workforce.

The Medicine Clinical Board offers high quality clinical care for people such as Wyn with multiple, complex health needs, minor injuries and serious disease. The services provide for the wider regional and Welsh population eg, Infectious Diseases, Stroke, Diabetes, Dermatology and Gastroenterology. The Clinical Board also provides secondary care services to the local Cardiff and Vale population.

The Medicine Clinical Board have three clinical Directorates with associated clinical services and sub-specialties.

- Acute and Emergency Medicine
- Integrated Medicine
- Specialised Medicine

The Clinical Board for 2019/20 has an annual budget of £114m, and a current workforce establishment of 1611 WTE staff in post which includes 727.74 Registered Nurses, 420.17 Health Care Support Workers, 176.83 Admin and Clerical, and 261.87 Medical and Dental staff. It has an inpatient bed base of 568 excluding Winter Pressure beds, three Day Units and several outpatient suites.

Secondary to the diversity and high activity provided across the Clinical Board, it is essential that robust risk management arrangements are in place to reduce the risk to our staff and service users.

The aims of the Medicine Clinical Board in summary are:

- Ensuring that there is a process in place to continually monitor and review the quality and safety risk register, taking action to mitigate risks on an ongoing basis;

- Maintaining an open culture of improving quality, safety and patient experience across all teams and all staff; and
- Promoting a positive culture of staff engagement, development and understanding of everyone's responsibility for safe, quality care.

### **Executive Director Opinion /Key Issues to bring to the attention of the Board/ Committee:**

- Emergency Department Performance has made significant sustained improvements to 4 hour transit time target and demonstrated an ability to be responsive and resilient to periods of high demand. ED Performance is a high priority with particular emphasis to reduce Ambulance waits. National Emergency Department Quality and Delivery Framework (EDQF) will support the continued improvement of care standards and patient experience
- The Frailty pathway which starts at the Emergency and Assessment units, with the pilot and evaluation of a Frailty Interventions team (FIT). The Discharge to assess pathways 1-3 continues to be an area for focus and development; to prevent admissions, reduce length of time spent in hospital with the aim of Home first.
- Recruitment & Retention of Registered nurses continues to be a challenge, however significant work has been led by teams to reduce number of RN Vacancies to 57.5wte, (13%) compared to January 2019, 120wte RN vacancies (25%)

## **ASSESSMENT AND RISK IMPLICATIONS**

### **Governance, Leadership and Accountability**

Quality, Safety and Patient Experience (QSPE) is the highest priority for the Clinical Board and has developed significantly. Both the Clinical Board Director and Director of Nursing lead the agenda.

QSPE group meetings are held every month and are well represented by medical, nursing and managerial staff for all Directorates as well as other multi-disciplinary colleagues from corporate areas who all take an active part in the meetings and shape the overall agenda. The Terms of Reference and Work Plan are reviewed annually.

The key improvements identified for 2019/20 are identified as:

Health and Care Standard	RAG Rating	Key Improvements
Health Promotion Protection and Improvement		<p>Smoking cessation and raising awareness in all clinics and inpatient areas. Exploring the feasibility of increasing provision of Nicotine replacement therapy in Emergency/Acute Medicine and linking with smoking cessation services.</p> <p>Frequent attendees service in Emergency Medicine has seen a significant improvement by signposting patients to appropriate services.</p> <p>The switch of Analogue Insulin to Humalin Insulin for patients with Type 2 Diabetes has seen a dramatic improvement for patients diabetes control.</p> <p>Diabetes Specialist Nurses supporting primary care colleagues.</p> <p>Continued improvement with the uptake of the Influenza vaccination for all frontline staff.</p> <p>Chronic Condition advice lines established within some specialist areas.</p>
Safe and Clinically effective Care		<p>Standard patient information boards for all wards, this will ensure consistency and that the most relevant and up to date information is used.</p> <p>The Clinical Board has a nursing audit plan and clinical audit plan, which are reviewed by the senior management team. Secondary to the number of audits, the Clinical Board are piloting a trigger system for frequency of audits.</p> <p>Each Directorate has its own monthly Quality, Safety and patient experience meeting which then feeds into the Clinical Board's monthly meeting. Key members are expected to attend and ensure dissemination throughout the Clinical Board. A focused Health and Safety meeting is incorporated every third month of Clinical QSE attended by Health and Safety Lead to discuss any UHB wide health and safety issues as well as the clinical board concerns. A monthly Health and Safety Working Group has been established.</p> <p>The Clinical Board has a Quality and Governance Lead, this lead is on the forefront of DATIX, ensuring that all incidents are reported correctly to appropriate professionals and ensures process is being followed for all quality and safety adverse incidents. When serious incidents occurs the Quality and Governance Lead ensures appropriate investigations are undertaken, actions plans are formulated and lessons learnt are shared with the rest of the Clinical Board.</p> <p>The Clinical Board has Practice Development Nurses, ensuring nursing staff are up to date with their development and learning. They will supervise and assess core and individual professionals practice if</p>

		<p>concerns have been identified. Implementing individual and area actions plans, staff workbooks and learning tools.</p> <p>The Clinical Board encourage innovative working and projects, utilising continuous service improvement methodology.</p> <p>The implementation of the new All Wales Pressure Damage Tool for hospital acquired pressure damage. This is in line with the All Wales Staffing Act and safeguarding process.</p>
Quality Improvement, Research and Innovation		<p>Robust investigations and actions are undertaken for all clinical incidents. All learning shared in Quality and Safety forums.</p> <p>East 8 new model ward for the care of older adults (CWTC) has been implemented. Promoting independence, better social engagement, and preventing de conditioning with better outcomes for patients in progress.</p> <p>Model ward for nutrition and hydration on East 8, A4, and C6 will continue and current scoping of modified silver model to enable spread and scale.</p> <p>Enhanced supervision pilot completed. Booklets now in use for all inpatients within Medicine Clinical Board.</p> <p>Monthly nursing audits well embedded across the Clinical Board so that current practices are monitored and areas for improvement identified and actioned.</p>
Record Keeping		<p>Welsh Clinical Portal and Clinical portal are embedded into every day practice. Allowing real time access to appropriate documentation relating to patient care.</p> <p>Clear structure for the review and agreement of any change of documentation via the Clinical Board QSPE group.</p> <p>Electronic patient discharge summaries are embedded to promote timely and accurate information/communication with Primary Care.</p> <p>Nursing and Medical staff using E Workbook to request clinical tasks on the wards for Hospital at Night.</p> <p>Implementation of 'Read About Me'.</p>
Dignified Care		<p>Care is delivered in environments where staff protect patients dignity.</p> <p>Patient feedback is actively sought and shared through '2 minutes of your time and national surveys'.</p> <p>A patient story is shared at each Clinical Board QSPE meeting to focus on patients as individuals.</p> <p>Cognitive impairment friendly areas have been established in some areas to promote dignified care and activities using UHB staff, third sector and volunteer support.</p> <p>Provision of Dementia friendly equipment in all areas.</p> <p>Natural waking of patients.</p> <p>Promotion of the values and behaviours of the organisation through poster campaigns, mandatory training, leadership and line management that</p>

		<p>challenges behaviour.</p> <p>Sensory Impairment toolkit including use of hearing loops.</p> <p>Mental Health Matters at St Davids Hospital.</p> <p>Digital Heroes work at Sam Davies Ward Barry Hospital.</p> <p>Utilisation of the Red Cross within the Emergency Department.</p> <p>Get Up, Get Dressed, Get Moving embedded within clinical areas.</p>
Patient Information		<p>Nurse staffing levels are displayed outside all clinical areas in line with the Nurse Staffing Act (Wales).</p> <p>The All Wales uniforms are worn throughout the UHB and clearly identify the role of staff and any Welsh speakers have the Welsh language Logo displayed on uniforms.</p> <p>Language line is available for use by clinical staff to enable clear lines of communication with patients and relatives/friends.</p> <p>Learning disability patients have a care pathway that can be accessed via clinical workstation this ensures that the carers – be they professional carers or friends/family - are fully involved in the individual patients care and the ward staff are fully aware of the individual needs.</p> <p>Information leaflets are available in individual areas on a variety of issues to include: preparation for investigations / discharge advice and planning/alcohol intake advice and care in the sun. Information booklets issued in February 2015 by NHS Wales “Sharing and Involving” with information for patients and their carers to help make decisions about CPR (Cardiopulmonary Resuscitation) are also available.</p> <p>Individual Clinical areas have “welcome to the area” leaflets with details on the clinical area, visiting times contact numbers etc.</p>

The Clinical Board Risk Register is a live document and is maintained and updated monthly based on the review of existing components of the register, the completion of new risk assessments and review of Directorate Risk Registers. The Clinical Board Risk Register is presented and reviewed at Board QSPE twice a year and reviewed monthly at Management Board meetings. Directorate Risk Registers also form part of the monthly performance reviews.

The high risk issues discussed at Formal Clinical Board and Executive Performance reviews

are as follows:

Risk	Mitigation	Current Risk
The ability to comply with the All Wales Staffing Act	All posts advertised in a timely manner and reviewed at scrutiny panel. Bimonthly recruitment events. Engagement with Project 95. Overseas recruitment, adaptation programmes, student streamlining and staff return to work practice. Clinical Board and UHB staffing 'huddles'. Acuity audits twice a year and All Wales Staffing Levels reviewed against this.	20
AOS – Macmillan funding ceased in April 2018 and there is a requirement to provide the services internally. The inability to provide service internally with an unidentified source for post which has been funded by Macmillan	Clarification of future model and the submission of a full business case.	20
Overcrowding within the Acute Medicine Assessment Unit Lounge and Emergency Medicine Ambulatory Care Unit secondary to poor flow or lack of UHB capacity resulting in the inability to provide safe and timely care to patients.	Acute and Emergency Medicine 'Safety Huddles' and escalation of all patients in line with Standard Operating Procedure. Working in partnership with Patient Access Services. Well embedded 'Medicine Hub'. Working in partnership with Surgical Clinical Board regarding pathways for Trauma and Surgical patients to support overcrowding within Acute/Emergency footprint.	20
WAST ambulance delays greater than 15 minutes secondary to flow constraints. This results in patients being cared for in inappropriate areas and the clinical risk to patients who self-present versus WAST delays.	Acute and Emergency Medicine 'Safety Huddles'. WAST cross site conference calls. Senior Nurse presence within EU/AU to facilitate flow, constraints and escalation Shared ownership and partnership across Clinical Boards. Engagement with the public regarding utilisation of resources 'choose well'. Implementation of 'Green 3' introduced for medical expected patients.	20

## HEALTH AND CARE STANDARDS



The Medicine Clinical Board QSPE Group meets monthly with the agenda framed around the Health and Care Standards. Below are examples of work being driven through these frameworks.

### **Staying Healthy**

The continued uptake and compliance for the flu vaccination programme remains a priority for the Clinical Board. To date this year the Clinical Board has achieved 67.5% uptake for frontline staff. This excellent achievement has been secondary to Flu Champions being present within all clinical areas, improved communication and raising awareness of the importance of protecting our staff, people like Wyn and their families.

The Clinical Board is currently prioritizing the following public health issues:

**Diabetes:** Diabetes is an increasingly urgent health issue and is a key priority within the Health Boards Strategy – Shaping our Future Well-being. Roughly nine out of ten people with Diabetes have Type 2 Diabetes. The Diabetes MDT are primarily responsible for the management of patients with Type 1 Diabetes, but referrals are increasing for complex Type 2 Diabetics and providing their ongoing care. The Diabetes team supports all inpatients, outpatients, ante natal care, Pump Service, and young adults. They also provide a telephone advice line, patient education in the form of DAFNE courses and staff education, including monthly education via LED, insulin safety, medicines management and team days.

As part of an ‘invest to save project’ in line with the National Diabetes Delivery Plan, a programme to improve services and outcomes for people like Wyn living with Diabetes in Cardiff and the Vale has been commenced. The establishment of specialist community diabetes nurses has been introduced to support the national prescribing indicator to reduce the prescribing of Long Acting Analogues to 90% or less. This has shown a significant cost saving for the Health Board, providing equality for people like Wyn, minimizing the risk of further complications and increased hospital referrals/expenditure, reduced complaints and improved services for Primary Care colleagues. This was presented at the All Wales Therapeutics and Toxicology ‘Best Practice Day’ in September 2019.

### **The improvement of pathways for common conditions and reasons for referral:**

The Gastroenterology Directorate as part of the UHB’s strategy and Transformation Programme have undertaken a successful project to value Wyn’s time. Outpatient clinics were reviewed following feedback that their symptoms had resolved themselves by the time they were given a consultation. In order to address this the team implemented a consultant-led MDT approach to the triage of referrals by using WPRS. The resulting improvement in the number of patients requiring outpatient review and waiting times has allowed more timely review for people like Wyn needing specialist input. Twice weekly suspected cancer clinics have been established with the ability to direct book radiology and endoscopy procedures, allowing people like Wyn to leave clinic with appointment dates.





**Older Persons Services:** It is widely recognized in geriatric medicine that the provision of timely, skilled Comprehensive Geriatric Assessment (CGA) in the right setting, according to the clinical needs of people like Wyn, is crucial in delivering the best possible outcomes. A Frailty Pathway has been developed which aims to provide support to the Emergency and Acute Units in providing Wyn with direct access to specialist care, prevent hospital admission where possible and avoid hospital associated clinical de-conditioning. Funding has been secured via the Regional Partnership Board to pilot the Frailty Interventions Teams (FIT) between January – March 2020. These multidisciplinary teams consist of Physiotherapists, Occupational Therapists, Dieticians and Frailty Clinical Nurse Specialists who will be led by a Consultant Geriatrician. First Point of Contact Officers also support the FIT team. The aim of the FIT team is to screen people like Wyn using the nationally recognized Clinical Frailty Score, provide a rapid CGA, and determine the reason for presentation with intention to discharge home to usual place of residence. In addition, Discharge 2 Assess (D2A) has been introduced to support and maintain dignity and independence if admitted to an inpatient setting. It seeks to discharge people like Wyn from the acute hospital setting when clinically optimized, but may still require short-term care services within their own home or another community setting.

**Cancer:** There is a 31 and 62 week target cancer pathway in Dermatology, Gastroenterology and Respiratory within the Clinical Board. The component waiting times for Dermatology and Gastroenterology remain an important issue, and not all patients are being seen within this time frame secondary to patient choice and capacity constraints. In the short term Dermatology are addressing their 39 day first appointment wait with waiting lists initiatives clinics in anticipation of reducing waits. To date for Dermatology there is now a 17 day wait. Gastroenterology are focusing on their insourcing capacity to reduce varying waits, currently at 27 days.

In the medium term Endoscopy are focusing on improved access through the development of non- medical endoscopy workforce to increase capacity. Their application through the Single Cancer Pathway has financially supported the recruitment and training of two accelerated learning posts which will improve timelines and performance. Dermatology will be modeling the Teledermatology service around a new workforce model to deliver improved and effective access. In the longer term both specialties' are committed to the development of a Single Cancer Pathway whereby people like Wyn can be diagnosed with cancer and receive treatment within 62 days from when the cancer is first suspected. The Clinical Board are fully engaged with the Wales Cancer Network with the development of the Single Cancer Pathway as a new performance pathway, running parallel with the existing two cancer waiting time measures for

the time being.

**Smoking cessation:** The Clinical Board recognises the importance of smoking cessation and continues through 'making every contact count' to assist people like Wyn to access smoking cessation programmes including the Acute and Emergency footprint.

## SAFE CARE

### Safety Alerts

The Clinical Board has a robust management system in place for Patient Safety Alerts working in conjunction with the Patient Safety Team. An identified member of staff within the Clinical Board is responsible for all alerts received, and is responsible for the dissemination and actions where applicable. These are shared at Directorate and Clinical Board QSPE meetings.

### Health and Safety

In the period 01.06.2019 to 30.11.2019 8 incidents were reported to the Health and Safety Executive as RIDDOR events:

4 staff assault incidents

3 manual handling incidents

1 trip and fall incident

All incidents were investigated in line with Health and Safety guidance, none of which were significant injuries with the required support given to individual staff members. No common themes or areas of concern were noted.

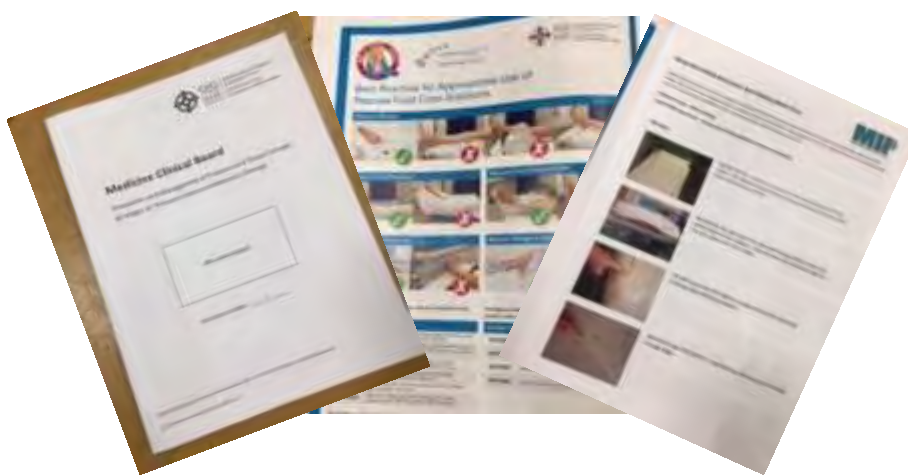
### Falls

Falls remain the most reported incident within the Clinical Board via Datix and these are shared bi-annually at Clinical Board QSPE to identify any common themes or trends. Whilst the number of patient falls remains fairly static, with an average of 154 each month from June to November 2019, the number of Injurious Injuries reported to Welsh Government decreased to 10 compared to the same time period for 2018 where 18 were reported. This can be attributed to campaigns to support people like Wyn to prevent deconditioning, such as 'Get Up, Get Dressed, Get Moving', Model Ward for Nutrition and Hydration, 'End PJ Paralysis' and the implementation of the Clinical Boards Enhanced Supervision Framework.

The Clinical Board is fully engaged with the UHB's Fall's Delivery Group working in partnership with Primary Care colleagues and third sector agencies, and is supportive of the UHB falls scrutiny panel. The Clinical Board continues to undertake an Injurious Assessment for all falls, with a progression to a full Root Cause Analysis if required. All death related falls are referred to Her Majesties Coroner. These reports are shared across other Clinical Boards as appropriate to share wider learning, and also with families and carers' to ensure transparency and rigor in the investigation process and learning outcomes.

### Pressure and tissue damage reduction and prevention

Over the last year the Clinical Board have undertaken a significant amount of work relating to the prevention of healthcare acquired pressure damage. Common themes and learning identified following the completion of the All Wales Pressure Damage included the correct category of pressure damage reported, documentation, and timely and accurate reporting via Datix. As a consequence a small working group developed and fully implemented the 'Prevention and Management of Pressure and Tissue Damage' booklet for people like Wyn and staff as a means of improving standards. This provides clear guidance and information on the correct identification and category of pressure damage, what actions need to be taken, information in relation to moisture damage, appropriate heel off loading and an individual patient centred care plan. This also includes the Pressure Ulcer/Moisture Damage Passport which can follow people like Wyn through primary and secondary care.



In conjunction with the UHB Safeguarding Team and Primary Care, the Clinical Board took part in a six month pilot for any healthcare acquired pressure damage that had been deemed unavoidable. Following a review of the All Wales Pressure Damage Tool if agreed as unavoidable a VA1 referral would not be required. This has now been fully implemented across the UHB. In order to provide a robust governance process to ensure accurate reporting, the Clinical Board expect the All Wales Pressure Damage Tool to be reviewed and signed off by both the Senior Nurse, and the Quality and Governance Lead for the Clinical Board, to confirm if avoidable/unavoidable. This is then subject to a further review by the Director of Nursing. From June 2019 – November 2019 the Clinical Board retrospectively reported 14 avoidable healthcare acquired pressure damage in line with Welsh Government guidance, compared to 42 reported for the same time period the previous year.

## Serious Incidents

The Clinical Board is currently investigating the following serious incidents:

- 2 avoidable healthcare acquired pressure damage
- 6 Injurious injuries
- 1 drug administration error
- 1 unexpected death
- 1 potential delay in treatment
- 1 potential delay in diagnosis
- 1 patient absconded whilst under section (dual Serious Incident with Mental Health)

The Clinical Board have closed a total of 36 Serious Incidents from June 2019 to December 2019. Welsh Government Closures where ever possible are submitted within the expected timeframe and the Clinical Board have consistently achieve the expected number of closures per month.

The Acute and Emergency Directorate have seen an emerging theme through its incidents relating to the delay in recognising and responding to a deteriorating patient, secondary to being cared for in inappropriate areas. Investigations have noted that this has been in part as a result of pressures within the department and lack of UHB bed capacity. The following actions have been taken by the Directorate and Clinical Board to reduce the risks experienced:

- The introduction of 2 hourly Emergency Unit 'safety huddles' with an EU consultant, Nurse in Charge, EU Controller and Patient Access to ensure that patient safety factors such as overcrowding, delays and patients in inappropriate areas are highlighted within the clinical team and actions taken to escalate as appropriate. This was established by the Emergency Department and enhanced over the last year.
- Each area within the Emergency Department is scored using a risk matrix that is based on patient acuity, total number of patients in the area and other constraints
- Numerous task and finish groups focusing on triage, patient flow and patient safety
- The pooling of medical and nurse resources to areas of greatest risk after the outcome of the 'safety huddles'
- On triage to the Ambulatory area patients who are triaged as a 'category 2' secondary to the nature of their presentation or abnormal observations are 'flagged' on the EU workstation to allow the medical and nursing team to prioritise their management
- Enhanced medical presence from senior decision makers in the Ambulatory area from 10:30 -18:00 which enables earlier review of all patients
- A shared approach across all Clinical Boards to improving flow

## Safeguarding

All safeguarding referrals relating to community concerns, or raised against staff working within the Clinical Board are subject to the required level of investigation and scrutiny to ensure safe care is provided for people like Wyn. Investigations are led by Health Lead Professionals, with the appropriate actions taken and shared more widely if required. The Clinical Board are currently investigating 20 safeguarding referrals. The Clinical Board has key links with the Safeguarding Team to ensure openness and transparency.

## Concerns

Concerns between 01st June 2019 – 30th November 2019

The management of concerns is a key priority for the Clinical Board. The implementation of tracker meetings across all Directorates aligned to the Clinical Board tracker database is well embedded and allows an overview prompting timeliness of responses and actions undertaken where delays are identified.

The Clinical Board aims to resolve all concerns informally by early resolution with contact from the relevant Ward Sister/Manager, Senior/Lead Nurse or clinician. From June 2019 to November 2019 the Clinical Board responded to 248 concerns.

Compliance with the timescale for formal concerns has improved significantly. The current 30 day position for the Clinical Board (reported in November) is 87%. This is discussed at all Directorate Performance Reviews and Clinical Board QSPE to help drive the continued improvement that is required.

Reasons of concerns are noted below:

Subject	Number
Clinical Treatment/Assessment	173
Appointments	43
Communication	28
Attitude/Behaviour	14
Discharge Issues	12
Other	5
Patient Care	5
Admissions	4
Medication	3
Cleanliness	3

Case reviews are undertaken as part of the Directorates QSPE to share any potential learning and themes. ‘Learning From Events’ are shared at Clinical Board QSPE to inform shared learning and outcomes.

**Infection, Prevention and Control**

The Clinical Board is fully engaged with the expected reduction figures for all healthcare acquired infections and the challenge that this brings to promote safe and clinically effective care for people like Wyn. Shared learning forms part of the QSPE and Clinical Board Infection, Prevention and Control agendas for all healthcare acquired infections and RCA’s.

**Clostridium difficile**

13 cases of Cl. Difficile were reported for the Clinical Board from April 2019 – November 2019, this is a significant improvement from the same time period the previous year which was reported as 23. Microbiology and Pharmacy colleagues continue to support ward rounds and the provision of antibiotic stewardship. RCA’s have demonstrated that anti-biotic treatment is predominately prescribed in conjunction with advice from Microbiology, with additional Microbiology support provided to those areas with an increased rate of reported cases. On-going audits with Infection, Prevention and Control and the Senior Nurses continue. There is particular focus on environmental audits and decluttering of clinical areas.

**MSSA**

4 cases of MSSA Bacteremia were reported for the Clinical Board from April 2019 – November



2019, this is an excellent improvement from the same period the previous year which was reported as 23. With the support of Infection, Prevention and Control colleagues focused work has been undertaken around PVC compliance and VIP scoring.

## MRSA

The Clinical Board reported 2 cases of MRSA Bacteremia from April 2019 – November 2019 which is the same for the same time period the previous year. Both RCA's identified that the likely causes were from skin contamination.

## E Coli

39 cases of E Coli were reported for the Clinical Board from April 2019 to November 2019, compared to 33 cases reported for the same time period last year. These have been noted to be mainly attributed to Urinary and Biliary sources. CAUTI audits are well embedded across the Clinical Board with actions undertaken within areas where improvement is required. Case note reviews with the support of IP&C colleagues note that the urinary sources predominately relate to patients presenting with long term catheters that require replacement.

## Klebseilla

6 cases of Klebseilla were reported for the Clinical Board from April 2019 to November 2019 which is the same for the time period from July 2018 – November 2018. With the exception of two cases these have been attributed to home TPN patients who have been admitted to A7 with line issues.

## Psuedomonas

1 case of Pseudomonas has been reported for the Clinical Board from April 2019 to November 2019.

## EFFECTIVE CARE

Each Directorate has a Clinical Audit Lead and forms part of the Clinical Board Director's responsibilities. The Clinical Board has an audit/research plan for 2019/20. Some of the clinical research/audits are noted as:

### *Rheumatology*

- Rheumatology and early Arthritis

### *Intergrated Medicine*

- National Asthma and COPD
- Sentinal Stroke National Audit
- National Diabetes Audit
- Sepsis audit in adult medicine

### *Gastroenterology*

- Inflammatory Bowel Disease registry
- JAG audits including GI bleed, Gastric ulcer follow up, missed GI cancers

### *Emergency and Acute Medicine*

- TARN
- Assessment of allergy and adverse reaction history and documentation for patients in MEAU

In-order to promote effective care and improve people like Wyn's journey and experience, Stroke Services have seen a significant change. The introduction of new Stroke Thrombolysis Response Nurses has improved the standards of care when Thrombolysis is required. This has recently been extended to all stroke patients. The implementation of '10-10-10' to improve the timely treatment of thrombolysis patients in the Emergency Department has showed marked improvement. The 'Hyper Acute Stroke Unit' HASU planning has progressed with initial modelling completed, and await Executive approval for business case development. Stroke Services continue to work on ensuring that all inpatient pathways provide people like Wyn with parity and fair access to assessment and treatment, including the implementation of multi-disciplinary rehabilitation assistants in the Stroke Rehabilitation Services to increase therapy provision over 7 days. This aims to increase intensity, reduce length of stay and aims to return people like Wyn as close to normal activities of daily living.

As a continued driver to improve Stroke performance the Consultant model, including Middle Grade support, is being reviewed both internally and with the support of the Delivery Unit. Mortality and Morbidity multi-disciplinary reviews are undertaken for all Acute Strokes including deaths who are admitted to the Acute Stroke Unit. This is helping the Directorate and Clinical Board to understand what is happening within the Emergency Unit and the current Thrombolysis rate. To support timely flow, and to ensure that Stroke patients are admitted to the right bed first time, beds are 'ring fenced' on the Acute Stroke Unit.

Ward B7 have established a 'High Care Respiratory Unit (HCRU) for people like Wyn requiring acute NIV based on the All Wales NIV guidelines (2017) and NCEPOD (2017). The Unit is nurse led with Respiratory Nurse Specialists, and supported by the Medical Rapid Response Team. An NIV pathway has been established and well embedded within the clinical area. This guides and supports staff to ensure that safe and clinically effective care is provided for people like Wyn, with identifiable aims and goals for de-escalation. The establishment of the HCRU has resulted in people like Wyn who have been assessed as requiring acute NIV from the Emergency/Acute footprints being transferred in a timely manner.

Within Gastroenterology Consultants and Specialist Nurses have been piloting 'results and notifications' functionality in Welsh Clinical Portal. This means that people like Wyn's results are available for electronic sign off as soon as they have been validated and released by the Laboratories. This has seen particular benefit for samples such as stool tests. Work is ongoing with Histopathology with the aim of receiving biopsy results electronically, and will have a significant benefit with the implementation of the Single Cancer Pathway.

The Clinical Board is working in partnership with the Major Trauma Directorate in the establishment of the Major Trauma Network Pathway, commencing April 2020. Both Emergency and Acute, and Integrated Medicine Directorates will be responsible for caring for complex people like Wyn with a diverse range of injuries, providing safe and clinically effective care. This aims to improve outcomes through the delivery of specialist, multidisciplinary emergency care for patients around south, west and mid Wales.

A LIPS project across both UHW and UHL was undertaken in June 2019 which aimed to introduce Sepsis Champions within the clinical areas from all disciplines. Its aim was to

provide education and skills for staff to promote the early recognition and treatment of Sepsis and compliance with the 'Sepsis Star'. Champions have been trained on two wards across the Clinical Board with positive feedback received. This is currently being re-evaluated via a 'PDSA' model of evaluation to discuss improvement and learning outcomes.



A second LIPS project focused on the elimination of hospital acquired incontinence for people like Wyn with Dementia. It is noted that incontinence is not an inevitable consequence of Dementia and staff should think before using incontinence products. The project identified that additional training was required to support the use of incontinence tools/assessments with Continence Bundles. In addition environmental changes to the wards such as toilet signage, coloured doors and toilet seats would also improve patient experience

Mortality and morbidity reviews are routinely undertaken as part of all Directorate QSPE meetings in line with the All Wales Checklist. Mortality Level 2 reviews are undertaken and a proportion of them shared at Directorate QSPE meetings as a means of discussion and shared learning.

## DIGNIFIED CARE

Unannounced Quality Checks in Healthcare are routinely undertaken across the Clinical Board noting how people like Wyn were treated and received appropriate dignified care. Improvement plans are developed to address any issues that have been identified.

Following a Health Inspectorate Wales (HIW) Inspection in March of the Acute and Emergency Department at UHW the following concerns were identified that required immediate and planned improvement:

- Patients remaining in chairs in the Assessment Unit Lounge for unacceptable and prolonged periods of time
- Timely access to care within the Assessment Unit was affected by staffing and recruitment issues
- Not fully compliant with all Health and Care Standards

Areas of good practice were noted as:

- A good supply of health promotion and relevant health related and community service information
- The visual display unit in the Paediatrics waiting area displayed interesting information for patients and visitors



- Staff were witnessed to being kind and compassionate to patients; and treating patients with respect, courtesy and politeness at all times
- The patient journey boards were seen as a good initiative to inform patients of their journey through the departments
- Medication dispensed via Omnicell deemed a noteworthy method of safe drug storage and dispensary
- A separate Paediatric 'Cas Card' to meet the holistic needs of children
- A good emphasis on teamwork and support for each other amongst the clinical teams
- Staff and senior managers consistently demonstrated a commitment to learn from the inspection and to make improvements as appropriate

Following this inspection a live action plan was developed and reviewed with the Directorate and Clinical Board to ensure all actions were undertaken. The action plan is discussed at Clinical Board QSPE meetings and will remain a standing agenda item until completed. To date the following actions have been undertaken:

- A review of the model of care for patients sat in chairs within the Assessment Unit Lounge was undertaken based on a broader plan to improve patient flow. This consists of three components; 'Right patient, right place, by working with external partners such as Lightfoot to identify solutions to the wider issues of 'flow' that affects patients in the Assessment Unit lounge. To improve pathways for the management of fractures with an emphasis on frailty in conjunction with Surgery Clinical Board, and to take forward a pathway for Acute Frailty, to include admission avoidance, rapid assessment, discharge, or dedicated work which forms part of the Acute Frailty network National Programme. Making 'Everyday Count' focusing on the implementation of Red to Green and the SAFER initiative and enhancing our community models of care
- Additional Registered and HCSW staff to support the delivery of care within the Assessment Unit lounge has been added. All staff have been reminded of their professional responsibility to ensure accurate and timely documentation which is monitored for compliance with spot audits
- Acute and Emergency Directorate staff are encouraged to complete a Datix to report instances when patient safety is at risk and why
- The development and implementation of a Standard Operating Procedure for the Assessment Unit lounge to assist in identifying the risks to patient safety and includes the required escalation through the Directorate Huddles, Clinical Board 'Hub' and other Clinical Boards
- Length of stay for patients in the Assessment Unit is being monitored at Clinical Board and Management Executive level
- A 90 day improvement plan was initiated to support the Emergency and Assessment Unit to reduce length of stay, improve patient experience and outcome whilst focusing on quality and safety, including a dedicated work stream around the Assessment Unit trolley and chair areas
- The introduction of beds for patients on Assessment Unit South and recliner chairs in the lounge
- All defibrillation trolleys were immediately updated with the latest UHB resuscitation checklist and are checked daily
- All fridges that store medications have a checklist and are checked daily
- A revised nutrition and hydration plan to support patients in the Assessment Unit lounge
- Patient experience feedback kiosks in the department which can provide regular

feedback from patients during daytime and night time hours

The Welsh Gender Service opened its doors to patients in September 2019 which is the first clinic of its kind in Wales. The team consists of a Clinical Lead and Gender Specialists, Gender Psychologist and Consultant Endocrinologist in providing dignified care for this client group by providing appropriate and high standards of care to the transgender community of Wales. People like Wyn are given the opportunity of staying in Wales and attending the Cardiff Clinic, or supported to attend a clinic held in London. It was expected that the referrals per year would be approximately 1 per day, however a much higher referral rate has been seen.

Discharge 2 Assess (D2A) has been introduced to support and maintain people like Wyn's dignity and independence. It seeks to discharge from the acute hospital setting when clinically optimized, but may still require short-term care services within their own home or another community setting. This supports people like Wyn by the assessment for longer-term care and support being undertaken in the most appropriate setting, at the right time. This ensures that no adverse decision about long term care is taken from the acute setting, when predominately seen at their vulnerable stage. D2A consists of three pathways; Pathway 1 is for patients who are able to return home but who are likely to need assessment and/or short term support with their recovery and rehabilitation. These patients have to be safe between care visits, have a full care assessment at home (usually on the day of discharge) and individualized care provided to maximise independence. Pathway 2 is for patients who are unable to return home yet (not safe between visits) but are thought to benefit from a period of rehabilitation/recovery in a community step down facility. This is a therapy led pathway, usually delivered within a community hospital setting. These patients are set rehabilitation goals and engage in rehabilitation even with cognitive impairment. Most patients are discharged home from this Pathway. Pathway 3 is for patients who have more complex needs to receive an assessment of their longer term support in the community setting. These patients are not safe to be discharged home and cannot meaningfully engage in rehabilitation. Most patients' progress to care home placement but some have improved on the pathway to then be able to be discharged to their own home with support.

Working in partnership with external agencies such as Harmoni Cymru patients' aphasia choirs support the Stroke Rehabilitation Unit to improve the experience of patients on the unit and provide rehabilitation through music therapy. In addition, partnership with InterAct is supporting patients' therapy through literature which has gained media attention and support.

The Clinical Board continues to work collaboratively with the Community Health Council regarding the proposed frailty model and outcomes for the Frail Older Person in the Vale of Glamorgan. Public engagement exercises undertaken recognised that there was support for the principles of the Frailty Pathway; to provide care in the community, avoid unnecessary hospital admission, involve people and families in care decisions, and ensure people receive the right care, first time. The Clinical Board is working towards reducing hospital admissions for people like Wyn, more people would be supported to avoid an un-necessary admission to hospital by providing timely access to the most appropriate primary and community services. People like Wyn would stay in hospital for shorter periods of time because they are on the right care pathway to support their discharge.

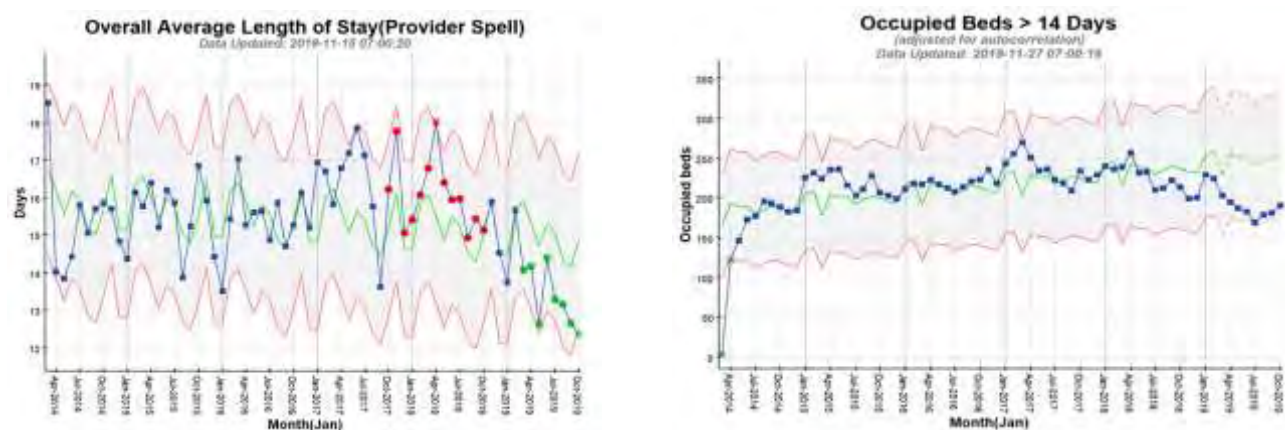
## TIMELY CARE

The Clinical Board recognises the importance of timely closure of Welsh Government Serious Incidents. There are currently 2 Serious Incidents which have breached the expected closure dates. These are currently in the process of being prepared for closure. With the support of the Quality and Governance Lead for the Clinical Board all open Serious Incidents are driven for timely closure with clear actions and learning identified.

The Emergency Department are involved with the National Emergency Department Quality and Delivery Framework (EDQDF) to help understand what 'good' looks like for people like Wyn accessing an Emergency Department. This includes work, predominately clinically led by front line staff, to agree care standards, a uniformed approach to measuring activity and a nationally agreed model of care to enable optimization of clinical outcomes and patient and staff experience.

Gastroenterology are currently piloting within Endoscopy, 'text reminders' for people like Wyn's planned diagnostic endoscopy procedures. Data is being reviewed to assess for its effectiveness with the aim of reducing the number of last minute cancellations secondary to non-compliance with the required preparation instructions. This allows for the Endoscopy lists to be managed effectively to optimize capacity.

'Red2Green' has been introduced across wards in the Clinical Board. It is based on the principle that time is the most important currency for people like Wyn. By focusing on the right care, at the right time, and the 'home first' principle, Red2Green has contributed to a significant reduction in the time spent in hospital.



This is reflected in the reduction of the average length of stay, particularly for patients staying over 14 days. Progress is discussed in the patient journey every day by the multi-disciplinary team at Board Rounds, where Red2Green is used to identify where a patient is waiting for investigations, treatment, procedures or support to go home. On Green Days everything that needs to take place is happening for that patient, but on Red Days a patient is waiting or experiencing a delay. Staff identify the next critical action for each patient and act to turn Red Days into Green Days, escalating as required. Feedback from the multidisciplinary ward teams have indicated that referrals and interventions are more proactive with improved planning and working together leading to more timely discharges.

Professor Brian Dolan has delivered several master classes with the clinical teams and was

impressed with the extent of engagement, energy and enthusiasm. Professor Dolan recognised examples of innovative thinking; to drive forward the Last 1000 day message and End PJ paralysis principles; to embed 'Get me Home' and 'Get Up, Get Dressed, Get Moving' with the aim to improve patient experience and well-being.

## INDIVIDUAL CARE

All areas of the Clinical Board are engaged with the Patient Experience Framework, in the participation of National Satisfaction 'Two minutes of your time' surveys. These are shared at the Clinical Board QSPE meetings with particular focus on the comments that people Wyn have made regarding all aspects of care they received. The themes to be noted include comments on clinical areas sometimes being noisy and cold and suggest where improvements can be made. All staff are generally praised for their care, compassion and dedication to their roles.



The Clinical Board also shares patient stories and compliments at Board QSPE each month to share good practice, areas for improvement and learning outcomes for patients in our care. An example of this is noted below:

B7

'We thank you all so much for your patience, professionalism, hard work and commitment to excellent medical care. You are such an amazing team. Every day of the long 25 weeks Ally spent at UHW she received the most incredible care. She was treated with the utmost dignity, kindness and consideration even when many days she was so poorly, she definitely fell into 'grumpy' mode. You kept Ally fully informed and always answered all our questions. We hope you feel proud that you really make a difference and you did everything you could to resolve her health issues. Sadly despite all efforts, the struggle was overwhelming. Gone too soon, we take comfort from knowing she is at last at

Volunteers are important members of the team within the Clinical Board providing support to people like Wyn. This is reflected in the excellent work that is being undertaken across all of our wards and departments.

## STAFF AND RESOURCES

Medicine Clinical Board consists of 1611 WTE staff; as of December 2019 the professional break down as follows:

Staff Group	Establishment WTE
Additional Professional & Technical	5.50
Additional Clinical Services	1.53
Administrative and Clerical	176.83
Allied Health Professions	2.60
Healthcare Scientists	2.90
Medical and Dental	261.87
Nursing and Midwifery Registered	727.74
Students	11.61
Unqualified Nursing	420.17

The Clinical Board currently has 93.5% of the agreed establishment in post with 10% turnover rate in November 2019. Cumulative sickness reported for November 2019 was 6.19% which is above the cumulative target of 5.71%.

As expected the biggest part of the workforce is Registered Nurses, and as such requires ongoing recruitment, training and retention to ensure there is a workforce that is fit for purpose to deliver the fundamental and specialist care that people like Wyn require. This is noted within the relevant Directorate's and Clinical Boards Risk Registers. Nursing vacancies in December 2019 were reported as 57.5 WTE, which gives a vacancy factor of almost 13%. This is a vast improvement compared to the same period last year where the registered nurse vacancies were at 120 WTE (vacancy factor of 25%).

An agreed recruitment plan is in place with the All Wales Staffing Act in place within relevant areas. The Clinical Board is proactively recruiting staff both within the UK and overseas to



provide safe staffing levels. The Clinical Board have to date recruited 20 International Nurses with 14 currently in post undertaking their induction programme, and 23 Adaptation Nurses going through the adaptation programme supported by Practice Development Nurses. Staff recruitment events are held supported by the UHB Nurse Resourcing Programme Manager.

As well as recruitment, retention of staff is vital. The Clinical Board recognises the importance of developing capability through continuous improvement and the development of our future leaders across all specialties. Staff development is supported by Practice Educators with education pathways from novice to expert. The Clinical Board are exploring several innovative ideas to recruit and retain registered nurses.

The Clinical Board in patient wards are reviewed against the All Wales Nurse Staffing acuity data, and triangulated with quality indicators and professional judgement; to ensure the Clinical Board in patient wards have the right number of registered nurses and the right skill mix to ensure the delivery of a high quality and standard of care for people like Wyn.

The importance of staff appraisal cannot be underestimated. The Clinical Board and Directorates are working hard to improve compliance with PADR and pay progression. The current compliance is as follows:

Emergency and Acute Medicine	54 %
Integrated Medicine	45 %
Clinical Gerontology	48%
Specialised Medicine	53%
MCB Management	15%
<b>Clinical Board Total</b>	<b>48%</b>

The Clinical Board has long recognised the importance of listening to and engaging with staff and are developing a service improvement and engagement plan. The engagement of staff in the development of the Board is inherent to its values. Issues in relation to staff concerns have to be addressed robustly and sustainably and the Clinical Board is committed to that.

Working with the Workforce and Development Team, PULSE Surveys have taken place throughout the Clinical Board focusing on areas of concern, such as areas reporting high levels of stress-related sickness. These have included St David’s hospital, Rheumatology and the Emergency/Acute areas. The main themes from the surveys were centred on environment, particularly for Rheumatology and the Assessment Unit, communication across all areas, staffing levels and stress at work. Engagement sessions were held at St Davids for all staff with a live action plan developed owned by employees, who can create and develop initiatives in order to address the issues with support from management. A ‘Positivity Tree’ has been created on Elizabeth Ward where anyone can add a leaf to recognise something that is going well or to say thank you to a colleague. A number of immediate ‘quick fix’ actions have already been implemented and a plan developed to address the longer-standing, cultural changes required. A feedback session was well attended by Rheumatology which identified a number of issues and again the department was tasked with developing an action plan to tackle the issues raised. The Emergency and Acute Medicine PULSE survey results have been collated and early indications are generally positive. Communication is a key area for improvement and the team are working with the communications department to develop an area within the new staff rest room for key messages to be shared. Engagement sessions have continued throughout January to feedback results to staff and explore the issues further.



The Clinical Board is fully supportive and engaged with the UHB's values and behaviours and has strategies in place to manage staff who fail to meet the standard expected. Key Clinical Board staff have had the opportunity for personal and professional development to attend Amplify 2025 and Accelerate. The Clinical Board supports the UHB's commitment for talent management and leadership and the importance of creating the right vision and environment for change, to enable the teams to drive the change forward with to improve experience for people like Wyn, and to improve the experience of our staff.

The Clinical Board strives to recognise and celebrate success in the form of Celebration Events. There are many excellent examples of innovative practice making real improvements in the quality and safety of the care we provide people like Wyn. In this year's Staff Recognition Awards Dr Jeff Turner was the winner of the Leadership Award. Ward Sister Linda Edwards was joint winner of the Manager of the Year Award, with Ward A4 runner up for the Patient Care and Experience Award.

The Medicine Clinical Board are proud that several of their employees have recently been recognized as exemplars and leaders. Dr Vinay Eligar a Consultant in Diabetes and Endocrinology was selected as a Diabetes UK Clinical Champion, to help transform care for people living with Diabetes in the area. He was chosen for his passion for, and commitment to excellence in diabetes care.

Ponnie Jayakumar is the first nurse in Wales to receive Advanced Clinical Practitioner accreditation from the Royal College of Emergency Medicine. Ponnie has shown great leadership skills and has developed into a clinician who can improve clinical continuity, provide more patient focused care, enhance multi-professional teams and help to provide safe, accessible and high quality care for patients.



Andrew Brown who is the Ward Manager of A7, won the Mentorship Award at this year's Nurse of the Year Awards. Andrew was awarded for his fantastic effort in supporting nursing students and newly qualified nurses on his ward, ensuring that they are confident, skilled and happy in their roles.



As a Clinical Board we champion our staff developing their skills and expertise and want to nurture and support staff to reach their goals.

### Recommendation:

The Quality Safety and Experience Committee is asked to:

- **NOTE** the progress made by the Medicine Clinical Board to date and its planned actions
- **APPROVE** the approach taken by Medicine Clinical Board

### Shaping our Future Wellbeing Strategic Objectives

*This report should relate to at least one of the UHB's objectives, so please tick the box of the relevant objective(s) for this report*

1. Reduce health inequalities	X	6. Have a planned care system where demand and capacity are in balance	X
2. Deliver outcomes that matter to people	X	7. Be a great place to work and learn	X
3. All take responsibility for improving our health and wellbeing	X	8. Work better together with partners to deliver care and support across care sectors, making best use of our people and technology	X
4. Offer services that deliver the population health our citizens are entitled to expect	X	9. Reduce harm, waste and variation sustainably making best use of the resources available to us	X
5. Have an unplanned (emergency) care system that provides the right care, in the right place, first time	X	10. Excel at teaching, research, innovation and improvement and provide an environment where innovation thrives	X

### Five Ways of Working (Sustainable Development Principles) considered

*Please tick as relevant, click [here](#) for more information*

Prevention		Long term	X	Integration	X	Collaboration	X	Involvement	X
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<b>Equality and Health Impact Assessment Completed:</b>	Not Applicable <i>If “yes” please provide copy of the assessment. This will be linked to the report when published.</i>
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<b>Report Title:</b>	<b>Assessment Unit (AU), University Hospital of Wales (UHW) - improvement plan update</b>					
<b>Meeting:</b>	Quality, Safety and Experience Committee			<b>Meeting Date:</b>		
<b>Status:</b>	<b>For Discussion</b>		<b>For Assurance</b>		<b>For Approval</b>	<b>For Information</b>
<b>Lead Executive:</b>	Executive Director of Nursing					
<b>Report Author (Title):</b>	<b>Director of Nursing Medicine Clinical Board</b>					

## Background and current situation:

The Assessment Unit (AU) in UHW has been the subject of increased focus since an unannounced visit by the Community Health Council on 2<sup>nd</sup> September 2018. This raised concerns in relation to the quality of patient care, and the challenging environment created by the current footprint of AU.

On 25<sup>th</sup> – 27<sup>th</sup> March 2019, HIW, carried out an unannounced inspection of the Emergency Unit/ Assessment Unit at University Hospital of Wales. This visit, resulted in immediate assurance issues in relation to the suitability of the Lounge area in the AU as an area for unwell patients who want to sleep and/or lie down, staffing levels in the Assessment Lounge, checks in relation to the resuscitation trolley, fridge temperatures. There was also an unlocked medication cupboard containing eye medication.

Immediate action was taken to increase staffing levels as an interim measure and to put in place more senior oversight and review of patients in the Lounge on a 2 hourly basis. All staff were reminded of the need for regular checks of resuscitation equipment and fridge temperatures and new thermometers were purchased for domestic fridges which are used to store food. The unlocked medicine cupboard was de-commissioned and the eye medication that was contained in it was re-located to another suitable, secure cupboard in the department.

The full report can be viewed [here](#)

A robust improvement plan has been put in place and an update is provided at Appendix 1; a range of measures to address the flow of patients through the Assessment Unit and specifically the Lounge area have been implemented. These include:

The opening of a Trauma Ambulatory Care Unit (TACU)

The extension of the opening of the Surgical Assessment Unit (SAU) to a 24/7 model.

These actions to address flow in the AU and Lounge Area have resulted in a significant decrease in the numbers of surgical patients in AU, especially at weekends.

The extension of the opening of SAU has resulted in a reduction of 49 less surgical patients in AU lounge in December 2019 compared to December 2020.

The opening of TACU has resulted in a reduction of 20 less ambulant Trauma patients in the AU

lounge in December 2019 compared to December 2020.

However the Committee should be advised that the flow of medical patients in this area, is still problematic. Patients regularly remain overnight in the lounge area but recliner chairs are provided, when possible the frailest of these patients are cared for on trolleys

Following the HIW inspection a live action plan was developed and reviewed with the Directorate and Clinical Board to ensure all actions were undertaken. The action plan is discussed at Clinical Board QSPE meetings and will remain a standing agenda item to ensure sustainability of actions

### **Executive Director Opinion /Key Issues to bring to the attention of the Board/ Committee:**

Very good progress has been made with implementation of the improvement plan which was put in place to a recommendations. There are some outstanding areas which require further action and these are being monitored by Medicine Clinical Board.

The CHC carried out another unannounced inspection on 5<sup>th</sup> January 2019. The CHC recognised that improvements had been made and positive areas of feedback were given during this visit. There were still however, areas for improvement and the CHC observed that patients are still waiting too long in the Assessment Unit Lounge

MCB continue to recognise the risks associated to maintaining the current AU lounge and continue to work to reduce the risks to improve quality, safety patient experience. The AU requires environmental upgrade and is challenged by an increase in patient numbers, complexity of patients and the increasing demands on the service.

### **Assessment and Risk Implications (Safety, Financial, Legal, Reputational etc:)**

The CHC carried out another unannounced inspection on 5th January 2019. The CHC recognized that improvements had been made and positive areas of feedback were given during this visit. This included recognition that a curtain that has been fitted in the lounge in order to screen for patient dignity, recliner chairs had been introduced following the previous HIW visit and that all patients reported good communication from staff regarding waiting times and kind caring staff. There were still however areas for improvement and the CHC observed that patients are still waiting too long in the Assessment Unit Lounge. One patient said she had not had lunch as was in having a scan and it was noted that there were not enough pillows in the unit. These problems were resolved immediately when brought to the attention of the staff. Vending machines were noted to only take change and the need for further signage to tell patients to ask for drinks and sandwiches was required. Work is currently underway to address these findings.

The Red Cross Volunteer Service was commended for the work they undertake within the department and the volunteers were observed providing drinks and chatting with patients.

An extensive action plan was developed in response to the initial Health Care Inspectorate Wales inspection. The majority of the requisite improvements have been implemented and of the 86 improvement actions 76 are now complete but ongoing monitoring continues. All actions from the HIW action plan had been graded as Red Amber and Green. Red being actions that

have not progressed, amber being actions that are in progress and green being completed actions.

There is 1 red actions outstanding: A joint project between Primary Community and Intermediate Care (PCIC) and Medicine is planned to review the streaming of patients into MEACU. We had planned to commence a test of change as part of our winter resilience planning with the support of winter funding. The funding however was not realised. A similar project is being progressed in Surgery and we will utilise learning from this project to support our test of change moving forward.

An Acute Care Physician has been identified to lead this important work.

There are a number of amber actions that remain in progress including:

**Working with our external partner, Lightfoot, a series of multi-disciplinary workshops have commenced to identify solutions to the wider issues of 'Flow' that affect the EU/AU and Lounge are, Red2Green and Everyday counts** - There is currently an ongoing initiative, led by Lightfoot Solutions to support the flow of respiratory patients, including implementing a pull through model from EU/AU to B7 respiratory ward to ensure appropriate admissions as well as another stream of work looking at admission prevention

**Storage of larger equipment** – This is challenging given the footprint of the department and the lack of available space. The directorate continue to seek solutions to this issue.

**The Pressure Damage Group will ensure that lessons learnt from the inspection are disseminated across the health board and Benchmarking with practice in other organisations will be undertaken to ensure that best practice is being applied and the UHB will benchmark practices against neighbouring health boards to identify processes to support the reduction in Injurious Falls** – MCB are to present findings and action from HIW visit to the Pressure Damage Group in February 2020. There has not been an opportunity to do this prior to this time as the PDG last meet in August 2019, when actions were incomplete. There has been a low number of injurious falls in the Assessment unit and the introduction of beds for the frailest patients has seen the number of falls further reduce.

MCB continue to recognize the risks associated to maintaining the current AU lounge and continue to work to reduce the risks to improve quality, safety patient experience. The AU requires environmental upgrade and is challenged by an increase in patient numbers, complexity of patients and the increasing demands on the service.

## RECOMMENDATION

The Quality, Safety and Experience Committee is asked to **NOTE** progress with implementation of the improvement plan and **CONSIDER** whether sufficient progress is being made to improve quality, safety and experience in this area.

<i>This report should relate to at least one of the UHB's objectives, so please tick the box of the relevant objective(s) for this report</i>									
1. Reduce health inequalities		6. Have a planned care system where demand and capacity are in balance							
2. Deliver outcomes that matter to people		7. Be a great place to work and learn							
3. All take responsibility for improving our health and wellbeing		8. Work better together with partners to deliver care and support across care sectors, making best use of our people and technology							
4. Offer services that deliver the population health our citizens are entitled to expect		9. Reduce harm, waste and variation sustainably making best use of the resources available to us	√						
5. Have an unplanned (emergency) care system that provides the right care, in the right place, first time	√	10. Excel at teaching, research, innovation and improvement and provide an environment where innovation thrives							
<b>Five Ways of Working (Sustainable Development Principles) considered</b> <i>Please tick as relevant, click <a href="#">here</a> for more information</i>									
Prevention	√	Long term	√	Integration	√	Collaboration	√	Involvement	√
<b>Equality and Health Impact Assessment Completed:</b>		Not Applicable							

Improvement needed	Standard
Patient comfort is maintained within the lounge area in AU, whilst they are waiting for assessment or allocation to a bed.	4.1 Dignified care

Privacy and dignity is maintained due to the location of the lounge area. Consideration must be made when patients request assistance to use the toilet facilities.

Patients are not left sitting in the chair within the lounge for prolonged periods of time, particular by night, resulting in sleep deprivation. 2.5, 4.1 & 5.1

Hot meals are offered to patients along with consideration of their nutritional requirements, for those identified as requiring admission to a bed, and for those waiting for assessment over prolonged periods of time.

Basic patient hydration is maintained and water is readily available for those sitting in the lounge, particularly for those who have mobility difficulties

A review of the model of care for managing patients sat in the chairs with the AU lounge is immediately undertaken. This must include a solution to ensure that those who are acutely unwell are able to lie on a bed/ trolley, in an appropriate and timely manner.

2.1, 2.2, 2.3, 2.5,  
3.1, 5.1 and 7.1



Review of the current provision of care to ensure that patients within the lounge are having their needs met in relation to prevention of pressure ulcers, falls prevention and the adequate assessment and provision of basic and appropriate nutrition and hydration.

A review of the registered nursing establishment is immediately undertaken, which takes in to account the layout of the unit and visibility of the patients, and to consider the immediate increase in staffing numbers particularly within the lounge area where visibility of all patients is poor.

A clear understanding is gained of the reasons why senior medical staff, nurses and other staff within the AU feel that there is a risk to patient safety.

Ensure that patients are not transferred to the AU inappropriately from the EU, to prevent a 12 hour breach

Resuscitation equipment/medication is always available and safe to use in the event of a patient emergency on both the AU and EU and within all other wards and departments across the health board.	Standard 2.6 and 2.9
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Refrigerated medication is stored safely and at the correct temperatures on both the AU and EU, and within all other wards and departments across the health board.	2.1, 2.6 and 2.9
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Thermometers are installed within the refrigerators used to store patient food on the AU, and that the temperatures are recorded on a daily basis. In addition, that this is replicated across all other wards and departments across the health board.

## Service Action

To support the provision of effective assessment and the provision of the fundamentals of care as well as ensuring that risk assessments are maintained and acted upon, the Emergency and Acute Medicine directorate (EAMD) have increased the Assessment Unit Lounge area nursing establishment from one registered nurse to two registered nurses and a Health Care Support Worker (HCSW) 24/7.

An Emergency / Assessment unit huddle is now undertaken at periodic intervals during the day to escalate patients who are prioritised according to clinical need and those who are particularly vulnerable. This will ensure that pressures within the Emergency Unit are considered in conjunction with those in the Assessment Unit and the Lounge area and all patients are prioritised appropriately according to their clinical presentation and vulnerability and not according to where they are being cared for.

A Curtain and rail will be erected by 07.06.19 to screen off the AU lounge seating area and will be used in conjunction with mobile screens as required to assist with maintaining patient privacy and dignity.

The Clinical Board is currently implementing a number of initiatives to increase the number of band 5 nurses in post. These include:

- work with the Universities as part of student streamlining and recruitment as they qualify
- recruitment of overseas nurses
- supporting Adaptation and return to practice programmes
- Focus on retention of nurses

A recruitment trajectory will see 26 vacancies filled and will address the vacancy position by in total March 2020.

The increased nursing establishment in the lounge area will mean the area will be supervised at all times. Registered nurses and HCSW will be available to support patients to mobilise to the toilet and with other aspects of their care.

4 Recliner Chairs are now available for patients to use (due to lack of space the use of the chairs will be available following an individual patient risk assessment by the nurse in charge ). Patients will be risk assessed and the most vulnerable and those expected to spend longer in the department will be prioritised for a trolley or a recliner.

MCB have agreed that they will be providing Surgery Clinical Board with regular updates on escalation levels and risk within the AU department so that there is an improved approach to managing this.

A revised nutrition and hydration plan was put in place in September 2018. This allows for patients in AU Lounge area to have access to breakfast, lunch (hot soup and sandwiches) and dinner. All staff have been reminded of this plan which had not previously been fully enacted.

The Red Cross are a valuable support to patients and their families:

spend time with patients, families and carers whilst waiting for treatment.

- speak to medical staff on behalf of patients to explain their needs and find out information.
- provide practical assistance such as contacting a relative on the patient's behalf, providing drinks, food, blankets, collecting pharmacy prescription and accompanying patients whilst having tests.
- Prompt and encourage any patients at mealtimes as
- guided by the Nursing staff.

An Assessment unit Lounge Standard Operating Procedure is now in place. This formalises the escalation process and decision making to ensure all staff are clear of their roles and responsibilities to ensure patient comfort and experience.

Since the inspection, and following discussions at the Health Board's Management Executive the Health Board is actively pursuing options for decongesting the Assessment Unit seating area by 'streaming' more surgical patients to a separate surgical assessment unit. This would involve a significant extension of the current Surgical Assessment Unit service. Our Surgical Clinical Board have drafted initial options for delivering this. These are being brought together for consideration and approval at our Management Executive. It is anticipated that the UHB will be able to identify the best option and work through funding within June.

The commissioning of this additional service would then require a period of recruitment before implementation. Therefore, the short term measures outlined in the actions within this document would then be followed by an interim term change in the model (diverting a larger group of surgical patients away from the AU) leading to ongoing improvement based on LOS and flow work – as described in other actions.

Working with our external partner, Lightfoot, a series of multi-disciplinary workshops have commenced to identify solutions to the wider issues of 'Flow' that affect the EU/AU and Lounge area  
Red2Green and Everyday counts

Four recliner chairs have are now available for vulnerable patients. Individual risk assessments will be undertaken by the nurse in charge to ensure vulnerable patients are accommodated including those who are expected to spend longer periods in the department.

All registered and non-registered staff have been reminded of the importance of accurate and complete documentation. Compliance will be audited by the nurse in charge and spot checks by the senior nurses to ensure due process and procedures are being followed.

The increased nursing establishment will support the improved delivery of the fundamentals of care within the lounge area.

The Emergency and Acute Medicine directorate (EAMD) has reviewed registered nursing establishment and put in place a permanent additional Registered Nurse and Health Care Support Worker in AU lounge 24/7 to support the nurse in delivering the fundamentals of care and ensure that risk assessments are maintained and acted upon.

The Emergency and Acute Medical Directorate (EAMD) is actively encouraging staff to complete a Datix form to record the instances when the staff feel that patient safety is at risk and why.

The Senior team have spoken with staff on an individual basis and as part of team days to offer support, advice and listen to staff

The AU Standard Operating Procedure will assist in identifying the risk to patient safety and incorporates the required escalations to patient access and the clinical boards. The introduction of an ambulatory scoring system will strengthen current processes for identifying those patients who are a clinical risk. As part of the SOP an escalation card has been produced to allow staff to follow the correct escalation process. The risk will then be escalated 13.00 and 17.00 Huddle. Those patients identified as being at risk are then prioritised for a trolley/bed regardless of where in the department they are being cared for.

The UHB will consider undertaking a Safety Culture Survey or implement the Manchester Patient Safety Framework

A schedule of unannounced visits by the Corporate professional nursing standards team will be put in place over the next 6 months ensure that standards in relation to nutrition and hydration are being maintained throughout EU and AU. These inspections will be documented and reported to the Medicine Clinical Board to action.

The Lead Nurse is meeting with the Head of Patient Safety to discuss the governance arrangements. A review of all Patient safety incidents reported over the previous quarter will be undertaken to establish if there are any actions or investigations outstanding

All staff have been reminded of all the available channels to feedback safety concerns and these include the UHB Freedom to Speak Up and Safety Valve processes

AU length of Stay is currently monitored at Management Executive and reported to the Board. A Board Development day has been arranged with focus on the patient flow experience within the Assessment Unit as part of the unscheduled pathway

The UHB uses a systematic approach to managing our hospital urgent and emergency admission areas. This risk-based patient access and bed allocation approach was adopted following extensive work with the Welsh Government Delivery Unit. It ensures individual patient concerns form the basis of our bed allocation system and ensures that clinical staff both inform and prioritise the allocation of beds based on system clinical risk.

A snapshot audit of patients in the lounge area will be undertaken over three weeks to understand the acuity of the patient cohort in this area – to be considered by Clinical Board / Directorate senior management team.

A 90 day improvement plan has been initiated to support the EU and AU in reducing length of stay, improving patient experience and outcome whilst focusing on quality and safety. There are a number of work streams including a dedicated work stream around the AU trolley and chair areas.

The EAMD will involve the Acute Care Physicians and nurse in charge of AU to combine with periodic huddles during the day to understand the risks to all areas and ensure appropriate actions are put in place to improve the patient outcome. The formal escalation process will trigger additional support when required.

The prioritisation of patients within the EU footprint, is carried out in line with Welsh Government (WG) guidance governing emergency unit transit times.

The Health Board will ensure that it's flow management processes identify and record prolonged waits within the AU to ensure that patients are prioritised according to clinical prioritisation

All defibrillation trolleys were immediately updated with the latest UHB resuscitation checklist and are checked daily as per guidelines. These are now standardised throughout the EU and AU. The checks will be monitored by the nurse in charge of the units. Weekly checks will be carried out by the senior nurses to ensure compliance with the process.

Communication with staff via Facebook, email accounts and daily handovers has been put in place to reiterate the importance of daily checks for the quality and safety of our patients.

The schedule of unannounced visits by the Corporate professional nursing standards team will also ensure that standards in relation to appropriate checks of resuscitation equipment are being maintained

All fridges that store medications have a checklist and are checked daily. These checks are in line with the manufactures guideline for both the fridge and the drugs within. All staff have been reminded of the requirement for daily checks. The checks will be monitored on a daily basis by the nurse in charge. Spots checks will be carried out by a senior nurse to ensure the process is being followed. The checklist is standardised across EU and AU.

Both of the food fridges in AU north and south have been condemned and food is now stored in a fridge with an internal and external thermometer. This fridge will be checked three times a day in accordance with food hygiene recommendations.

The schedule of unannounced visits by the Corporate professional nursing standards over the next 6 months will also ensure that standards in relation the recording of fridge temperatures is being maintained throughout EU and AU. Results will be documented and reported to the Medicine Clinical Board to action.

Person Responsible	Timescale	Action update
Lead Nurse	In place and subject to daily monitoring	
	Complete	
Senior Nurse	Complete	Completed in June 2019
	mar-20	15 nurses have been recruited from student streamlining. The Senior Nursing team will be present at the next recruitment day in September to support further student streamlining.
	Complete	Return to practice nurse currently being supported in
	Complete	4 x Recliner chairs put in AU lounge on 05/06/2019 3/10/19 - 6 additional recliner chairs have been put in Au lounge
Director of Nursing MCB	In place and embedded as part of routine practice	



Lead Nurse/Senior Nurse	Complete
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16/08/19 -Welsh Government has confirmed the Redcross will continue until March 2020.

Lead Nurse EU/AU/Clinical Director EU/AU	In place and embedded as part of routine practice
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Final version on

Dir Ops and Dir  
Nursing Surgery  
Clinical Board  
Director of Ops and  
Director of Nursing  
Surgery Clinical Board  
Medicine Clinical  
Board Director of  
Operations

Initially  
identify  
preferred  
option by  
end June  
2019

Changed to Amber as the  
Surgical directorate are now  
planning a 24/7 Surgical  
Assessment Unit.  
11/07/19.  
19/08/2019 Back to red as no  
formal plan made. Sent to SCB  
for update.  
9/9/19 TACU opened 7/7  
SAU proposed opening  
2/12/19  
SAU additional opening hours  
started on 02/12/19 - Awaiting  
data on impact.

Review Sept  
2019

Continued workshops held  
with Lightfoot to support the  
respiratory flow of patients.

Lead Nurse EU/AU      Complete

Lead Nurse EU/AU      mar-20

On going until further progress from the Surgical directorate. If unable to fill the additional staffing the Assessment Unit Lounge will not go above a 1 to 10 nurse patient ratio.

Lead Nurse  
EU/AU/Clinical  
Director EU/AU      Embedded as  
part of routine  
practice

Chief Operating Officer Lead Nurse EU/AU; and Clinical Director EU/AU Director of Operations Medicine	jun-19 16/08/19 - Daily gathering of 12 hr patient breaches in AU lounge is undertaken. Every weekday morning these are sent to each clinical board who has a patient waiting over 12 hours in the AU lounge.
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Senior Nurse	Complete
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Deputy Executive Director Of Nursing	Ongoing
Lead Nurse	Complete

Lead Nurse	Complete
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Professional Standards team	In progress until December 2019	Recent audit on the 19/07/19 02/09/19 - action plan post inspection on 19/07/19
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Improvement Needed	Standard
Consideration is given to how patient privacy and dignity can be maintained when patients are assessed within the adult and paediatric triage rooms in EU. Medical and nursing staff maintain patient privacy and dignity at all times when assessing patients in the EU by closing curtains when appropriate.	4.1 Dignified care
Signage at the hospital is reviewed to ensure it is easy to read and able to direct patients and visitors to the AU and MEACU. Consideration should also be made to ensure all signage is bilingual to include Welsh Health, care and injury management leaflets are available in Welsh, and to consider the option to provide each leaflet to be translated and printed in to other languages	4.2 Patient information
The health board is required to ensure that all staff make every attempt to maintain patient privacy and confidentiality when communicating care and plans amongst team members.	3.2 Communicating effectively

The plan for addressing ongoing recruitment and retention of staffing issues in AU is shared with HIW

#### 5.1 Timely Access

The process for accepting patients from GPs into the MEACU for assessment is reviewed, to ensure appropriate attendance

The arrangements for the handover of patients between WAST ambulance crews and EU staff is reviewed, to ensure that there is clarity between the EU staff and WAST crews, when patients are required to wait on an ambulance.

A SOP should be readily available for staff relating to patient arrivals and delayed handover of care from WAST to the EU. This should also include the arrangements for when patients require the use of UHB facilities for situations such as the toilet.

The health board is required to ensure that staff fully complete patient assessments and care plans to ensure that patient needs are communicated effectively to maintain consistency and patient safety.	6.1 Planning care to promote independence
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The health board is required to ensure that patients and their families/ carers understand their rights in terms of raising concerns/complaints about NHS care, and that NHS PTR posters are displayed and leaflets are readily available, to read and take away.	6.3 Listening and learning from feedback
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Cleaning schedules are in place and all areas are regularly audited for cleanliness	2.1 Managing risk and promoting health and safety
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All equipment is checked for cleanliness, and that worn items are repaired or replaced

The torn sofa in the room used for patients presenting with mental health issues is repaired or replaced

The seating bench in the paediatric EU is repaired appropriately or replaced  
Consideration is given to the vulnerability and safety of lone workers within the adult triage room in the main waiting area, due to the single point of entry and exit

The overall storage facilities on AU and EU are reviewed, to consider appropriate storage areas to minimise the risk of injury and cross infection

The storage of equipment within the corridors is monitored and addressed appropriately

All bins that are not in acceptable working order are replaced in the units inspected, and elsewhere in the health board.



On admission to AU, pressure ulcer risk assessments and skin assessments are completed for all appropriate patients

2.2 Preventing pressure and tissue damage

Nursing staff regularly reposition patients and check the patients' skin for signs of pressure and tissue damage on AU and EU

Assessments and documentation within the relevant pressure ulcer care documents are undertaken and completed robustly on AU.

On admission to AU, nursing staff must assess patients for their risk of falls, and that patients are reassessed where applicable, and with the appropriate falls care plan in place

2.3 Falls prevention

Staff knowledge and skills must be updated and competence assessed with further provision of training in falls management.

Cleaning schedules are completed robustly and audits of environment are undertaken regularly	2.4 Infection Prevention and Control (IPC) and Decontamination
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All staff are aware of the importance of continuous basic hand hygiene, and maintain hand hygiene at all times

All staff have updated knowledge and understanding in infection, prevention and control and complete training

Nursing staff have completed nutritional risk assessments for patients and reassessed patients as appropriate	2.5 Nutrition and Hydration
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All patients must have an oral assessment and care plan implemented for oral care where applicable, on the AU and other inpatient areas.

Staff are always documenting consistently, all aspects of the medication charts

## 2.6 Medicine management

The eye treatment area and all other drug cupboards are locked when not in use

Ensure all applicable staff are up to date in medicines management.

The health board is required to ensure that all staff within the EU and AU and throughout the health board, have appropriate training with updates on the mental health act, and the DoLS process.

## 2.7 Safeguarding children and adults at risk

The health board is require to ensure that pain assessments are completed and documented with each patient where applicable	3.1 Safe and Clinically Effective care
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The health board is required to ensure that patient identifiable data and care records are kept securely at all times.	3.4 Information Governance and Communications Technology
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The issues identified with low morale and motivation on AU or any other departments are explored and addressed where appropriate	Governance, Leadership and Accountability
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Low scores within the monthly care audits are addressed to ensure an improvement is made where appropriate

Ward staff are able to attend regular ward meetings

Investigation is undertaken into errors, near misses or incidents in the last quarter, which could have hurt staff or patients

Investigation is undertaken in to the reasons why there is a perception by some staff, that the organisation would blame or punish the people who are involved in such incidents

All staff are made aware of the revised Health and Care Standards that were introduced in April 2015.

A robust plan for recruitment is in place to maintain compliance with the Nurse Staffing (Wales) Act 2016

#### 7.1 Workforce

A robust process is in place to manage temporary staffing requirements to maintain compliance with the Nurse Staffing (Wales) Act 2016

Monitoring and auditing is undertaken on the fill rate of shifts against the increased staffing levels committed to for the lounge area of AU

Consideration is given to completing an up-to-date staff satisfaction survey to include AU, EU, MEACU and Admissions Unit in Llandough

A robust process is in place to enable all staff have the opportunity to have a formal personal annual appraisal.

Service Action	Person Responsible
<p>All staff have been reminded of their responsibility to maintain patient's privacy at all time and this includes:</p> <ul style="list-style-type: none"> <li>· Ensuring that the doors to the triage rooms are closed as appropriate (while maintaining staff safety) when it is necessary to ensure patient privacy and dignity</li> <li>· ensuring that curtains are drawn around the assessment areas when consultations or care is underway</li> </ul>	Lead Nurse
<p>A schedule of short unannounced visits to the department over the next 12 months will include this as a necessary observation</p>	Corporate Nursing Standards and Professional practice team
<p>Signage for both AU and MEAU has been reviewed and revised signage has been ordered and is a priority to be erected.</p>	General Manager
<p>Health, care and injury management leaflets will be translated into Welsh and made available to patients.</p> <p>Provision of health care and injury management information in languages other than English and Welsh will be considered on a case by case basis, utilising WITS and Language Line and if required providing translated written material on demand.</p>	Lead Nurse EU/AU
<p>The importance of ensuring patient's privacy and confidentiality has been raised at the Band 6 and 7 nursing away day. Minutes of the meeting have been sent to all nursing and medical staff.</p>	Lead Nurse EU/AU
<p>The issue is on the agenda to be discussed at the July Nursing and Medical Away Day.</p>	Lead Nurse EU/AU
<p>Staff have been reminded of the importance in the safety briefing.</p>	Lead Nurse EU/AU

There is a detailed plan for recruitment and retention of staffing in EAMD.	EAMD
A joint project between Primary Community and Intermediate Care (PCIC) and Medicine is planned to review the streaming of patients into MEACU. We had planned to commence a test of change as part of our winter resilience planning with the support of winter funding. The funding however was not realised. A similar project is being progressed in Surgery and we will utilise learning from this project to support our test of change moving forward.	Acute Care Physician
A Standard Operating Procedure is already in existence which details the agreed arrangements around handover between WAST and EU.	General manager
All staff have been reminded of the jointly agreed SOP	
A monthly EAMD and WAST meeting is undertaken to discuss all operational issues including the handover between WAST and EU and arrangements around toileting etc. A flow chart has been agreed with WAST around processes for toileting patients included in.	Lead Nurse EU/AU
All staff have been reminded of the jointly agreed arrangements for managing the situations where patients on ambulances require the toilet.	Lead Nurse EU/AU
There is an expectation that all EAMD staff will support WAST colleagues in providing the fundamentals of care	Lead Nurse EU/AU
WAST will be given an opportunity to raise any concerns about support and care delivery of patients at the monthly meetings	Lead Nurse EU/AU



Clinical Leads EU /AU

There is a Joint Assessment Documentation in use across the department where all care, results and treatment is documented. This is used by Doctors and Allied Health Professionals and ensures treatment is communicated effectively and that there is continuity of care.

Nursing staff use a separate nursing booklet which contains the nursing risk assessment. There are specific time frames associated with each risk assessment and compliance is monitored and reported

An audit schedule has now been developed reviewing compliance with each of the documentation and care audits. These audits will be reported through the department Q&S meeting.

All staff will be reminded of their responsibility to maintain patient records in line with their professional codes of conduct

Lead Nurse EU/AU

Putting Things Right poster are now displayed throughout the department and leaflets are displayed on both reception desks.

The nurse in charge of each unit undertakes a daily spot check and Senior Nurses undertake the same checks on a weekly basis. The availability of Putting Things Right leaflets has been added to the Spot Check list.

Senior Nurse

Staff will be reminded of the importance of supporting patients and their carers and relative to raise concerns.

In April 2019, 100% of concerns raised were managed informally and within 48 hours

Cleaning schedules are in place for the department. C4C undertake environmental audits on a weekly basis the nurse in charge will ensure that a member of the nursing team is delegated to support this audit process and highlight issues. The results of the environmental audits will be forwarded to the Lead Nurse to review.

The Cleaning of equipment is the responsibility of the nursing staff and is included on the daily checklist for nursing staff.

Lead Nurse EU/AU

All staff have been reminded of this role and responsibility

A review of Furniture and Equipment will be undertaken to ensure that all equipment that is found to be damaged is condemned and disposed of.

Lead Nurse EU/AU

The sofa in the Mental Health Assessment Room has now been replaced

Lead Nurse

The seating Bench in the Paediatric EU has been removed

Lead Nurse

A second swing door will now be constructed within the triage rooms to allow a second point of access/ exit.

Lead Nurse

Since the inspection a declutter and deep Clean of the Assessment Unit has been undertaken and similar is planned for EU by the end of June.

Lead Nurse

All broken trolleys and equipment have been removed from the department.

Consideration will be given as to how larger items in the department can be stored in a safer way (bearing in mind the lack of available space)  
A stock manager reviews the department stock levels and orders on a daily basis to prevent stockpiling and additional pressure on storage capacity.  
The daily spot check undertaken by the nurse in charge includes identification and removal of trip hazards, Issues are identified that cannot be immediately resolved will be escalated to the Senior Nurse.

Lead Nurse

All bins within the department have been replaced since the inspection

Lead Nurse

There is a specified schedule of risk assessments to ensure timely completion. Waterlow Assessments should be completed within 6 hours of a patient arrival in the department. Vulnerable patients are prioritised and risk assessments will be completed much sooner. All staff have been reminded of the need to assess all patient for their risk of developing pressure damage	Lead Nurse
A new nursing booklet has been produced this booklet contains guidance on how to identify and grade pressure ulcers. This includes pictures of differing grades of damage. It also contains guidance about what dressings and equipment should be used and how to access this them. It also provides ongoing care planning. This will be implemented within the department.	Lead Nurse
The education team will disseminate and promote the new nursing booklet in support of pressure ulcer risk assessment, prevention and management	Lead Nurse
Intentional rounding is in place for all appropriate patients and this includes repositioning of patients and checking of pressure areas two hourly. The UHB will benchmark practices against neighbouring health boards to identify processes to support the reduction in pressure damage.	Pressure Damage Group
All grades of pressure damage are reported and monitored. All grade 3, 4 and unstageable health care related pressure damage is reported as a Serious Incident. All are reviewed using the All Wales Pressure Damage Tool. There is a low threshold for identifying pressure damage as health care acquired, and failure to document a risk assessment or intentional rounding within UHB best practice is deemed evidence that the pressure damage is health care related in keeping with WG guidance.	Lead Nurse
Monthly audits of compliance against this schedule are undertaken. Results of these audits will now be reported through the department Q&S meeting.	Lead Nurse Lead Nurse
The Pressure Damage Group will ensure that lessons learnt from the inspection are disseminated across the health board.	UHB Pressure Damage group
The Pressure Damage Group is piloting an approach to greater scrutiny of pressure damage RCAs to ensure that the lessons are understood and learned.	UHB Pressure Damage group
Benchmarking with practice in other organisations will be undertaken to ensure that best practice is being applied	UHB Pressure Damage group
All patients should have a risk assessment undertaken within 4 hours of arrival into the department. All staff have been reminded of this responsibility Audit of compliance against this standard is undertaken monthly and results of the audit will now be reported through the department Q&S meeting.	Lead Nurse

The UHB will benchmark practices against neighbouring health boards to identify processes to support the reduction in Injurious Falls	Falls Delivery Group
The department education team have attended the Falls simulation suite 'train the trainers' session and are now undertaking a phased approach to training the department staff with Health Care Support Workers being trained initially. This has already been evaluated very successfully in the UHB	Department Education team
Options for UHB wide online falls training are currently being explored by the Falls Strategy Lead in conjunction with the Falls Delivery Group.	Falls Strategy Lead
The Falls delivery Group will ensure that lessons learnt from the inspection are disseminated across the health board	Falls delivery Group
Cleaning schedules are in place for the department. C4C undertake environmental audits on a weekly basis the nurse in charge will ensure that a member of the nursing team is delegated to support this audit process and highlight issues. The results of the environmental audits will be forwarded to the Lead nurse to review.	Operational Service Manager and Lead Nurse
All staff have been reminded of the importance of basic hand hygiene and the importance of washing and sanitising hands between patients	Lead Nurse
Hand hygiene audits are undertaken monthly which includes episode of hand washing and being bare below the elbows. Compliance is reported and monitored through the Executive Performance Reviews. This will also now be reported through the monthly QSE meetings	Lead Nurse
All staff are expected to complete level 1 IP&C mandatory training. Compliance was 70% in April. The department will work towards 100% compliance with mandatory IP&C training	
All staff will be reminded of the need to complete the training and PADRs will not be signed off without completion of mandatory training.	Lead Nurse
Nutritional risk assessment must be completed within 24 hours of admission to the department. All staff have been reminded of this requirement. The education team will ensure that training around nutritional assessment and optimisation is available to all appropriate staff.	Lead Nurse Education team
Audit of compliance against this standard is undertaken monthly and results of the audit will now be reported through the department Q&S meeting	Lead Nurse
Oral care is included on the intentional rounding document and as a result should be considered every two hours. Staff have been reminded of this requirement	

<p>The UHB oral care assessment will be introduced into the department. The education team will undertake a teaching session and will develop a poster for staff to remind them to use the trigger questions to identify patients who need support with oral care and to trigger a full assessment. Oral packs are available across the department.</p>	Education team
<p>Pharmacy currently undertake monthly audits of prescribing and medication administration metrics in the assessment unit. These include:</p> <ul style="list-style-type: none"> <li>• Allergy status</li> <li>• VTE risk assessment</li> <li>• Prescribing Of thromboprophylaxis</li> <li>• Omitted doses</li> <li>• Critical Time Omitted doses</li> </ul> <p>The result of these audits are shared with the Clinical Directors and Senior Nurses. The results will now be reported and review at local Q&amp;S forums and Consultant meetings.</p> <p>The importance of recording allergy status, administration of IV fluids and accurately prescribing oxygen will be raised by the Clinical Director at the next consultant meeting and at the department Q&amp;S meeting</p> <p>The eye treatment area is now locked when not in use.</p>	Lead Nurse/Clinical Leads
<p>Medicines management practice will be considered as part of the PADR process and identified development needs addressed as appropriate)</p>	Clinical Director Lead Nurse
<p>Medicines related issues identified as a result of this inspection will be included in the next Patient Safety Newsletter and also in the next Medication Safety newsletter</p>	Lead Nurse
<p>A bespoke update session on the mental Health Act will be provided to all relevant EU/AU staff.</p>	Patient Safety team/Medication Safety Executive group
<p>A bespoke update session on DoLS legislation will be provided to all relevant EU/AU staff</p> <p>In addition Mental Capacity Act training is mandated and the e-learning is accessible to all staff.</p> <p>Since the beginning of May completion of MCA training is recorded on individual ESR records. Historical attendance at training will be captured and departmental compliance will be reportable within a month. Compliance with MCA training will be reviewed and monitored through the performance reviews.</p>	MH implementation manager
	DoLS lead
	Education team

The Mental Capacity Act manager delivered face to face training for all nursing staff last year. This is repeated intermittently.

There is a mental health link worker and a consultant lead identified to support staff around issues relating to DoLs and Mental Capacity assessments.

The Service Improvement Team are currently undertaking a project to review the pain assessment documentation. The pain assessment will be incorporated at the bottom of the NEWS chart to increase visibility and improve compliance. The efficacy of the service improvement will be evaluated after 2 months of roll out of the document.

Lead Nurse EU/AU

A specific pain assessment tool is in place for patients with a learning disability. In paediatric EU the pain assessment tool is linked to guidance around prescribing of analgesia

Lead Nurse

The UHB has had recent discussions with the Information Commissioner around secure storage of patient information. This highlighted the need to balance risk of data breach with the clinical risk associated with difficulties in accessing records and specified that there was not an explicit requirement to keep notes in locked facilities if there was a detrimental risk around clinical care

All staff will be reminded to ensure that records are stored securely, that all records are returned to the notes trolley and that the trolley is kept closed when not in use.

Lead Nurse

All clinical staff should be wearing clearly visible ID and therefore be identifiable. Nursing stations in the Assessment unit are constantly attended by clinical staff and therefore medical records remain within sight at all times. This applies to records of patients currently being cared for in the department.

All records of patients who have been discharged from the department will be transferred to secure storage.  
All staff have been reminded of the need to protect patient identifiable information appropriately.

Lead Nurse

There are a number of initiatives in place to support staff wellbeing and morale.

Lead Nurse

- Wellbeing champions are in place across the department
- A closed Facebook page is maintained to communicate with staff members
- A communication board is populated with up to date information
- The Clinical Board undertake department walkrounds
- The results of the UHB staff survey were reported at departmental level and reported to the EAMD. There is now a plan to undertake a Pulse Survey of staff within 2 months.

Health and Care monitoring audits results will now be reported through the Department Quality and Safety meetings.	Lead Nurse
There is a three monthly nursing away day and staff are rotated to ensure that everyone has the opportunity to attend. Minutes of every meeting are circulated to all staff.	Lead Nurse
All Datix incidents are reported to a manager and feedback is sent to the reporter relating to the actions. A review of all the incidents reported will be undertaken to ensure that they have all/are all being appropriately investigated.	Lead Nurse EU/Patient Safety team
The Head of Patient Safety and the Lead Nurse EU/AU are meeting to discuss governance, structure and process within EU to put in place a plan to strengthen current systems and to address any issues that staff are raising.	Lead Nurse EU/AU, Head of Patient Safety
<p>The Patient Safety team will deliver a bespoke session for staff to cover:</p> <ul style="list-style-type: none"> <li>• Basic patient safety principles</li> <li>• Incident reporting, investigation and management</li> <li>• Safety culture and fair and just culture</li> <li>• Health and care Standards/Annual Quality Statement</li> <li>• Quality, Safety and improvement Framework</li> <li>• Clinical Audit</li> </ul>	Head of patient safety
The UHB Safety Valve processes is in place to support staff to raise concerns confidentially directly to the Chair. The safety Valve mechanism has been highlighted to staff across the department through all communication channels	Lead Nurse
A nursing establishment is reviewed and agreed by the executive Nurse Director six monthly. Breaches of agreed staffing are highlighted to the deputy Executive Nurse Director on a daily basis.	Lead Nurse
Bank and agency fill rates are reported through the performance reviews monthly and risks are highlighted. Risk assess pressure on different areas within the department. Senior nurses will work clinically to fill, gaps where required and are available for escalation of risks.	Lead Nurse/Director of Nursing MCB
	Lead Nurse

<p>A Pulse Survey will be undertaken within 2 months and evaluated as to how often to undertake</p>	<p>Lead Nurse</p>
<p>The completion of PADRs by the band 7 has been highlighted as a priority and will be monitored through the performance reviews. Senior Nurses will raise individual performance around undertaking PADRs in the monthly 1:1 meetings</p>	<p>Senior Nurse</p>
<p>The UHB will prepare a summary of the lessons learned and develop an assurance tool for other areas in the UHB to ensure that the lessons learned are disseminated and implemented widely and as appropriate</p>	<p>Assistant Director Patient Safety and Quality</p>



Timescale	Action Update
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Complete

With immediate effect      Visits have begun from the professional standards team  
24/07/19

Review August 2019      Signage for EU is up and AU is currently being made  
03/07/19  
AU signs put up on 02/08/2019

End June 2019      Awaiting BOE to support the translation  
08/07/19  
13/08/19 - Meeting held with BOE.  
BOE are able to provide EU with multiple languages for advice cards and a desktop version.  
Awaiting leaflets to then get translated into Welsh.  
27/12/19 The top 10 leaflets have been translated and we are awaiting delivery and proof reading from the UHB Welsh services.

Complete

Completed on 10/07/19

jul-19

Complete

Complete                      Students form student streamlining will be reday to start in September. With another 4 Band 5 nurses going through Trac

An acute care physician has been identified to lead this work.

Complete

Complete

Complete                      On going meetings in place with the general manager and lead nurse.

Complete

Complete

Complete

Complete and will be embedded as and reported as part of routine practice on a monthly basis	All appropriate staff are using the joint booklet
	Monthly meeting held to conduct and review audits.
Complete	To gather themes of concerns to identify any areas of concern
Weekly	
Completed	Meeting to be arranged to ensure that the is co-working when the c4c audits are undertaken. Meeting arranged for the 20/09/2019 Meeting held on the 4/10/19 schedule for C4C cleaning now in place. Disseminated to staff
Monthly	

jul-19 Weekly spot checks by Senior Nurses to ensure repporting of waste equipment.

Completed Sofa moved and replaced

Completed

Completed The swing door was completed on the week the 25/06/19

Completed AU declutter was completed in May.  
EU declutter to be arranged.  
EU declutter arranged for the 03/09/2019

On going requests are put in to ensure all broken equipment is either removed or taken for fixing.  
Regular request are put in to waste management to collect broken equipment.  
Collections are not prompt.

End of July 2019 On going work to identify areas in which larger items can be staored.

Completed

jul-19

Complete            The pressure damage booklet is being used  
and staff regularly remind of its importance.

Complete

okt-19    The UHB benchmarking will be undertaken  
be EDQDF

Imbedded as part  
of practice

Monthly  
Monthly

sep-19    The UHB benchmarking will be undertaken  
be EDQDF  
sep-19

sep-19

August 2019 and  
reported monthly  
thereafter

sep-19

Review quarterly Educators within the directorate have been trained and have started the training. A live database has all those who have been trained.

Review August  
2019

sep-19

jul-19 Meeting on the 20/09/2019 to arrange and support this.

Complete

Review end June  
2019/keep under  
monthly review

Complete

Complete

Monthly QSE  
meetings

sep-19

Monthly

jul-19

Complete

Embedded as part  
of PADR process

By end July 2019 14/08/19- meeting with Louise Williams-  
Nurse lead for Medicine Management. Next  
patient safety news letter will discuss safe  
storage of medicines.

End of July 2019 To organise MH bespoke day.

End of July 2020 To liase with the DoIS team to organise a  
date.

End of July 2021

Complete

Complete

Review  
September 2019      30/08/2019 Pain assessments are now being  
put in on the Observation chart to support  
better compliance

Complete

jun-19

Complete

Monthly      Wellbeing was the focus of the nurses and  
consultant away day with plans for future  
events.  
Learning from Excellence has started in the  
directorates to learn and thank staff for the  
work.  
Staff are made aware of what is happening  
within the team .  
Awaiting the Pulse survey.



Monthly

Monthly

End of July 2019

End of June 2019    Lead nurse to organise a meeting

End of July            Alex Scott to organise a session on quality indicators for our October away day.

In place and  
embedded as part  
of routine practice

In place and  
embedded as part  
of routine practice

AU nurse manager keeps a log and is sent  
monthly to the directorate team.

Awaiting start date from HR  
29/08/2019 launch date for September set  
Start date 21/10/19  
18/12/19 Pulse survey undertaken . Awaiting  
results

To be monitored    All band 7 and 6+ staff have been requested  
on a monthly basis to supply on a monthly basis where they are  
with their teams in regards to PADR, sickness  
and Annual leave.

End of June 2019

<b>Report Title:</b>	<b>PULMONARY EMBOLISM MANAGEMENT</b>						
<b>Meeting:</b>	Quality Safety and Experience Committee				<b>Meeting Date:</b>	<b>18:02:2020</b>	
<b>Status:</b>	<b>For Discussion</b>		<b>For Assurance</b>	X	<b>For Approval</b>		<b>For Information</b>
<b>Lead Executive:</b>	<b>Medical Director</b>						
<b>Report Author (Title):</b>	<b>Patient Safety and Quality Assurance Manager</b>						

### Background and current situation:

The purpose of this paper is to present the committee with the results of the recently published National Confidential Enquiry into Patient Outcome and Death (NCEPOD) report, Pulmonary Embolism: Know the Score, together with a UHB backline assessment against the recommendations.

Despite advances in the ability to prevent, diagnose and treat acute pulmonary embolism (PE) it remains an important cause of morbidity and mortality. Its association with air travel, hospitalisation, active cancer, pregnancy and some chronic conditions is well recognised and involves all age groups, including the young.

In October 2019 a National Confidential Enquiry into Patient Outcome and Death (NCEPOD) report, Pulmonary Embolism: Know the Score was published which reviewed the quality of care provided to patients aged over 16 years with a new diagnosis of pulmonary embolism. The aim of the study was to identify and explore remediable factors in the process of care for patients with a new diagnosis of PE, who either presented to hospital with symptoms of PE and who were cared for as outpatients or were admitted to hospital, or who developed PE whilst in hospital being treated for another condition.

The report identified a number of themes around the delivery of care and the outcomes for patients treated for pulmonary embolism. The key themes are as follows;

- One delay or more in the process of care was identified in 38.3% of patients (161/420) with investigations and treatment being most common.
- The primary treatment for PE is anticoagulation and it is imperative that is started as soon as possible. Where there might be a delay to the diagnosis of acute PE, anticoagulation should be commenced. The study reported an avoidable delay in commencing treatment in 90/481 (18.7%) patients.
- Once PE has been diagnosed an assessment of PE severity needs to be undertaken in order to treat patients effectively. In 144/179 (80.4%) hospitals their PE policy/guideline included the assessment of PE severity.
- This severity assessment was based on a validated scoring system such as PESI or Hestia in 128/142 hospitals (90.1%). However, the study found no evidence of a PE severity assessment in the majority of patients (436/483; 90.3%)
- Severe (massive) PE requires additional or alternative treatment. A guideline or protocol for the diagnosis and care of patients with PE was provided at 151/180 (83.9%) of hospitals.

- Ambulatory care has become a recognised pathway for PE management for those at low risk of adverse outcomes. Wide variation in selection of patients for ambulatory care with unnecessary hospital admission was observed within the study and an ambulatory care pathway was used in 77/474 (16.2%) patients.
- Information/education regarding PE was not routinely provided to patients at 55/167 (32.9% of hospitals).
- An out- patient follow up was not routinely arranged following a PE diagnosis in 32/179 (17.9% hospitals in the study)

### **Executive Director Opinion /Key Issues to bring to the attention of the Board/ Committee:**

The UHB are able to provide largely anecdotal evidence of compliance against most of the recommendations of the report, however local audit findings anticipated to be available mid-February will provide a clearer insight into the requisite improvements that will need to be made.

### **Assessment and Risk Implications (Safety, Financial, Legal, Reputational etc:)**

Cardiff and Vale UHB contributed to the NCEPOD report completing an organisational questionnaire and retrospective case note reviews of selected patients. Despite this, only national themes are identified in the report and it is not possible to drill down to examine local performance indicators. The UHB does have a well- established PE pathway, with guidelines and an algorithm available on the intranet that underpin the recommendations of the report, however, for the majority of recommendations it is only possible to provide anecdotal evidence of the UHB performance at present. The guidance document and algorithm are included in **Appendix 1& 2**. A local audit of the pathway is currently underway in the Medicine Clinical Board and results are anticipated to be available by the middle of February 2020.

The UHB performance against the recommendations are included in a table in **Appendix 3**. This shows that for the majority we are compliant or partially compliant however there are several areas that require improvement notably standard 2 and 13. A clearer insight into the actions required to address the shortfalls in these and any other standards will be provided by the local audit results.

In relation to standard 3, radiology audit results have identified poor compliance with CTPA reporting mechanisms and there is a plan in place to discuss this at the next audit meeting and identify solutions to improve numbers.

The UHB will be developing an improvement plan to address any outstanding findings from the audit.

## Recommendation:

The committee is asked to:

**NOTE** the assurance provided by the NCEPOD report Pulmonary Embolism: Know the Score and the NCEPOD recommendation checklist.

### Shaping our Future Wellbeing Strategic Objectives

*This report should relate to at least one of the UHB's objectives, so please tick the box of the relevant objective(s) for this report*

1. Reduce health inequalities		6. Have a planned care system where demand and capacity are in balance	
2. Deliver outcomes that matter to people		7. Be a great place to work and learn	
3. All take responsibility for improving our health and wellbeing		8. Work better together with partners to deliver care and support across care sectors, making best use of our people and technology	
4. Offer services that deliver the population health our citizens are entitled to expect		9. Reduce harm, waste and variation sustainably making best use of the resources available to us	
5. Have an unplanned (emergency) care system that provides the right care, in the right place, first time		10. Excel at teaching, research, innovation and improvement and provide an environment where innovation thrives	

### Five Ways of Working (Sustainable Development Principles) considered

*Please tick as relevant, click [here](#) for more information*

Prevention		Long term		Integration		Collaboration		Involvement	
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**Equality and Health Impact Assessment Completed:**

Yes / No / Not Applicable

*If "yes" please provide copy of the assessment. This will be linked to the report when published.*



# Guidance for management of acute pulmonary embolism

## Well's PE score

Clinical sign of DVT	3
Alternative diagnosis less likely	3
Heart rate >100	1.5
Immobilised (3days) or surgery in last month	1.5
Prior DVT/PE	1.5
Haemoptysis	1
Malignancy	1

Wells PE Unlikely  
PE score ≤ 4

Wells PE Likely  
PE score > 4

D-dimer -ve

D-dimer +ve

Consider alternative diagnosis  
**END of PE pathway**

Imaging -ve

Stat dose of anticoagulation while awaiting imaging

- Enoxaparin 1mg/kg **bd** (CrCl >30 ml/min) or Enoxaparin 1mg/kg **od** if CrCl 15-30mls/min
- Bolus dose 5000u IV unfractionated heparin followed by IV infusion (see UHB heparin guidelines) if CrCl<15ml/min (or massive PE suspected)
- Pregnancy 1mg/kg enoxaparin **bd**

Imaging for PE

Confirmed PE – Prognostic assessment

PESI score ≤ 85

PESI score > 85  
Check troponin + RV fx (CT/echo)

**LOW RISK**  
PESI score ≤ 85

**INTERMEDIATE RISK**  
Troponin rise  
OR RV overload (or neither but PESI >85)

**HIGH RISK**  
PESI score >85  
Troponin rise AND RV overload

Consider early discharge – Check exclusion criteria and refer to ART (Consultant decision)

Admit short stay or Respiratory ward

Admit high care bed/ close observation. Rescue thrombolysis if any instability

Assess why the patient has developed a PE

Provoked

Unprovoked

Recurrent

Discharging consultant responsible for follow up

Consider cancer investigations in patients > 40 years with unprovoked PE (see UHB PE guideline & NICE CG144)

Discharging consultant responsible for follow up

Treatment options –Apixaban or Warfarin (patient and clinician choice)

## APIXABAN PRESCRIPTION

**Apixaban 10mg bd for 7 days followed by 5mg bd for 11 weeks (CrCl>30ml).**  
If indefinite/lifelong therapy then dose is 5mg bd for 6/12 then 2.5mg bd  
If weight >120kg/ <40kg warfarin recommended or d/w haematology  
First dose Apixaban to be taken at next scheduled dose of Enoxaparin (avoid concomitant administration)

**FILL IN APIXABAN COUNSELLING DOCUMENTATION and refer ART**  
**Prescribe 3/12 treatment course of discharge**

Refer to ART for day 7 apixaban review and dose reduction, or warfarin loading

Arrange 3/12 respiratory follow up if unprovoked or high risk/massive PE .Patient may require indefinite anticoagulation

## Suspected Massive PE

If haemodynamic instability (systolic BP<90 mmHg or a drop >40mmHg for >15mins)

Stat dose 5000u IV unfractionated heparin  
Urgent CTPA +/- Echo  
Consider thrombolysis if positive

10mg IV alteplase bolus followed by IV infusion 90mg over 2 hours  
Maximum 1.5mg/kg in patient < 65kg (see UHB PE guideline)

## Exclusion criteria for early discharge

Presentation with collapse  
Haemodynamic instability (HR>100, SBP <100)  
RV dysfunction or raised troponin  
O2 sats <94% (or target range)  
Co-existent proximal DVT (above knee)  
Pregnancy  
PE whilst on anticoagulation  
Active bleeding or recent GI bleed/GU bleed/intracranial bleed  
Alcohol dependence  
Thrombocytopenia (Plts <100) – d/w haem  
Abnormal baseline coagulation – d/w haem  
Cognitive impairment  
Social or compliance concerns  
CrCl <30ml –need IV heparin  
**Any patient causing concern**

## Duration of anticoagulation

**Provoked VTE– 3/12** (Surgery /post partum up to 12 weeks, lower limb fracture/ cast, HRT/OCP)  
**Unprovoked VTE- minimum3/12; consider indefinite**  
**Recurrent VTE– lifelong**

Malignancy associated

Pregnancy associated

Switch to dalteparin. Involve Acute Oncology Service and patients oncologist. Prescribe 1<sup>st</sup> month of dalteparin. Refer to CAT clinic at Velindre or Royal Gwent Hospital .Patient remains under care of discharging consultant until seen in CAT clinic (see full guideline)

If PE in pregnancy continue bd enoxaparin and admit .Refer to obstetrics and contact haematology SpR bleep 5886 to follow up in haematology/obstetrics joint VTE clinic

# Cardiff and Vale PE Guideline



The following documentation is for guidance to support the acute PE pathway and should not replace clinical judgement

## **1. Suspected Massive PE/ High risk PE**

Defined as an acute PE causing shock/persistent hypotension (systolic BP <90 mmHg or a drop in systolic BP by  $\geq 40$  mmHg for  $\geq 15$  minutes without new onset arrhythmia, hypovolaemia or sepsis).

Suspected high risk PE is a life threatening condition and an urgent CTPA is required to confirm the diagnosis and if positive thrombolysis is indicated.

### **Treatment**

Stat dose 5000IU IV unfractionated heparin

The licensed dose for **alteplase** in PE (*from the SmPc -Actilyse® accessed June 2019*) is

- 10mg by intravenous bolus injection over 1-2 minutes followed by an intravenous infusion of 90mg over 2 hours.
- Maximum 1.5mg/kg total dose in patients less than 65 kg.
- In a cardiac arrest due to massive PE give alteplase 50mg bolus IV (over 1-2minutes). ( Current BTS guidelines)

Unfractionated heparin infusion should be commenced after thrombolysis (as per UFH protocol

[http://www.cardiffandvale.wales.nhs.uk/pls/portal/docs/PAGE/CARDIFF\\_AND\\_VALE\\_INTRANET/TRUST\\_SERVICES\\_INDEX/PHARMACY\\_CP/ANTICOAGULATION/TAB1090880/UFHCHART%20FINAL81112.PDF](http://www.cardiffandvale.wales.nhs.uk/pls/portal/docs/PAGE/CARDIFF_AND_VALE_INTRANET/TRUST_SERVICES_INDEX/PHARMACY_CP/ANTICOAGULATION/TAB1090880/UFHCHART%20FINAL81112.PDF) ).

Check APTT ratio on completion of thrombolysis –

- If <2 commence UFH infusion.
- If >2 wait and repeat every 4 hours until APTT ratio <2 then commence UFH.

In patients receiving LMWH at the time thrombolysis is initiated, UFH should be delayed until 12 hours after the last injection of LMWH (if given twice daily) or until 24hours after the last LMWH (if given once daily).

Patients should be managed in a high care bed – Resus, CCU, ICU or ECU (UHL)  
Post thrombolysis patients can also be managed on a high care bed in medical admissions (UHW)

Thrombolysis can be considered where there is significant hypoxia, evidence of RV overload, or raised cardiac biomarkers e.g. Troponin. Decision by senior clinician.

July 2019

**Contraindications to use of alteplase (Actilyse®) -  
As listed in SMPc (Actilyse® accessed June 2019)**

Generally, in all indications Actilyse should not be administered to patients with known hypersensitivity to the active substance alteplase, gentamicin (a trace residue from the manufacturing process) or to any of the excipients

Contraindications in acute massive pulmonary embolism

Actilyse® is contraindicated in cases where there is a high risk of haemorrhage such as:

- significant bleeding disorder at present or within the past 6 months
- known haemorrhagic diathesis
- patients receiving effective oral anticoagulant treatment, e.g. warfarin sodium (INR > 1.3)
- manifest or recent severe or dangerous bleeding
- known history of or suspected intracranial haemorrhage
- suspected subarachnoid haemorrhage or condition after subarachnoid haemorrhage from aneurysm
- any history of central nervous system damage (i.e. neoplasm, aneurysm, intracranial or spinal surgery)
- recent (less than 10 days) traumatic external heart massage, obstetrical delivery, recent puncture of a non-compressible blood-vessel (e.g. subclavian or jugular vein puncture)
- severe uncontrolled arterial hypertension
- bacterial endocarditis, pericarditis
- acute pancreatitis
- documented ulcerative gastrointestinal disease during the last 3 months, oesophageal varices, arterial-aneurysm, arterial/venous malformations
- neoplasm with increased bleeding risk
- severe liver disease, including hepatic failure, cirrhosis, portal hypertension (oesophageal varices) and active hepatitis
- major surgery or significant trauma in past 3 months.
- any known history of haemorrhagic stroke or stroke of unknown origin
- known history of ischaemic stroke or transient ischaemic attack (TIA) in the preceding 6 months except current acute ischaemic stroke within 4.5 hours.



## 2. Suspected Non massive PE

### Wells Score

An initial Wells Score will be used to risk stratify the patient as *likely* or *unlikely* to have a PE in accordance with the NICE Clinical Guideline 144 June 2012

“Venous thromboembolic diseases: the management of venous thromboembolic diseases” <http://guidance.nice.org.uk/CG144/Guidance/pdf/English>

Clinical feature	Points
Clinical signs and symptoms of DVT (minimum of leg swelling and pain with palpation of the deep veins)	3
An alternative diagnosis is less likely than PE	3
Heart rate > 100 beats per minute	1.5
Immobilisation for more than 3 days or surgery in the previous 4 weeks	1.5
Previous DVT/PE	1.5
Haemoptysis	1
Malignancy (on treatment, treated in the last 6 months, or palliative)	1
<b>PE likely</b>	More than 4 points
<b>PE unlikely</b>	4 points or less

### Empirical treatment

- Enoxaparin 1mg/kg bd (CrCl >30 ml/min) or
- Enoxaparin 1mg/kg od if CrCl 15-30mls/min or
- Bolus dose 5000u IV unfractionated heparin followed by IV infusion (see UHB heparin guidelines) if CrCl<15ml/min (or massive PE suspected) or
- Pregnancy 1mg/kg enoxaparin bd

July 2019

## **D-dimer**

A d-dimer test may be positive in patients for reasons other than PE e.g. acute infection / inflammation, surgery / trauma, malignancy, pregnancy, disseminated intravascular coagulopathy. The d-dimer also increases with age (the lab does not provide age-specific cut-offs)

A d-dimer should only be requested in out-patients in whom PE is suspected and the PE-Well's score is "PE unlikely"

D-dimer cannot be used as part of the diagnostic algorithm in patients who have already received a therapeutic dose of LMWH or who are on warfarin (risk of false negative results).

D-dimer is often raised in pregnancy but when negative effectively excludes a PE (false positive rate especially high in third trimester but may be useful in early pregnancy).

## **CXR review**

CXR is mandatory prior to considering further imaging

Radiological evidence of pneumonia, pneumothorax or pleural effusion may exclude the need for further imaging

CTPA can be considered in the presence of CXR supportive of lung cancer, pulmonary fibrosis or COPD where VTE has increased rates

## **Imaging for PE**

CTPA is the preferred investigation since it provides information on clot load and evidence of RV overload. If negative for PE it may also provide an alternative explanation for the patient's symptoms.

VQ scans should only be performed in patients with a normal CXR and no underlying significant respiratory or cardiac disease

In pregnancy, if PE is suspected a CXR should be performed to exclude pathology such as pneumonia. A perfusion scan is the preferred imaging modality as it avoids the high radiation dose delivered to the maternal breast tissue with a CTPA. A positive Doppler scan of the legs may obviate the need for lung imaging.

If VQ scanning is done, standardised reporting of clot probability should be performed. Intermediate probability scans require further imaging (CTPA)

### **3. Prognostic assessment – low/intermediate risk PE**

#### **3a. Clinical assessment - PESI Score**

Class 1: < 65 points – very low 30day mortality risk (0-1.6%)

Class 2: 66-85 points – low mortality risk (1.7-3.5%)

Class 3: 86-105 points – moderate mortality risk (3.2-7.1%)

Class 4: 106-125 points – high mortality risk (4.0-11.4%)

Class 5: >125 points – very high mortality risk (10.0-24.5%)

Only patients with low/ very low PESI score (<85 points) should be considered for OPD management

Pulmonary Embolism Severity Index (PESI) Score	
Variable	Points
Age	1 point per year
Male Sex	10
Cancer (active or past)	30
Heart failure	10
Chronic lung disease	10
Heart rate >110 bpm	20
Systolic BP < 100 mmHg	30
Respiratory rate ≥ 30/min	20
Temperature < 36 °C	20
Disorientation, stupor, lethargy	60
SaO2 < 90% on air	20
Total Score	

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### **sPESI score**

A total score for a given patient is obtained by summing the scores of the six variables. The score corresponds with the following risk classes:

- 0 = low risk (30-day mortality ~1%)
- 1 or > 1 = high risk (30-day mortality ~11%)

Only Low Risk (score = 0) patients should be considered for outpatient management

Simplified PESI Score	
Variable	Points
Age > 80	1
History of cancer	1
History of chronic cardiopulmonary disease	1
Pulse > 110 beats per min	1
Systolic Blood pressure < 100 mmHg	1
Arterial oxygen sats < 90%	1
Total	

Jiménez et al. Simplification of the Pulmonary Embolism Severity Index for prognostication in patients with acute symptomatic pulmonary embolism. *Arch Intern Med.* 2010;170(15):1383-1389

## **3b. Biomarker Assessment**

### **RV dysfunction**

The presence of right ventricular dysfunction has been identified as an independent predictor of poor outcome from PE.

Echocardiographic findings are difficult to standardise but findings used to risk stratify patients include RV dilation, an increased RV-LV diameter ratio, hypokinesia of the free RV wall, increased velocity of the jet of tricuspid regurgitation and decreased tricuspid annulus plane systolic excursion.

Four chamber views of the heart by CTPA may detect RV enlargement as an indicator of RV dysfunction and can therefore avoid the need for Echo.

### **Troponin**

An elevation in the serum troponin is a marker of myocardial injury and is associated with an increased mortality from acute PE.

### **Recommended prognostic assessment strategy (from European Society Cardiology Guidelines 2014)**

If low PESI score – NO biomarker assessment necessary – LOW risk PE (potentially suitable for OPD treatment)

If high PESI ( $>85$  or  $sPESI \geq 1$ ) – Assess biomarkers (as per pathway).

- If troponin positive OR signs of RV dysfunction OR Neither – LOW INTERMEDIATE RISK. Admit to short stay bed.
- If troponin positive AND signs of RV dysfunction – HIGH INTERMEDIATE RISK. Risk of becoming unstable and requiring urgent thrombolysis. Admit to high care bed for continuous/close monitoring (MAU/CCU/HDU UHW or ECU/ICU UHL) for any signs of decompensation

If low PESI score but troponin sent by mistake and positive/ if RV dysfunction noted on CTPA then treat as LOW-INTERMEDIATE risk.

## **4. Assessment of Risk Factors for PE**

### **Provoked PE**

Surgery last 3/12, lower limb fracture or cast, prolonged immobility, pregnancy, post partum up to 12 weeks, oral contraceptive pill use, hormone replacement therapy use

3/12 of anticoagulation is recommended.

### **Unprovoked PE**

In absence of any risk factors need to consider cancer investigations in patients over 40 in line with NICE guidance (CG144).

### **Responsibility of admitting/ discharging team.**

Patients require history, physical examination, CXR, blood tests (FBC, Calcium, LFTs). If these are normal consider further investigations with imaging of abdomen/pelvis and mammogram in women.

Minimum of 3/12 treatment recommended – after 3 months assess the need to continue indefinite therapy.

### **Recurrent PEs**

Require lifelong anticoagulation – see anticoagulation section below  
–if long term Apixaban indicated, the recommended dose of apixaban for the prevention of recurrent DVT and PE is 2.5 mg taken orally twice daily

### **Cancer associated thrombosis**

Treatment is with dalteparin – see anticoagulation section below

### **Pregnancy**

Treatment is with LMWH – see anticoagulation section below

## **5. Anticoagulation**

### **a. LMWH + warfarin**

Enoxaparin until INR > 2 for 2 consecutive days

Warfarin will be initiated as per the All Wales loading schedule  
Elderly / underweight patients should receive lower loading doses.

ART to provide warfarin/LMWH as OP to those suitable for OP management

Use UFH in place of enoxaparin if CrCl<15 mls/min

### **b. LMWH as an alternative to warfarin**

#### **Pregnancy**

- Enoxaparin 1mg/kg sc twice daily (use booking weight)
- Refer to obstetrics and inform haematology SpR on bleep 5886 for follow-up in joint haematology/obstetric clinic

#### **Malignancy associated thrombosis**

- Patients with an underlying malignancy should be prescribed dalteparin in place of enoxaparin or warfarin
- Dose 200units/kg s/c daily (max 18,000 units) for first 30 days then dose reduction to 150 units/kg s/c
- Prescribe 1 month of dalteparin
- Inform acute oncology service and patients oncologist of diagnosis - oncologist will often agree to take over responsibility for anticoagulation decisions/prescribing.
- Refer patient to CAT clinic at Velindre or Royal Gwent Hospital [\(link\)](#)
- Patient to remain under the care of the discharging consultant until seen in CAT clinic

# CANCER ASSOCIATED THROMBOSIS CLINIC

## REFERRAL FORM

To facilitate prioritising patients to the CAT clinic please complete the form in full

[Incomplete forms will not be accepted and will result in a delay in offering patient appointment]

Velindre Cancer Centre (VCC) Fax: 02920196115

Royal Gwent Hospital (RGH) Fax: 01633 656063

VCC Email: [Jo.Sulman@wales.nhs.uk](mailto:Jo.Sulman@wales.nhs.uk)

RGH Email: [Sarah.Wilson4@wales.nhs.uk](mailto:Sarah.Wilson4@wales.nhs.uk)



Patient Name:		DOB: __/__/__	
		Weight: __ kg	
Address:		NHS No:	
		Velindre No:	
		CAV UHB No:	
Cancer Diagnosis AND stage of disease:			
VTE Report (please copy and paste radiology report that gives SPECIFIC details of the VTE)			
Medication:			
Anticoagulant:		Systemic Anti-Cancer Therapies (SACT) :	
Dose:			
Frequency:			
PLEASE provide patient with 1 month supply			
Recent blood tests			
(Date __/__/__) Hb __ g/L Plt __x10 <sup>9</sup> /L Cr __ mmol/L CrCl __ (Cockcroft Gault)			
(Date __/__/__) Anti-Xa Level (4 hour peak) __ IU/L (LMWH / dose __)			
Please complete a Shared Care Agreement and send to the patient's GP (all areas in SE Wales are now covered apart from Bridgend)			
Shared Care Agreement sent :			
Yes	<input type="checkbox"/>	Date __/__/__	GP Details:
No	<input type="checkbox"/>	Reason:	
Referrer's Name:		Hospital:	Date __/__/__
Telephone No / Bleep No:		Department:	



<b>Month 1 Dalteparin Dose (s/c once daily)</b>	
<b>Weight (kg)</b>	<b>Dose (200IU/Kg)</b>
<46	7,500 IU
46-56	10,000 IU
57-68	12,500 IU
69-82	15, 000 IU
>83	18,000 IU

<b>Ongoing Dalteparin Dose (s/c once daily)</b>	
<b>Weight (kg)</b>	<b>Dose (150IU/Kg)</b>
≤56	7,500 IU
57-68	10,000 IU
69-82	12,500 IU
83-98	15, 000 IU
≥99	18,000 IU

### c. Apixaban

- Not recommended in pregnancy/breast feeding
- Use with caution if CrCl <30mls/min and avoid in extremes of weight. Also avoid in patients with hepatic disease associated with coagulopathy and clinically relevant bleeding risk
- Check for drug interactions - avoid if on strong inhibitors of CYP3A4 (e.g azole antimycotics/ HIV protease inhibitors).
- The initial prescription is for 10mg twice daily for 7 days then 5mg bd for 11 weeks
- If apixaban is to be given long term as prophylaxis of VTE (i.e for indefinite anticoagulation) there is a further dose reduction to 2.5mg (usually given after 6 months of full dose anticoagulation)
- Give first dose at the next scheduled dose of enoxaparin (avoid concomitant administration).
- Apixaban counselling paperwork to be completed

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- Refer to ART for 7 day review to oversee dose reduction and reinforce counselling.
- Prescribe full 12 week initial prescription of apixaban on discharge

## 6. ART

Patients suitable for ambulatory management of their pulmonary embolism may be referred to the Acute Response Team

**Telephone: 029 20932676**

**Mobile: 07976 050069**

*The management of the patient's PE remains under the clinical responsibility of the discharging hospital consultant. Patients referred to respiratory will be seen at 3 months.*

## 7. Follow up

All PE's should be followed up at 3/12 to ensure resolution of symptoms

- Provoked PE or recurrent PE – follow up by discharging consultant (or GP if appropriate) and referred to respiratory if ongoing breathlessness
- Cancer associated PE – Refer patient to CAT clinic at Velindre or Royal Gwent Hospital [\(link\)](#). Patient to remain under the care of the discharging consultant until seen in CAT clinic
- PE in pregnancy should be referred to haematology/obstetric clinic (see above)
- **Unprovoked** or high risk / massive PE need a 3/12 review and discussion regarding risks/benefits of indefinite anticoagulation – Refer to respiratory.
- For inherited thrombophilia testing see guidelines ([link](#))
- Refer patients who have been thrombolysed/ those with submassive PE (HIGH INTERMEDIATE RISK) to respiratory.
- If any other findings on CTPA (e.g. solitary pulmonary nodule) ensure these have been documented and managed appropriately
- If ongoing breathlessness at 3/12 consider investigations for pulmonary hypertension and referral to respiratory OPD. Pulmonary hypertension may not develop for a number of years after PE so alert patient to the need to seek advice in the future.

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## NCEPOD recommendation checklist - Know the Score

The overarching purpose of these recommendations is to improve the quality of care provided to people with pulmonary embolism. Those who should be primarily responsible for leading on the recommendations are listed in parentheses after each recommendation. These are NCEPOD's suggestions and can be extended to others as appropriate.

For reports and support tools go to [www.ncepod.org.uk/2019pe.html](http://www.ncepod.org.uk/2019pe.html)

#	Recommendations	Principal recommendation?	Has it been met? Yes/No/ Partially/ Planned/ Not applicable	Comments (examples of good practice or deficiencies identified)	Action required
1	Give an interim dose of anticoagulant to patients suspected of having and acute pulmonary embolism (unless contraindicated) when confirmation of the diagnosis is expected to be delayed by more than one hour. The anticoagulant selected, and its dose, should be personalised to the patient. This timing is in line with NICE QS29 2013. <i>(All Clinicians, Quality Improvement Lead)</i>	Yes	Yes	A well established pathway and guidance document exists and is published on the UHB intranet. The pathway includes the implementation of the majority of the recommendations. An audit is underway to assess concordance with this recommendation.	
2	Document the severity of acute pulmonary embolism immediately after the confirmation of diagnosis. Severity should be assessed using a validated standardised tool, such as 'PESI' or 'sPESI'. This score should then be considered when deciding on the level of inpatient or ambulatory care. <i>(All Clinicians)</i>	Yes	Partially	PESI score is incorporated into locally produced guidelines to assess severity of PE and guide management decisions (ambulatory vs in-patient admission). Anecdotaly this is not being documented in the notes and an audit is underway to review compliance with this.	
3	Standardise CT pulmonary angiogram reporting. The proforma should include the presence or absence of right ventricular strain. The completion of these proformas should be audited locally to monitor compliance and drive quality improvement. (At a national level, the Royal College of Radiologists with input from other clinical specialist societies such as the British Thoracic Society. <i>(Clinical Lead for Radiology and Quality Improvement Lead)</i>	Yes	Partially	A recent audit carried out by radiology shows that in CTPAs positive for PE the reports mention presence/absence of right heart strain in 66%; when we look at all CTPA reports this is commented in 39% of reports.	There is a plan to present these audit results at the next Radiology Body meeting on 23rd January 2020 and put in place new recommendations to improve numbers.
4	Look for indicators of massive (high-risk) or sub-massive (intermediate-risk) pulmonary embolism, in addition to calculating the severity of acute pulmonary embolism in the form of: i. Haemodynamic instability (clinical) ii. Right heart strain (imaging) iii. Elevated troponin or BNP (biochemical) Escalate promptly based on local guidance and document in the case notes. <i>(All Clinicians)</i>	Yes	Yes	The CAV guideline does remind clinicians of the need to assess these parameters. Audit will show compliance, including with documentation.	

5	Assess patients suspected of having an acute pulmonary embolism for their suitability for ambulatory care and document the rationale for selecting or excluding it in the case notes. <i>(All Clinicians)</i>	Yes	Yes	Ambulatory management of PE is facilitated by Acute Response team who offer a 7 day phone call review. Audit will show compliance with documenting decision in notes.	
6	Provide every patient with an acute pulmonary embolism with a follow-up plan, patient information leaflet and, at discharge, a discharge letter which should include: i. The likely cause of the pulmonary embolism ii. Whether it was provoked or unprovoked iii. Details of follow-up appointment(s) iv. Any further investigations required v. Details of anticoagulant prescribed and its duration, in line with NICE CG144 <i>(All Clinicians, Service Users, General Practitioners)</i>	Yes	Yes	A discharge advice letter is provided to the GP electronically. A local information leaflet has not been developed however every patient receives a leaflet contained within their medication explaining the anticoagulation. Anecdotally the quality of the discharge summaries is often poor and does not always contain the required information- again the audit will show this. One area that will require significant improvement is point v. -suggesting the duration of therapy.	
7	Calculate the clinical probability of pulmonary embolism in all patient presenting to hospital with a suspected new diagnosis of pulmonary embolism using a validated score, such as the 'Wells' Score'. Record the score in the clinical notes. This is in line with NICE CG144. <i>(Clinicians, particularly Emergency and Acute Medicine Physicans)</i>	No	Yes	This is stipulated within the pathway but the compliance with documentation will be shown in the audit	
8	Ensure there are hospital protocols/ guidance for assessing the severity of pulmonary embolism soon after diagnostic confirmation. Include timely access to point of care ultrasonography (POCUS)/ echocardiography and measuring biomarkers like troponin and BNP. <i>(Hospital Executive Board)</i>	No	Yes	Protocols are in place	
9	Ensure there is a robust system in place to alert the clinician who requested a CTPA or V/Q scan or V/Q SPECT scan of any amendments or updates to the report. This is in line with the Royal College of Radiologist's communication standards for radiology reports 2016. <i>(Clinical Lead for Radiology)</i>	No	Yes	Significant unexpected findings are routinely communicated to the referring clinician. In the A&E setting this will be by direct phone call. In the in-patient setting this may be by direct phone call if the referrer answers. Otherwise this is communicated by the secretaries	

10	Develop and document a monitoring and treatment escalation plan for, and with, all patients diagnosed with acute pulmonary embolism. Any reason for not doing so should be also documented in the case notes. <i>(All Clinicians, Clinical Directors)</i>	No	Yes	No specific PE escalation plan although all medical admissions are encouraged on the post take ward round to fill in an escalation plan e.g. Is the patient for ICU? The PE pathway does recommend specific advice based on severity on PE e.g. need for high care bed if severe PE.	
11	Document whether the inferior vena cava (IVC) filter inserted into a patient with pulmonary embolism is intended to be temporary or permanent. Temporary filters should have a retrieval date booked at the time of insertion and have a fail-safe tracking system to ensure the filter is removed, unless this becomes clinically inappropriate. This is in line with MHRA 2013 guidance. <i>(Interventional Radiologists)</i>	No	Yes	IVC filter retrieval is managed by a register. The referring clinician should keep responsibility for IVC filter retrieval	
12	Ensure an ambulatory care pathway is available 7 days a week, at all hospitals where patients with an acute pulmonary embolism is present. <i>(Hospital Executive Boards, Clinical Directors in the Emergency Department and Acute Medicine, Quality Improvement Lead)</i>	No	Yes	Patients who are low risk are discharged (7 days a week) and will have a 7 day phone call review by ART to ensure they are managing anticoagulation. No medical follow up as part of an ambulatory pathway but respiratory will review unprovoked PE at 3 months.	
13	Formalise pulmonary embolism treatment networks for access to catheter-directed thrombolysis, surgical embolectomy or mechanical thrombectomy for the treatment of patients with pulmonary embolism who either fail to improve or have absolute contraindications to systemic thrombolysis. <i>(Hospital Executive Boards, Commissioners, Clinicians)</i>	No	No	There has been a recent appointment of a cardiologist with expertise in catheter directed thrombolysis. There are ongoing discussions about setting up this service in UHW.	

Timescale	Person responsible
	Katie Pink is the lead Respiratory Consultant for PE
	Dr Aleks Marin-Consultant radiologist


	Dr Andrew Wood- Consultant Radiologist



<b>Report Title:</b>	<b>NATIONAL CLINICAL AUDIT</b>					
<b>Meeting:</b>	Quality, Safety and Experience Committee			<b>Meeting Date:</b>	<b>18/02/20</b>	
<b>Status:</b>	<b>For Discussion</b>		<b>For Assurance</b>	<b>X</b>	<b>For Approval</b>	<b>For Information</b>
<b>Lead Executive:</b>	Executive Medical Director					
<b>Report Author (Title):</b>	Head of Patient Safety and Quality Assurance					

### Background and current situation:

This paper provides the Quality Safety and Experience Committee with an update on recent national audit publications and UHB benchmarked performance.

The NHS Wales 2019/20 [National Clinical Audit and Outcome Review Plan \(NCAORP\)](#) confirms the list of national audits that health boards are expected to participate in. Clinical audit is an integral element of the quality improvement process and is embedded within the Welsh Health and Care Standards. Participation is a central component of the suite of Delivery Plans developed for NHS Wales e.g. Stroke Delivery Plan, Diabetes Delivery Plan and Heart Disease Delivery Plan etc.

National audit allows the UHB to compare performance with other organisations against nationally agreed best practice standards in England and Wales. These audits also deliver improved processes and outcomes for the population that the health board serves by informing and measuring the effectiveness of quality improvement initiatives. The extent of this data driven improvement programme is wide reaching, incorporating services across all Clinical Boards.

For the past two years a process has been in place to ensure that all national audit publications are reviewed and the health board results are considered and where necessary the requisite improvements are put in place. The Health Board reports these results, and improvements to Welsh Government.

### Executive Director Opinion /Key Issues to bring to the attention of the Board/ Committee:

The report highlights the headline national and Health Board results around the recently reported national audits.

### Assessment and Risk Implications (Safety, Financial, Legal, Reputational etc:)

Since September 2019, there have been a number of national publications and adjunct reports. Below is a summary of the headline national and local results. There was a delay in the publication of a number of national audits reports due to purdah restrictions, as a result the synopsis of the audits in this report include results only as Improvement actions remain in development.

### [National Confidential Inquiry into Suicide and Safety in Mental Health](#)

Suicide rates in the general population rose from 11.5 to 13.6 per 100 000 but in Wales it was noted that a lower proportion of these patients were in contact with mental health services compared to other nations. Between 2015 -2017 Suicide rates in Cardiff and The Vale of Glamorgan were 11.5 per 100 000 a drop from 12.6 in 2014 -2016. 22% of suicides in Wales were amongst people in contact with mental health services. The predominant primary diagnosis in Wales was affective disorder (40%) followed by Schizophrenia (15%) and then other delusional disorders. 49% of patients in Wales had a history of alcohol misuse and 39% drug misuse.

16% of patients in Wales had been discharged in the previous 3 months. Post discharge suicides were most frequent in the 2 weeks after leaving mental health services and it was noted that 47% of patients in Wales had last contact with mental health services within 7 days of their death.

### [Maternal Newborn and Infant Programme: Saving Lives, Improving Mother's Care 2019](#)

The confidential Enquiry into maternal Deaths and Morbidity includes surveillance data on women who died during or up to one year after pregnancy between 2015 and 2017 in the UK. The report does not include local performance data, but instead reports causes and trends. The most common cause of death in pregnancy was heart disease accounting for 23% of deaths, thrombosis 16%, epilepsy and stroke 13%. Recommendations Include:

- *Providers should consider developing a Patient Group Directive to allow midwives to supply aspirin to eligible women in line with NICE MPG2 NG133.* This measure is already being implemented within the UHB
- *Early pregnancy assessment services should ensure processes are in place to review and act upon results of investigations promptly.* The UHB provides early pregnancy assessment services 7 days a week, 24 hours a day where women are able to access appropriate investigations and interventions.
- *Local investigations and reviews of maternal death should not be confined to a timeline of events and clinical narrative. The strength or weakness of multi-disciplinary team working should merit specific comment.* All serious Incidents including maternal deaths that occur within the UHB are subject to multi-disciplinary review and investigation including a full root cause analysis
- *A persistent sinus tachycardia is a 'red flag' and should always be investigated, particularly when there is associated breathlessness.* This is reinforced through the UHB VTE and Sepsis guidelines and also during PROMPT training

### [National Vascular Registry](#)

The report contains information relating to the outcomes of care for

- patients undergoing revascularization or
- major amputation for lower limb peripheral arterial disease
- Carotid endarterectomy
- Abdominal aortic aneurysm repair

lower limb amputation recommendations :

- *Major amputations should take place within normal working hours*
- *A consultant surgeon should be present in theatre*
- *The patient should have routine antibiotic and DVT thromboprophylaxis*

#### Carotid Endarterectomy recommendations:

- *The delay from symptom to carotid surgery is recommended to be within 14 days to reduce the risk of patients developing a stroke.* The national average from symptom to procedure is 12 days and UHB average as reported in the NVR is 21 days.

#### Abdominal Aortic Aneurysm Recommendations:

- *The national screening programme recommends a target of 8 weeks from the date of the referral to the date of the repair.* UK performance around RTT is 70 days and UHB performance is 111 days as reported in the NVR.

#### Vascular Surgery National and UHB Mortality

Procedure	UHB Survival rate	National Survival rate
Lower limb angioplasty	97%	98.4%
Lower limb bypass	100%	97.4%
Lower limb amputation	93.4%	95.2%
AAA infra renal	94.1%	98.6%
Carotid endarterectomy	97.7%	98%

#### [National Oesophago Gastric Cancer Audit](#)

The National Oesophago –Gastric Cancer Audit (NOGCA) examines care delivery in England and Wales from the time of diagnosis to the end of the primary treatment and benchmarks it against a number of key performance indicators.

Performance around presentation, Investigations and mortality is in line with national performance and remains largely unchanged from the previous year.

The overall rate of diagnosis after an emergency admission was 13%, this rate is strongly associated with age rising to 16.2% for Oesophageal tumours and 26.1% for stomach tumours in patients aged 80 and over. The UHB overall emergency admission rate is 10%.

All patients diagnosed with OG cancer are recommended to have a CT scan to identify any metastatic disease. The indicator is met in 93.8% of patient nationally and 93.7% within the UHB.

Previously variation was noted nationally in the number of patients with positive longitudinal margins noted. This year the report highlights that all sites are within the normal range. The UHB reported 0% oesophageal cancer patients with positive longitudinal margins and 11.5% of gastric cancer patients compared to 8.2% nationally. Variation continues to exist nationally in relation to the number of patients with positive circumferential margins recorded.

#### [National Emergency Laparotomy Audit](#)

Emergency laparotomy surgery has one of the highest associated mortality rates of all types of surgery however outcomes are improved by measuring and improving the care delivered. The average mortality rate across England and Wales remains static at 9.6% while UHB mortality is 8.5%, a rise from 7.5% in the previous year.

Nationally, 22.7% of patients did not have their pre-operative mortality risk documented. The UHB accurately documented 87% patient's risk. Patients assessed as having a risk of death of  $\geq 5\%$  should be admitted directly to critical care postoperatively. The UHB admitted 43% of patients with a mortality risk of  $\geq 5\%$  to critical care and 53% of those with a risk of  $\geq 10\%$ .

Nationally 95% of all patients have a consultant surgeon involved in their pre-operative care and 60% of patients' age over 70 are reviewed in person by a Consultant Anaesthetist. 88% of patients within the UHB are reviewed by both a Consultant Surgeon and Consultant Anaesthetist pre operatively when the Mortality risk is  $\geq 5\%$ .

#### National Neonatal Audit

The National Neonatal Audit uses routine 2018 data collection to report on a range of care processes and outcomes throughout the pathway of neonatal care, from antenatal interventions to follow up of developmental outcomes.

*85% of mothers that deliver between 23 and 33 weeks gestation should be administered antenatal steroids to reduce breathing difficulties and other serious complications* - The UHB achieved 91% compliance with this indicator.

*85% of eligible mothers should be administered Magnesium Sulphate to reduce the risk of the baby developing Cerebral Palsy* – The UHB achieve 71% compliance

*90% of babies should have a temperature taken within an hour of birth and measuring 36.5 - 37.5°C* – The UHB achieved 79% compliance

100% of parents had a documented consultation with a senior member of the neonatal team within 24 hours of the babies' first admission and 74% of patients were present at least one ward round.

100% of babies were screened for retinopathy of prematurity

54% of babies born at less than 33 weeks received any of their own mother's milk at discharge from the neonatal unit.

#### National Asthma Audit

The first National Asthma Audit was published in December 2019. The report highlights two immediate areas for improvement, Improving the severity of asthma attacks at the front door and the need for timely treatment.

Performance across the Health Board is in line with or exceeding national performance but there are discrepancies in delivery between UHW and UHL.

Nationally 72.6% of patients had a Peak Expiratory Flow (PEF) measurement recorded during their hospital admission, but only 27.9% were recorded within one hour of arrival at hospital and 52.8% within four hours. 87% of patient cared for within the UHB had their PEF recorded during their admission and in 38% of cases in UHW and 33% in UHL this was documented as being undertaken within 1 hour of arrival.

19% of patients nationally had the six elements of good practice care carried out before

discharge, this includes Inhaler technique, maintenance medication review, adherence discussed, personalised asthma plan, tobacco dependency. 54% of patient in UHW and 19% in UHL had all six elements of care documented. There is evidence to suggest that locally specialist review is associated with improved compliance of all elements of care.

Nationally 77% of patients were reviewed by a respiratory specialist during their admission the median time to review was 20 hours and 61.8% of the patients who received a respiratory review were reviewed within 24 hours of arrival. 58% of patients cared for in UHW were reviewed within 24 hours and 25% of those cared for in UHL.

### [National Hip Fracture Database](#)

The National Hip Fracture Database (NHFD) examines the care delivered to patients who are receiving care in relation to a fractured hip around six key performance indicators and supports review of many aspects of care including assessment, surgical and anaesthetic care, rehabilitation, follow up and outcomes.

#### 2018 Performance

Key Performance Indicator	National Performance	UHB Performance
Prompt Orthogeriatrician Review	90%	83.1%
Prompt Surgery	69%	61.6%
NICE Compliant Surgery	72%	83.5%
Prompt Mobilisation	80%	66.1%
Not Delirious Post Op	69%	23.8%
Return to Original Residence	69%	72.6%
30 day mortality	6.1%	9.6%

A multidisciplinary case note review of 18 clinical records was undertaken by a team consisting a Consultant Anaesthetist and Trauma Physiotherapist and Dietician in response to the elevated mortality rate. The case note review did not identify any recurring themes around the deaths of the 18 patients reviewed, there were however, several incidental findings noted. It was observed that ASA grade (a classification system assessing the fitness of patients before surgery) attributed and recorded in the NHFD did not reflect the complexity of the patients. In 13/18 cases the case note review resulted in a higher ASA grade being attributed. Although this would not impact on the crude mortality rate If this theme is recurring across the entire dataset it is likely to impact of the adjusted mortality rates with the 30 day mortality rate being adjusted downwards.

Since December 2018 a sustained improvement in the 30 Crude mortality has been seen and in September 2019 the annual crude mortality was 6.6% compared to a UK rate of 6.3%.

A detailed paper has been submitted to the February 2020 Quality Safety and Experience Committee detailing the actions undertaken in relation to the recent results and outline 2019 performance.

## Recommendation:

### The committee is asked to note:

- The assurance provided by the recent National Audit results
- The assurance provided in relation to the actions undertaken in response to the raised mortality rate highlighted in the National Hip Fracture Database
- As a result of the recent publication dates of the above audits action plans are currently in development

### Shaping our Future Wellbeing Strategic Objectives

*This report should relate to at least one of the UHB's objectives, so please tick the box of the relevant objective(s) for this report*

1. Reduce health inequalities		6. Have a planned care system where demand and capacity are in balance	x
2. Deliver outcomes that matter to people	x	7. Be a great place to work and learn	
3. All take responsibility for improving our health and wellbeing		8. Work better together with partners to deliver care and support across care sectors, making best use of our people and technology	
4. Offer services that deliver the population health our citizens are entitled to expect	x	9. Reduce harm, waste and variation sustainably making best use of the resources available to us	x
5. Have an unplanned (emergency) care system that provides the right care, in the right place, first time	x	10. Excel at teaching, research, innovation and improvement and provide an environment where innovation thrives	x

### Five Ways of Working (Sustainable Development Principles) considered

*Please tick as relevant, click [here](#) for more information*

Prevention		Long term		Integration		Collaboration		Involvement	
<b>Equality and Health Impact Assessment Completed:</b>		Not Applicable <i>If "yes" please provide copy of the assessment. This will be linked to the report when published.</i>							





<b>Report Title:</b>	<b>NATIONAL HIP FRACTURE DATABASE</b>					
<b>Meeting:</b>	Quality, Safety and Experience Committee			<b>Meeting Date:</b>	<b>18/02/20</b>	
<b>Status:</b>	<b>For Discussion</b>		<b>For Assurance</b>	<b>X</b>	<b>For Approval</b>	<b>For Information</b>
<b>Lead Executive:</b>	Executive Medical Director					
<b>Report Author (Title):</b>	Head of Patient Safety and Quality Assurance					

**Background and current situation:** The purpose of this paper is to assure the committee around the quality of care delivery for patients who have sustained hip fractures.

The National Hip Fracture Database (NHFD) was established in 2007 as a collaboration between the British Orthopedic Association and the British Geriatrics Society. The quality of patient care is examined using a set of six key performance indicators:

- Prompt orthogeriatrician review
- Prompt surgery
- NICE compliant Surgery
- Prompt Mobilisation
- Not delirious post operatively
- Return to original residence

#### **Executive Director Opinion /Key Issues to bring to the attention of the Board/ Committee:**

UHB were identified as outliers for crude and adjusted 2018 mortality rates for patients who sustained a hip fracture. Several other key indicators also identified issues in performance and quality and safety including.

- Fractures sustained as an inpatient
- Time to surgery
- Prompt mobilisation

Improvements have been noted in both mortality and inpatient hip fractures and significant work is underway around time to surgery.

#### **Assessment and Risk Implications (Safety, Financial, Legal, Reputational etc:)**

One of the key performance indicators measured as part of the NHFD is the mortality rate 30 days post hip fracture. This data is reported as both crude mortality and adjusted mortality which takes into account age, gender, ASA grade (a classification system assessing the fitness of patients before surgery), pre fracture mobility, pre fracture residence and fracture type. The UHB annual 30 day crude mortality in December 2018 was 9.5% adjusted to 9.6% compared to a UK 30 day mortality rate of 6.1%.

The Health Board was contacted by the Royal College of Physicians (RCP) in August 2019 to advise of its mortality outlier status in respect to 2018 performance. Significant work was already underway to transform the hip fracture pathway being led by the Surgery Clinical Board and

involving members from the EU, orthopaedic, anaesthetic, critical care and ortho-geriatrician department. In light of this detailed work it was decided not to invite a British Orthopaedic Association clinical review.

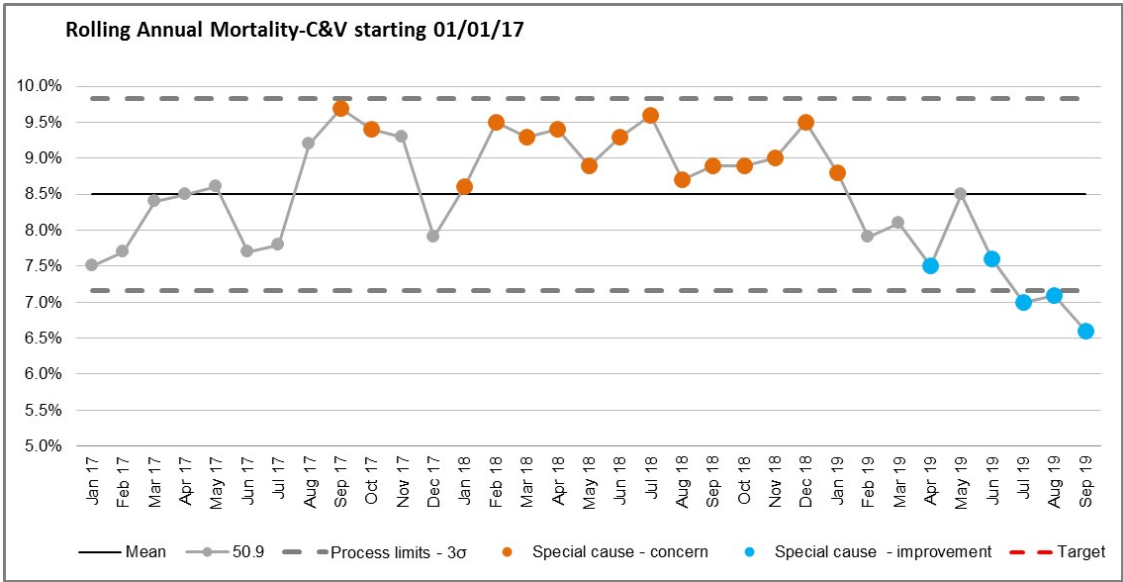
A detailed review of the NHFD data was undertaken and identified minor anomalies but provided confidence that the data accurately reflected the performance and outcomes at University Hospital of Wales. In addition a multidisciplinary case note review of 18 clinical records was undertaken by a team consisting a Consultant Anaesthetist and Trauma Physiotherapist and Dietician.

The Case note review did not identify any recurring themes around the deaths of the 18 patients reviewed, there were however, several incidental findings noted. It was observed that ASA grade attributed and recorded in the NHFD did not reflect the complexity of the patients. In 13/18 cases the case note review resulted in a higher ASA grade being attributed. Although this would not impact on the crude mortality rate If this theme is recurring across the entire dataset it is likely to impact of the adjusted mortality rates with the 30 day mortality rate being adjusted downwards.

No theme was identified around the cause of death but it was observed that in the majority of cases the patients were noted to be very complex with significant comorbidities. Three of the eighteen patients had advanced metastatic cancer and a further two were managed palliatively from the outset.

Since December 2018 a sustained improvement in the 30 Crude mortality has been seen and in September 2019 the annual crude mortality was 6.6% compared to a UK rate of 6.3%.

1. 30 Day Crude Mortality



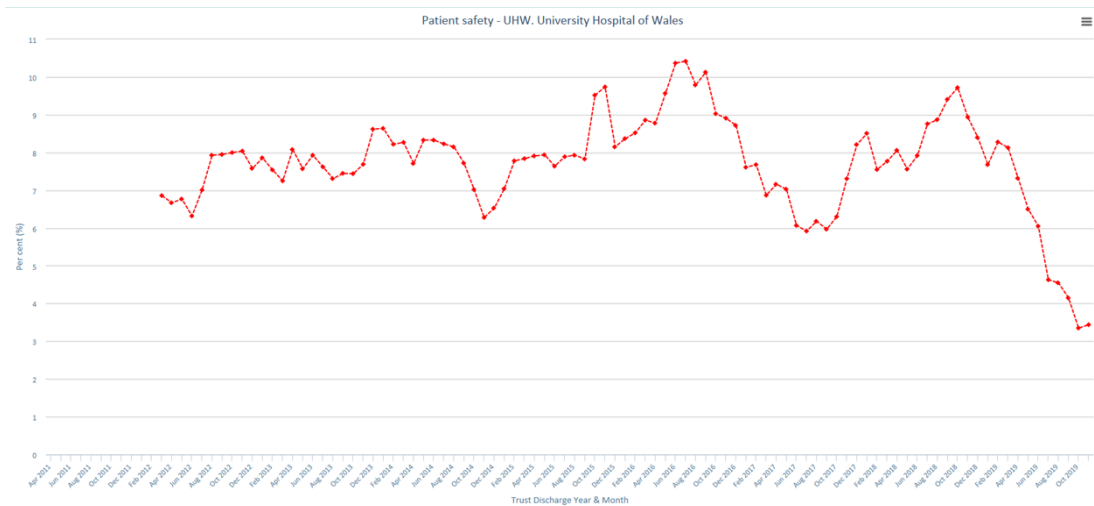
Hip Fractures Sustained as an Inpatient

The number of hip fractures sustained as an inpatient is a key performance indicator measured as part of the NHFD. In 2017 7.9% of all hip fractures treated in the UHB were sustained as an inpatient within the UHB. A further deterioration in performance was noted in 2018 when 8.7% of hip fractures were sustained in hospital. A marked improvement has been noted in 2019 with



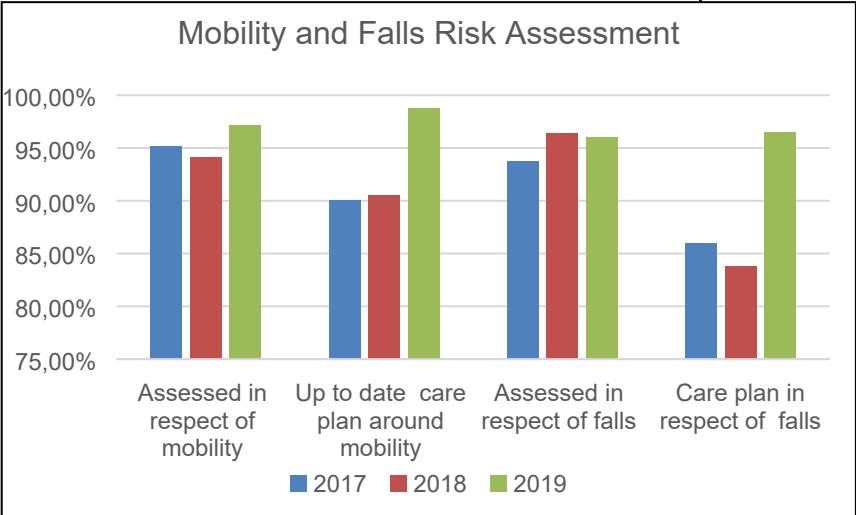
a sustained reduction in inpatient hip fractures and in November 2019 the rolling annual rate was 3.44%.

2.Hip Fractures Sustained as an Inpatient



In 2018 a Get Up Get Dressed Get Moving campaign was launched across the UHB to support patients in remaining active and mobile. The risk of falls is managed in conjunction with the risks associated with immobility including muscle loss, pressure damage and gastrointestinal complications. Since 2018 simulation training for the management of patient falls has been made available to all inpatient wards and several Clinical Boards have attended a train the trainer session to facilitate uptake of the training. All injurious falls that occur within the UHB are investigated fully to understand the underlying cause, this investigation includes understanding if there are particular locations in the inpatient area where falls occur more commonly, and to understand if the appropriate risk management strategies were put in place. All inpatients are assessed for their risk of falls and, where required an action plan is developed to support safe mobilisation and falls reduction for each patients. It is noted that in 2019 there was a marked improvement in compliance around the development of care plans for both mobility and falls risk reduction.

3. Falls Risk Assessment and Care Plan Compliance



## Time to Surgery

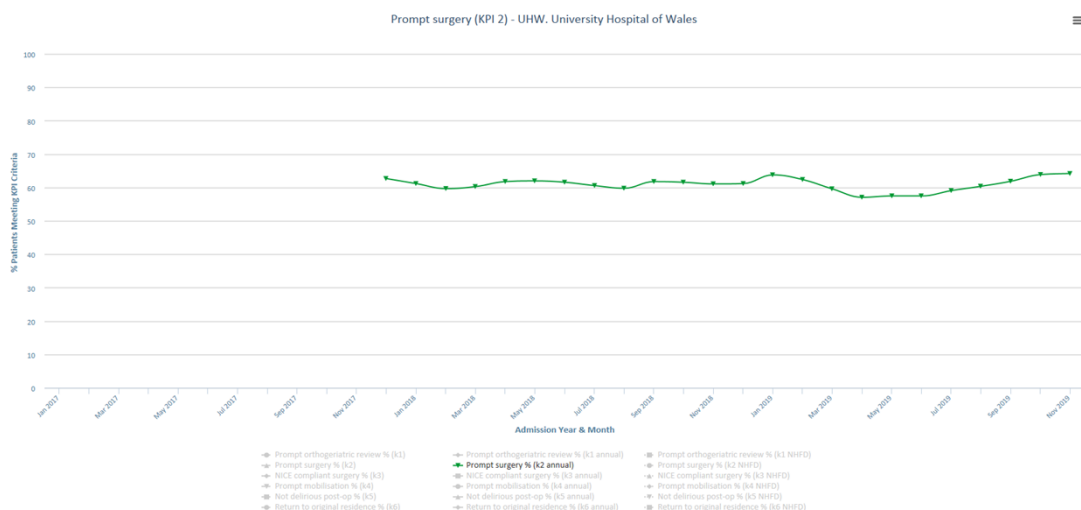
Both NICE CG124 and QS16 recommend surgery by the day following admission. Across the UK 70.2% of people underwent surgery within 36 hours of presentation and on average people are waiting 33 hours for hip fracture surgery. In 2017 The UHB recorded that 62.7% of patients had surgery on the day or the day after admission and in 2018 this figure was 61.1%.

A significant work plan is underway to support improvements in timely access to theatre. This includes:

- The development of a trauma team of anaesthetists
- Changes to theatre times to improve continuity and reduce the number of wasted theatre slots
- Identification of a “Gold Patient” - The first patient on the list each day will be identified the day prior to surgery to ensure that they are prepped and ready for surgery to avoid delays in theatre start time.
- Theatre Assistant collects the “Gold Patient” each morning to ensure there is no delay to the start of the theatre list.

Since April 2019 the rolling annual length of time to surgery has decreased from 37.8 hours to 34.2 hours in October 2019 which translates as 63.9% of patients having their surgery on the day or the day after admission. In addition the appointment of an Anaesthetics lead for hip fractures will support the clinical review and the appropriate prioritization of patients

## 4. Prompt Surgery

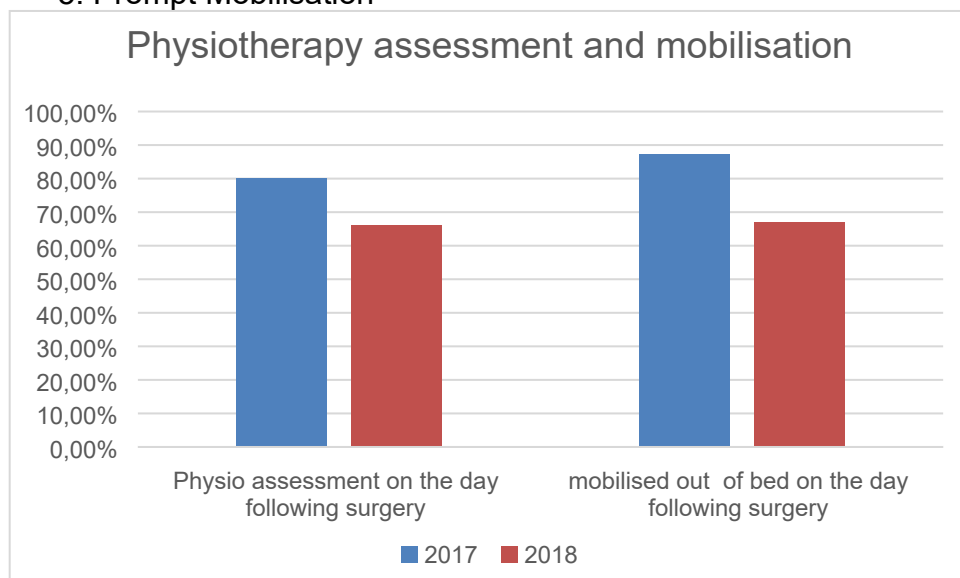


## Prompt Mobilisation

NICE QS16 recommends that adults with hip fractures start rehabilitation at least once a day, no later than the day after surgery. Prolonged bed rest compromises the dignity of older people and those with frailty. It also increases the risk of delirium, thromboembolism, hospital acquired infection as well as leading to loss of muscle strength. There is a discrepancy between the proportion of patients who are assessed by a physiotherapist by the day following surgery and those that are mobilised out of bed. This reflects the proportion of patients who are assessed as being unfit to mobilise. The Physiotherapy Hip Fracture Sprint Audit demonstrates that the most common cause of not mobilising out of bed was low blood pressure, poor pain control or confusion rather than a lack of physiotherapy input. A new system has been developed to

ensure that the Trauma Practitioners now flag patients on outlier wards to the physiotherapist and the Junior doctor to ensure that they receive prompt post-operative assessment.

## 5. Prompt Mobilisation



## Recommendation:

The committee is asked to

## NOTE:

- The UHB position in relation to the National Hip Fracture Database in 2018 in particular the 30 day mortality rate
- The assurance provided by the 2019 National Hip Fracture Data and the improvements that have been implemented to date.

## Shaping our Future Wellbeing Strategic Objectives

*This report should relate to at least one of the UHB's objectives, so please tick the box of the relevant objective(s) for this report*

1. Reduce health inequalities		6. Have a planned care system where demand and capacity are in balance	x
2. Deliver outcomes that matter to people	x	7. Be a great place to work and learn	
3. All take responsibility for improving our health and wellbeing		8. Work better together with partners to deliver care and support across care sectors, making best use of our people and technology	
4. Offer services that deliver the population health our citizens are entitled to expect	x	9. Reduce harm, waste and variation sustainably making best use of the resources available to us	x
5. Have an unplanned (emergency) care system that provides the right care, in the right place, first time	x	10. Excel at teaching, research, innovation and improvement and provide an environment where innovation thrives	x

### Five Ways of Working (Sustainable Development Principles) considered

Please tick as relevant, click [here](#) for more information

Prevention		Long term		Integration		Collaboration		Involvement	
<b>Equality and Health Impact Assessment Completed:</b>		Not Applicable <i>If "yes" please provide copy of the assessment. This will be linked to the report when published.</i>							

Kind and caring  
Caredig a gofalgar

Respectful  
Dangos parch

Trust and integrity  
Ymddiriedaeth ac uniondeb

Personal responsibility  
Cyfrifoldeb personol

<b>Report Title:</b>	<b>Cancer Peer Review: Teenage and Young Adults</b>						
<b>Meeting:</b>	Quality, Safety and Experience				<b>Meeting Date:</b>	February 2020	
<b>Status:</b>	<b>For Discussion</b>		<b>For Assurance</b>	✓	<b>For Approval</b>		<b>For Information</b>
<b>Lead Executive:</b>	Dr. Stuart Walker, Medical Director						
<b>Report Author (Title):</b>	Alicia Christopher, Cancer Services Lead Manager						

## SITUATION

The purpose of this report is to present the committee with an analysis of the findings and actions required following the Cancer Peer Review process. Following peer review of each cancer tumour site, a report is forwarded to the UHB and an action plan agreed by the multidisciplinary team and relevant Clinical Board. The action plan is reported back to the Wales Cancer Network and Welsh Government.

This report outlines the findings of the Teenage and Young Adult (TYA) Service Peer Review – 3<sup>rd</sup> July 2019 (1<sup>st</sup> round).

**N.B.** The Teenage and Young Adult Service is a Regional MDT. The Peer Review was conducted for Cardiff and Vale UHB as a referring Organisation and as the Primary Treatment Centre (PTC) which provides the Service.

## REPORT

### BACKGROUND

Peer review is a collaborative, quality improvement process which allows for the evaluation of scientific, academic or professional work by others working in the same field and constitutes a form of self-regulation by qualified members of a profession. It is designed to allow peers to share information, learn where their strengths and weaknesses lie and agree plans for improvements to patient care.

Peer review methods are employed to maintain standards of quality, improve performance and provide credibility.

In 2011 Welsh Government recommended that the peer review process for cancer services be led by Health Inspectorate Wales (HIW), working in partnership with the Cancer Networks. Peer review was then launched in Wales in 2012.

In 2017, through Welsh Health Circular WHC/2017037 the NHS Wales Peer Review Framework was published and tasked the NHS Wales Health Collaborative to oversee an All-Wales Programme for peer review.

A three yearly re-review process has been developed by the cancer network. Following the peer review meeting, a report is sent to the UHB. An action plan is then developed and implemented to address the concerns raised at each peer review and re-review.

## ASSESSMENT

### Summary of Peer Review Report:

#### General Observations:

- There was palpable ambition from all health boards represented at the peer review with evidence of responsibility and partnership working
- There was good representation during the review by PTC MDT, Health Boards and Trust, with an honest appraisal of services.
- Whilst some of the findings are common to many Health Boards, responses should be sought from each Health Board to ensure a commitment, where appropriate, to regional service delivery.
- The PTC MDT was very engaged in the development of peer review and receptive to the arrangements made to deliver the review.

#### Good Practice/Significant Achievements :

- Good team working across organisational boundaries, specifically for haematological patients where there are confident links
- Excellent bespoke facility that is well-led and organised, offering fantastic age appropriate support
- Excellent offer of outreach youth and social care support
- Recent AHP engagement and scoping exercise with strong AHP leadership
- Excellent participation in national meetings/conferences with poster presentations

**There were no immediate risks highlighted.**

#### Serious Concerns noted were:

- **Palliative care for 16 and 17 year olds:** Current guidelines and service configuration states that adult services for palliative care starts at 18 years of age, often missing patients aged 16 to 17. This is a configuration gap that applies to NHS Wales.

#### Concerns noted were:

- **Age-appropriate care out with the PTC:** There is a clear two tiered service with huge variation of support & facilities offered to young people who access treatment and care at the PTC in relation to the other Health Boards across South and Mid Wales.
- **Solid tumour services:** There is disparity in services between haematology and oncology patients, with a lack of intelligence to identify and refer to age appropriate services. Often patients with a solid tumour do not receive the same level of care and additional supportive services as those with a haematological diagnosis.
- **Annual service review (business meeting):** There is currently no formal annual business / service review meeting.
- **Multi-disciplinary membership:** The TYA PTC MDT has deficiencies in a number of specialist members, these include:
  - Specialist in testicular cancer;
  - Psychologist for 16 and 17 year olds;
  - MDT Co-ordinator

- Research nurse

- **Outpatient service, survivorship and follow up:** The Health Board is reliant on Teenage Cancer Trust & CLIC Sargent, (third sector charities), to provide essential social and psychological support services that are required. Limited or no access to Therapists (Dieticians, Occupational Therapists, Physiotherapists, SALT) which will impact on survivorship.
- **On-site access to specialist services:** The TYA PTC MDT should have immediate on-site access to specialist services. The gaps in access arrangements include:
  - Specialist Psychological services
  - Oncology outreach nurses
  - Allied health professionals e.g. Dieticians , Physiotherapists ,Speech & Language Therapists to facilitate 'prehabilitation' and rehabilitation
  - Research nurses & data manager
- **Identification of 16 to 24 year olds:** There is no single reliable systems and/or processes to identify patients aged 16 to 24 years old would should have the choice and might benefit from specialist TYA services.

### See attached Action Plan

**ASSURANCE** is provided by:

- The level of scrutiny applied internally and externally to the Peer Review assessment and Peer Review reporting process. Any concerns identified are addressed via an action plan and are regularly reported within the required process; at the Clinical Board performance reviews and by WG and the South Wales Cancer Network

### RECOMMENDATION

The Quality Safety and Experience Committee is asked to:

- **Note** the report
- **AGREE** that appropriate assurance has been provided in relation to the trends, themes and resulting actions, including the plans to address areas of concern.

### Shaping our Future Wellbeing Strategic Objectives

*This report should relate to at least one of the UHB's objectives, so please tick the box of the relevant objective(s) for this report*

1. Reduce health inequalities		6. Have a planned care system where demand and capacity are in balance	√
2. Deliver outcomes that matter to people	√	7. Be a great place to work and learn	√
3. All take responsibility for improving our health and wellbeing		8. Work better together with partners to deliver care and support across care sectors, making best use of our people and technology	√
4. Offer services that deliver the population health our citizens are entitled to expect	√	9. Reduce harm, waste and variation sustainably making best use of the resources available to us	√

5. Have an unplanned (emergency) care system that provides the right care, in the right place, first time				10. Excel at teaching, research, innovation and improvement and provide an environment where innovation thrives					
<b>Five Ways of Working (Sustainable Development Principles) considered</b> <i>Please tick as relevant, click <a href="#">here</a> for more information</i>									
Prevention	✓	Long term	✓	Integration	✓	Collaboration	✓	Involvement	✓
<b>Equality and Health Impact Assessment Completed:</b>		Not Applicable <i>If “yes” please provide copy of the assessment. This will be linked to the report when published.</i>							



# Teenage and Young Adults Peer Review Action Plan 2019

## Health Board Name – Cardiff and Vale University Health Board

	Area for Improvement	Action Required	Priority	Lead	By When	Progress to Date
Immediate Risks						
	No immediate risks identified	N/A	N/A	N/A	N/A	N/A
Serious Concerns						
1	<p><b>Area of risk:</b> Palliative care for 16 and 17 year olds</p> <p><b>Detail of the risk:</b> Current guidelines and service configuration states that adult services for palliative care starts at 18 years of age, often missing patients aged 16 to 17. This is a configuration gap that applies to NHS Wales.</p> <p><b>Rationale:</b> The Health Board should continue to plug the gap, but also contribute to the solution nationally so that configuration of services are aligned appropriately.</p>	<p>Currently the provision of palliative care services in Wales lies largely with third sector organisations and consequently is out of the control of Cardiff and Vale Health Board.</p> <p>The current issue is that adult palliative care services in the community and Hospices provide for patients from the age of 18 yrs upwards. The paediatric palliative care services are aligned with other paediatric services (paediatric oncology, paediatric neurodevelopmental disease services etc) which largely stop providing for patients beyond their 16<sup>th</sup> birthday, Consequently there is a 'Gap' in services for patients aged 16 and 17 years. This adolescent gap is of great concern to the TYA team in UHW but is not directly within our control to resolve.</p>	High but not solely within the remit of C&V LHB to resolve	Senior Nurse TYA Services, Palliative Care Specialist, Clinical Lead TYA		Senior nurse for TYA services with C&V UHB is currently liaising with members of the All Wales Palliative care Board along with Transitional palliative care specialist (who sits with paediatric services) and Ty Hafan (paediatric hospice) to raise our concerns regarding provision of palliative care services to patients aged 16 and 17 years with cancer.

	Area for Improvement	Action Required	Priority	Lead	By When	Progress to Date
Concerns						
1	<p><b>Area of risk:</b> Age-appropriate care out with the PTC</p> <p><b>Detail of the risk:</b> There is a clear two tiered service with huge variation of support &amp; facilities offered to young people who access treatment and care at the PTC in relation to the other Health Boards across South and Mid Wales.</p> <p><b>Rationale:</b> The Health Board should work towards identifying all teenager and young adult patients so that referrals are made to age appropriate services as required by the NICE guidelines<sup>4</sup> and National Cancer Standards.</p>	<p>It is good to note that the peer review board found the service delivered by the TYA PTC to add value to a young person's experience when diagnosed with cancer.</p> <p>Whilst the TYA PTC recognises the two tiered service that occurs depending on whether a patient is referred to the PTC or not, the PTC does not have influence over the services delivered to TYAs with cancer in other health boards. Presumably this will be addressed through the TYA peer review of all health boards in Wales? Our main role as the TYA PTC is to educate colleagues in other health boards about the TYA standards in Wales and to identify and reach more patients early in their diagnosis, both in our own health board and within other health boards. See below (box 8).</p>				
2	<p><b>Area of risk:</b> Solid tumour services</p> <p><b>Detail of the risk:</b> There is disparity in services between haematology and oncology patients, with a lack of intelligence to identify and refer to age appropriate services.</p>	<p>This is similar to the issues raised above in box 2. We recognise that patients referred to the TYA PTC are able to access greater levels of support than those who are not referred. Currently the referral rate for TYA patients with</p>	HIGH	Senior Nurse TYA Services	Started	A team of staff from both the TYA PTC and Velindre Cancer Centre (VCC) has been set up to work on referral pathways from Velindre Cancer Centre to the TYA PTC to address

	Area for Improvement	Action Required	Priority	Lead	By When	Progress to Date
	<p>Often patients with a solid tumour do not receive the same level of care and additional supportive services as those with a haematological diagnosis.</p> <p><b>Rationale:</b> The Health Board should work towards identifying all teenager and young adult patients so that referrals are made to age appropriate services as required by the NICE guidelines<sup>5</sup> and National Cancer Standards.</p>	a haematological malignancy to the TYA PTC within C&V LHB is 100%. The referral rates for TYA patients with a solid tumour is much lower (approximately 50% with some huge variation depending on the tumour site).				<p>the issue of inequity of access to age appropriate services for patients with solid tumours in south East Wales. In addition the TYA PTC team are doing a lot of work, in conjunction with the lead cancer nurse for the LHB, in educating site specific cancer teams within the LHB about the services provided for young people with cancer and how to access them.</p> <p>Some excellent work has been done with Swansea Bay Health Board to improve referral pathways from West Wales to the TYA PTC for patients with solid tumours in the TYA age group.</p>
3	<p><b>Area of risk:</b> Annual service review (business meeting)</p> <p><b>Detail of the risk:</b> There is currently no formal annual business / service review meeting.</p> <p><b>Rationale:</b> Business meetings are an essential function of an MDT that supports service development, education, research and sharing of audit</p>	The TYA MDT will arrange a business meeting for 2020	Routine	Clinical Lead TYA	End of 2020	



	Area for Improvement	Action Required	Priority	Lead	By When	Progress to Date
		Haematology, Paediatrics as required. We do not expect these nurses to attend the TYA MDT.				
5	<p><b>Area of risk:</b> Outpatient service, survivorship and follow up</p> <p><b>Detail of the risk:</b> The Health Board is reliant on Teenage Cancer Trust &amp; CLIC Sargent, (third sector charities), to provide essential social and psychological support services that are required. Limited or no access to Therapists (Dieticians, Occupational Therapists, Physiotherapists, SALT) which will impact on survivorship.</p> <p><b>Rationale:</b> Reliance on third sector/charitable resources for an essential provision of care is regarded as risk due to the longevity of financing.</p>	<ol style="list-style-type: none"> <li>1. There are no plans to establish a TYA late effects service within Cardiff and Vale Health Board. There are not data to support the benefit of such a service which would cross cut multiple cancer sites. Follow up for relapse and late effects will continue to be site specific and remain under the care of the lead clinical team</li> <li>2. The current strategy of providing end of treatment summaries to TYA patients post SACT is gradually going to be rolled out to all patients that are treated within the TYA PTC over the next 1-2 years by the TYA nurse practitioner</li> <li>3. The limited access to allied health care professionals for the PTC TYA service is a major concern for the team. Addressing this service deficit will require funding support. The plan is to complete a scoping exercise with the help of senior AHP leads within the</li> </ol>	<p>NA</p> <p>Routine</p> <p>Urgent</p>	<p>TYA Nurse Practitioner</p> <p>Clinical Lead TYA</p>	<p>2021</p> <p>Autumn 2020</p>	<p>In progress</p> <p>Scoping exercise started Jan 2020</p>

	Area for Improvement	Action Required	Priority	Lead	By When	Progress to Date
		<p>health board we that we can identify what services will be required to address this gap in service provision. This will be accompanied by an options appraisal in the first instance which will then be turned into a business case to be submitted by the Haematology directorate to the specialist services clinical board</p> <p>4. Whilst we recognise the reliance on funding from the third sector for certain key posts within the TYA team, Cardiff and Vale Health Board are not currently in a position to take over those funding streams. The Health Board will continue to work with third sector organisations such as CLIC Sargent to ensure that patients are not put at risk due to sudden withdrawal of essential support services</p>	NA		Ongoing	
6	<p><b>Area of risk:</b> On-site access to specialist services</p> <p><b>Detail of the risk:</b> The TYA PTC MDT should have immediate on-site access to specialist services. The gaps in access arrangements include:</p> <p>a) Specialist Psychological services</p>	<p>a) See above for psychology service</p> <p>b) We have access to community oncology services for both adult (for palliative care) and paediatric patients. There is work underway to develop TYA specific CNS</p>	<p>HIGH</p> <p>LOW</p>	<p>Haematology DMT</p> <p>Senior Nurse TYA</p>	<p>Completed</p> <p>Report to be submitted late 2020</p>	Started scoping in 2019



	Area for Improvement	Action Required	Priority	Lead	By When	Progress to Date
		<p>coordinators on a regular basis to identify newly diagnosed TYA patients across the network</p> <p>3. The new single cancer pathways for all relevant cancer sites include a step to remind site specific teams of the need to refer a new patient under 25 yrs to the TYA service. All pathways link to the TYA single cancer pathway that is expected to go live in early 2020.</p>	HIGH	Cancer Network Staff / Clinical Lead TYA	2020	<p>'flagging' of TYA age appropriate patients. MDT will then 'outreach' to site specific MDT</p> <p>TYA SCP completed and consultation closed Jan 2019. Due roll out spring 2020</p>



<b>Report Title:</b>	<b>Cancer Peer Review: Lung</b>				
<b>Meeting:</b>	Quality, Safety and Experience			<b>Meeting Date:</b>	February 2020
<b>Status:</b>	<b>For Discussion</b>	<b>For Assurance</b>	✓	<b>For Approval</b>	<b>For Information</b>
<b>Lead Executive:</b>	Dr. Stuart Walker, Medical Director				
<b>Report Author (Title):</b>	Alicia Christopher, Cancer Services Lead Manager				

## SITUATION

The purpose of this report is to present the committee with an analysis of the findings and actions required following the Cancer Peer Review process. Following peer review of each cancer tumour site, a report is forwarded to the UHB and an action plan agreed by the multidisciplinary team and relevant Clinical Board. The action plan is reported back to the Wales Cancer Network and Welsh Government.

This report outlines the findings of the Lung Peer Review – 18<sup>th</sup> November (3<sup>rd</sup> round).

## REPORT

### BACKGROUND

Peer review is a collaborative, quality improvement process which allows for the evaluation of scientific, academic or professional work by others working in the same field and constitutes a form of self-regulation by qualified members of a profession. It is designed to allow peers to share information, learn where their strengths and weaknesses lie and agree plans for improvements to patient care.

Peer review methods are employed to maintain standards of quality, improve performance and provide credibility.

In 2011 Welsh Government recommended that the peer review process for cancer services be led by Health Inspectorate Wales (HIW), working in partnership with the Cancer Networks. Peer review was then launched in Wales in 2012.

In 2017, through Welsh Health Circular WHC/2017037 the NHS Wales Peer Review Framework was published and tasked the NHS Wales Health Collaborative to oversee an All-Wales Programme for peer review.

A three yearly re-review process has been developed by the cancer network. Following the peer review meeting, a report is sent to the UHB. An action plan is then developed and implemented to address the concerns raised at each peer review and re-review.

## ASSESSMENT

### Summary of Peer Review Reports:

#### General Observations:

- Cohesive and well-functioning MDT which understood its challenges and has set up a steering group to address the ongoing issues.
- There was no representation from Surgery in the peer review.

#### Good Practice/Significant Achievements :

- Good engagement with primary care and palliative care, notably the “speed dating” event with primary care & cancer site leads
- Good work undertaken by Clinical Nurse Specialists with whole pathway input.
- Recruited a Project Manager to carry on the lung cancer service improvement work, previously supported by a third sector provider.
- Prehabilitation has been included within the Health Board's IMTP for 2019-22 following a successful pilot programme.
- Oncologists working with national genetics lab to look at turnaround times for molecular biomarkers

#### National Themes

- Slow turnaround times for molecular markers delaying the start of systemic treatment.
- Workforce challenges for Clinical Nurse Specialists, Pathology, Radiology and Allied Health Professionals.
- Conflict in time for respiratory physicians between acute medicine and cancer
- Challenges in achieving the Single Cancer Pathway / Optimal Pathway within current resources.
- Lack of validated real time data to inform the service.
- Improved working between primary and secondary care, largely based on the Macmillan Framework for Primary Care, however this is at risk of funding coming to an end in 12 months.

**There were no immediate risks highlighted.**

#### Serious Concerns noted were:

- **Paper prescribing of Chemotherapy:** The issue of an e-prescribing system for the delivery of chemotherapy remains unresolved; chemotherapy continues to be prescribed and delivered using a paper-based system remotely from the Cancer Centre. This was also highlighted as a serious concern in the 2016 Peer Review.
- **Radiology reporting times:** MDT reported delays of up to six weeks from scan date to reporting.

#### Concerns noted were:

- **Understanding 5-year survival data:** The review highlighted an unexpectedly high 5-year survival for the MDT, in comparison with other Lung Cancer MDTs throughout Wales. The reasons for this including accuracy of data had not been explored.
- **CNS involvement in prescribing of SACT, in addition to their main role:** The lung cancer nurse specialists are delivering SACT for the lung cancer patients in UHL rather

than this being undertaken by specialist SACT nurses.

- **Limited access to Community Therapy services:** Community Therapists are unable to sustain the Prehabilitation and Rehabilitation that is initiated in hospital settings.

**See attached Action Plan**

**ASSURANCE** is provided by:

- The level of scrutiny applied internally and externally to the Peer Review assessment and Peer Review reporting process. Any concerns identified are addressed via an action plan and are regularly reported within the required process; at the Clinical Board performance reviews and by WG and the South Wales Cancer Network

## RECOMMENDATION

The Quality Safety and Experience Committee is asked to:

- **Note** the report
- **AGREE** that appropriate assurance has been provided in relation to the trends, themes and resulting actions, including the plans to address areas of concern.

## Shaping our Future Wellbeing Strategic Objectives

*This report should relate to at least one of the UHB's objectives, so please tick the box of the relevant objective(s) for this report*

1. Reduce health inequalities		6. Have a planned care system where demand and capacity are in balance	√
2. Deliver outcomes that matter to people	√	7. Be a great place to work and learn	√
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4. Offer services that deliver the population health our citizens are entitled to expect	√	9. Reduce harm, waste and variation sustainably making best use of the resources available to us	√
5. Have an unplanned (emergency) care system that provides the right care, in the right place, first time		10. Excel at teaching, research, innovation and improvement and provide an environment where innovation thrives	

## Five Ways of Working (Sustainable Development Principles) considered

*Please tick as relevant, click [here](#) for more information*

Prevention	√	Long term	√	Integration	√	Collaboration	√	Involvement	√
<b>Equality and Health Impact Assessment Completed:</b>	Not Applicable <i>If "yes" please provide copy of the assessment. This will be linked to the report when published.</i>								

# Lung Peer Review Action Plan 2019

## Cardiff and Vale University Health Board

Area for Improvement		Action Required	Priority	Lead	By When	Progress to Date
Immediate Risks						
	No immediate risks identified	N/A	N/A	N/A	N/A	N/A
Serious Concerns						
1	<b>Paper prescribing of Chemotherapy</b>  The issue of an e-prescribing system for the delivery of chemotherapy remains unresolved; chemotherapy continues to be prescribed and delivered using a paper-based system remotely from the Cancer Centre. This was also highlighted as a serious concern in the 2016 Peer Review.	Implement an e-prescribing system to support the Lung Oncology SACT clinic at UHL		Directorate Support Manager	Mid-February 2020	Allow VCC medics and UHB Pharmacist to use ChemoCare V5.3.4. at UHL as an interim solution pending the implementation of V6 when available at VCC (March to June 2020).  Training has been arranged for CAVUHB team in mid- January with the aim to implement mid-February 2020.
2	<b>Radiology reporting times</b>  MDT reported delays of up to six weeks from scan date to reporting.	Set internal key performance indicators to assess performance and monitor delays across the diagnostic pathway		CD&T Manager		The Lung Cancer Pathway: Process Steps & Timeframes group has been set up with actions to improve waits across the diagnostic pathway. As a result CT reporting has decreased to 14 days from referral to reporting.  The aim is to also complete enhanced pathology testing in 17 working days.

	Area for Improvement	Action Required	Priority	Lead	By When	Progress to Date
						Pathology and Genetics teams are also working collaboratively to improve reporting times.
<b>Concerns</b>						
<b>1</b>	<b>Understanding 5-year survival data</b>  The review highlighted an unexpectedly high 5-year survival for the MDT, in comparison with other Lung Cancer MDTs throughout Wales. The reasons for this including accuracy of data had not been explored.	Confirm data source and benchmarking in order to provide a standardised response.  Review the 5-year survival rate for CAVUHB		Clinical Lead - Lung	17 <sup>th</sup> January 2020	Previous data reporting was based on statistics made available through the National Lung Cancer Audit.  Going forward, data will be pulled the Welsh Cancer Intelligence and Surveillance Unit. This data set confirms that our 1 year survival rate (based on data collected from 2012 – 2016) is 36.7% whilst our 5 year survival rate is 13.9% This is in line with the All Wales 1 year survival of 34.7% and 5 year survival of 12%
<b>2</b>	<b>CNS involvement in prescribing of SACT, in addition to their main role</b>  The lung cancer nurse specialists are delivering SACT for the lung cancer patients in UHL rather than this being undertaken by specialist SACT nurses	CNS review to be completed to review position and ascertain current establishment		Clinical Lead - Lung		A CNS review has been completed for Respiratory Services in CAVUHB.  The Directorate acknowledges that the Lung CNS team should be released from delivering SACT and have tried to recruit band 5 nurses to support the clinic.  Temporary funding was made available for the recruitment of a band 5 nurse, however the recruitment proved

	Area for Improvement	Action Required	Priority	Lead	By When	Progress to Date
						<p>unsuccessful with feedback that it was mainly due to its temporary nature.</p> <p>Discussions are also ongoing regarding the transfer of Lung Oncology services to Velindre Cancer Centre which will also impact on the decision for CAVUHB to recruit more nurses to the service.</p>
3	<p><b>Limited access to Community Therapy services</b></p> <p>Community Therapists are unable to sustain the Prehabilitation and Rehabilitation that is initiated in hospital settings.</p>	Understand capacity/demand constraints felt by service and escalate with regards to current establishment		AHP Lead - Cancer		<p>There is a programme of work happening in the health board to deliver a pre-habilitation and rehabilitation model of care for all cancer patients. The initial funding for this is based around 3 cancer sites UGI, HPB and colorectal. Lung will likely be in the second phase.</p> <p>Recently the health board completed a piece of work to show the benefit of pre-habilitation in lung cancer patients. This has had excellent engagement from patients and their relatives, the MDT and delivered a host of improvement in patient centred outcomes.</p>

<b>Report Title:</b>	<b>Report outlining the findings of an investigation following a serious incident involving the in-sourcing of ophthalmology services during August - September 2018</b>						
<b>Meeting:</b>	Quality and Safety Committee				<b>Meeting Date:</b>	18-02-2020	
<b>Status:</b>	<b>For Discussion</b>	✓	<b>For Assurance</b>	✓	<b>For Approval</b>		<b>For Information</b>
<b>Lead Executive:</b>	Ruth Walker Executive Director of Nursing						
<b>Report Author (Title):</b>	Director of Nursing Surgery Clinical Board (retired Dec 2019) investigating officer Director of Nursing Surgery Clinical Board						

### Background and current situation:

The purpose of this report is to provide an overview of the findings of an investigation in to a number of serious incidents which arose during the care provided by an in-sourced company, commissioned to provide Cataract Surgery at University Hospital of Wales in August/September 2018.

In September 2018 an insourcing team Strategic Health Solutions (SHS) commenced the running of ophthalmic outpatient clinics and operating lists on the weekends of 8/9<sup>th</sup> September; 15/16<sup>th</sup> September and 23/24<sup>th</sup> September 2018 at the University Hospital of Wales, Cardiff.

On the 23<sup>rd</sup> September 2018 it became apparent that the care patients were receiving was suboptimal and a decision was made to abandon the rest of the operating list planned for that day.

On Monday 24<sup>th</sup> September 2018 three patients attended eye casualty; they appeared to have had post-operative complications from surgery carried out by the SHS team.

On Tuesday 25<sup>th</sup> September 2018 a Consultant Ophthalmologist and Governance lead for Ophthalmology formally raised concerns with the Surgery Clinical Board senior management team explaining that two patients who had been operated on by SHS (the Ophthalmology insourcing team) needed to return to theatre. The concerns raised were significant, in that they appeared to be related to use of poor surgical technique. For one patient the wrong size lens was inserted which is classed as a never event and this was reported to Welsh Government on 28<sup>th</sup> September 2018. As a result of this serious incident and further emerging issues, an SI meeting was convened and was Chaired by the Executive Nurse Director.

The incident was reported to Welsh Government on 18<sup>th</sup> October 2018 in line with Serious Incident reporting processes. The timing of the reporting of this incident followed a comprehensive scoping review of all patients that were operated on by SHS and included initial contact with patients. Following the



conclusion of this initial exercise, it became apparent that some patients appeared to have come to serious harm as a result of the care received.

Following a review of complaints and performance, in relation to the Ophthalmology Service, the decision was made in July 2018 to invite Tender Submissions for the insourcing of ophthalmic surgery to provide outpatient clinic appointments and treatments for cataract surgery, in order to meet demands for the service and improve outcomes for patients. On 29<sup>th</sup> August 2018 the company SHS were awarded the contract. They commenced outpatient clinics and operating lists on the weekends of 8/9<sup>th</sup> September; 15/16<sup>th</sup> September and 23/24<sup>th</sup> September 2018 at the University Hospital of Wales, Cardiff. In total, 253 outpatients were seen on 8<sup>th</sup> and 9<sup>th</sup> September, 30<sup>th</sup> September and 6<sup>th</sup> and 7<sup>th</sup> Oct 2018.

Of these 253 patients, 167 were listed for ophthalmic operations with SHS.

Of these 167 patients 27 were either cancelled before or on the day of the planned procedure.

Therefore a total of 140 patients were operated on by SHS over the weekends of 8<sup>th</sup> & 9<sup>th</sup>; 15<sup>th</sup> & 16<sup>th</sup> and 22<sup>nd</sup> and 23<sup>rd</sup> September 2018.

#### **Executive Director Opinion /Key Issues to bring to the attention of the Board/ Committee:**

In light of this incident and on-going quality and performance concerns in the Ophthalmology Service, the Executive Team are considering external service review.

#### **Assessment and Risk Implications (Safety, Financial, Legal, Reputational etc:)**

Immediate actions taken:

Further surgery via the in-sourced company was stopped on 23-09-2018.

A Serious Incident Management Team was established, chaired by the Executive Nurse Director was established to oversee the incident investigation.

On Thursday 4<sup>th</sup> and Friday 5<sup>th</sup> October 2018 senior nursing team members made follow up telephone calls to all patients who had undergone surgery with SHS. This was done to identify any patients operated on by SHS who had any concerns. This is normal practice for nurse led follow up in many specialties.

Documentation was drawn up for this exercise and was overseen by a Cardiff Ophthalmologist This document was used during the telephone call and if the patient had concerns or the nurses taking the call



felt there was a cause for concern the documentation was taken to eye casualty where they were reviewed by two ophthalmology Registrars and were then contacted by the Nursing team in Ophthalmology to attend outpatients for triage and reassurance and either asked to attend their Optometrist as planned for follow up or were called into clinic to be seen in eye casualty.

Following this review it was highlighted that 22 patients required monitoring and further review by the Cardiff and Vale Ophthalmology team. In addition to this the Consultant Ophthalmology team felt it prudent to review all the patients that were operated on during the weekend on the 22<sup>nd</sup> and 23<sup>rd</sup> September. These reviews were carried out between November 2018 and January 2019

The care of 15 patients were formally investigated. Each patient was allocated a senior Health Board Nurse within Surgery Clinical Board. This person was the personal contact for the patient and has kept in regular contact with the patient throughout the investigation. Each patient incident was also allocated an external consultant ophthalmologist. This independent external consultant ophthalmologist worked with the allocated nurse to carry out the root cause analysis investigation, providing an expert opinion on each case.

A pattern emerged in relation to one doctor who provided treatment for the company. He had operated on 22 patients and 7 of the initial 12 patients identified as requiring further treatment were treated by him. The UHB Medical Director wrote to the Company's Medical Director to raise concern and asked for consideration of referral to the GMC. In addition, he wrote to the responsible officer at Moorfield's Hospital, where the doctor was employed in a Locum Consultant role, to inform him of the issue.

The Medical Director, Executive Nurse Director along with other senior UHB staff met with SHS on 18-10-18, to discuss the incident and the emerging themes as well as the plans for joint. Investigation. Although this was a positive and constructive meeting, SHS did not participate in any of the investigations despite numerous efforts to contact them and to share information.

The Executive Nurse Director, has written to SHS informing them that the investigations have been completed and they have been given the opportunity to comment on each RCA. They have also been informed that the issue would be reported in to the public domain once completed.

The RCAs are now concluded. The patients and families will be contacted during the week commencing the 3<sup>rd</sup> February 2020, to inform them that the investigations are concluded and they will be shared with the patients and families during the week beginning 10<sup>th</sup> February in line with Putting Things Right processes. The incident will be reported in full to the public session of the February 2020 Quality, Safety

and Experience Committee.

**Main findings**

The root cause analysis’ of 15 patients were conducted. In summary the findings were that:

Number of patients	Outcome
2	No evidence found that there had been a breach in care
7	Harm was caused by an antibiotic overdose
1	Harm was caused by an antibiotic overdose, but this patient requires further investigations
1	Had an incorrect biometry reading taken which led to the wrong size lens being inserted
1	Had an incorrect biometry reading taken which led to the wrong size lens being inserted as well as evidence of harm caused by an antibiotic overdose
1	Should not have been listed for surgery and went on to have catastrophic post-operative complications
1	Had an incorrect lens inserted, classed as a never event. It is also felt that harm was caused by an antibiotic overdose
1	Had a post-operative endophthalmitis and required intensive in patient ophthalmic treatment. Sadly this patient died 3 weeks later due to an unrelated issue

There were significant findings as a result of conducting the RCA’s.

1. The time frames for the ophthalmology directorate to set up and run the insourcing of cataracts in the volume required, were very challenging. In order to prevent patients coming to harm on the waiting list, there was pressure for the service to instigate the in-sourcing at pace. It is the view of the IO that the procurement process itself was conducted with due diligence. However the absence of a senior nurse as well a Consultant from that speciality, meant that the ‘Quality and Safety Guidelines for external companies working in partnership with the Surgery Clinical Board 2016’, were not known to those involved. This was also complicated by the fact that there was a conflict of interests for all the Ophthalmology Consultants working in this clinical environment, due to the fact that they were also involved in the tendering process through their own company CESP, and therefore could not participate in the procurement process.

2. In accepting the contract, SHS were aware that there was a short lead in time. At no point did they raise concerns about this timeframe. The investigating officer believes that SHS did not manage to co-ordinate well-functioning teams who were able to work in different environments with people who they have never worked with before. As a result poor team dynamics, coupled with inexperienced staff, made for an environment that was not conducive to operating on patients as part of a fast turnaround operating list. As SHS have not participated in this process, we cannot comment on whether they vetted some of the staff adequately to ensure that they were able to operate at the required level. However, the investigation has identified poor practices such as inadequate consent and poor record keeping. One of the more significant issues related to poor practice was the performance of biometry measurements which were not carried out properly with the result two patients received the wrong sized lens.
3. The most significant finding was related to the team who worked on the weekend 22nd and 23rd September 2018. The antibiotic drug Cefuroxime that was used, was not designed for injection via the intracameral route, which was the route chosen. The drug and dosage was only suitable for subconjunctival injection. How and why this occurred will never be fully known as SHS have not engaged in the investigation process.

Following discussions as an Executive team, the UHB will be pursuing reimbursements of any costs awarded as the result of any Redress or Clinical Negligence Claims and will once again be asking SHS to ensure that the findings of the investigation are shared with individual registered clinicians and where and if appropriate referral to professional bodies takes place.

In addition, in light of this incident and on-going quality and performance concerns in the Ophthalmology Service, the Executive Team are considering external service review.

**Recommendation:**

The Committee is asked to **NOTE** the contents of the report and **SUPPORT** the actions being taken

Shaping our Future Wellbeing Strategic Objectives <i>This report should relate to at least one of the UHB's objectives, so please tick the box of the relevant objective(s) for this report</i>			
1. Reduce health inequalities		6. Have a planned care system where demand and capacity are in balance	✓
2. Deliver outcomes that matter to people	✓	7. Be a great place to work and learn	
3. All take responsibility for improving our health and wellbeing		8. Work better together with partners to deliver care and support across care sectors, making best use of our people	✓

									and technology	
4.	Offer services that deliver the population health our citizens are entitled to expect	✓				9.	Reduce harm, waste and variation sustainably making best use of the resources available to us			
5.	Have an unplanned (emergency) care system that provides the right care, in the right place, first time					10.	Excel at teaching, research, innovation and improvement and provide an environment where innovation thrives			
<b>Five Ways of Working (Sustainable Development Principles) considered</b> Please tick as relevant, click <a href="#">here</a> for more information										
Prevention	✓	Long term	✓	Integration	✓	Collaboration	✓	Involvement	✓	
<b>Equality and Health Impact Assessment Completed:</b>		Yes / No / Not Applicable If “yes” please provide copy of the assessment. This will be linked to the report when published.								

Kind and caring  
Caredig a gofalgar

Respectful  
Dangos parch

Trust and integrity  
Ymddiriedaeth ac uniondeb

Personal responsibility  
Cyfrifoldeb personol

<b>Report Title:</b>	<b>HEALTHCARE INSPECTORATE WALES ACTIVITY</b>					
<b>Meeting:</b>	Quality, Safety and Experience Committee			<b>Meeting Date:</b>	<b>18/02/20</b>	
<b>Status:</b>	<b>For Discussion</b>		<b>For Assurance</b>	<b>X</b>	<b>For Approval</b>	<b>For Information</b>
<b>Lead Executive:</b>	Executive Nurse Director					
<b>Report Author (Title):</b>	Patient Safety and Quality Assurance Manager					

### Background and current situation:

The purpose of this report is to provide the Quality, Safety and Experience Committee with an overview of the reviews/inspections carried out by Healthcare Inspectorate Wales (HIW) since the last over-arching report to the Committee in December 2019. The paper seeks to assure the Committee that action is already being implemented in response to the findings of inspections and that appropriate monitoring of progress against the actions is being undertaken.

A separate report outlining HIW activity in Primary care is presented as an additional agenda item.

HIW is the independent inspectorate and regulator for health care in Wales. The core role of HIW is to review and inspect the NHS and Independent Healthcare organisations in Wales so that assurance can be given to patients, public, Welsh Government (WG) and healthcare providers that services are safe and of good quality.

Inspections are a means of providing assurance that services are meeting the Health and Care Standards (2015) and are meeting any other relevant professional standards and guidance. Inspections are a structured process and are underpinned by the view of Francis (2013), who emphasised the importance of undertaking direct observations of a service and care provided. Unannounced inspections undertaken by HIW allow them to see services in the way they usually operate and focus on the following themes:

- Quality of the patient experience
- Delivery of safe and effective care
- Quality of management and leadership
- Delivery of a safe and effective service

### Executive Director Opinion /Key Issues to bring to the attention of the Board/ Committee:

In the last report to Committee, we advised that an unannounced inspection took place from Monday November 18<sup>th</sup> 2019. A draft report has now been provided from HIW. Overall, HIW found that care was provided across the service in a safe and effective way. HIW found that there was strong and effective multidisciplinary working, which was provided in line with up-to-date clinical practice.

HIW have not conducted any unannounced or announced inspections since the last report to committee.

A two day announced visit is due to take place in the Cardiff North CMHT on March 17<sup>th</sup>/18<sup>th</sup> 2020.

Reports on the unannounced inspections to the Stroke Rehabilitation Centre in September 2019 and to Rookwood in October 2019 have now been published.

## **Assessment and Risk Implications (Safety, Financial, Legal, Reputational etc:)**

### **Update on thematic reviews:**

#### **National Maternity Review**

In the last report to Committee, we advised that an unannounced inspection took place from Monday November 18<sup>th</sup> 2019. A draft report has now been provided from HIW. Overall, HIW found that care was provided across the service in a safe and effective way. HIW found that there was strong and effective multidisciplinary working, which was provided in line with up-to-date clinical practice. This is what HIW found the service did well;

- Staff provided care in a dignified and personal way
- Support and information was provided to patients to help them make an informed decision about their birth choice
- Individualised support and care to patients who had experienced a previous difficult pregnancy or birth, or baby loss
- Specialised breastfeeding support and information
- Pleasant and homely environment in the midwife led unit
- Designated physiotherapy support to patients during the antenatal and postnatal periods
- Care was provided in an evidence based way, based on up-to-date clinical guidance
- Robust process for assessment of patients in the Obstetric Assessment Unit (OAU) to ensure they were appropriately prioritised
- Staff reported positive multidisciplinary team working across the service
- Support for newly qualified midwives and the preceptorship programme
- Good processes for the management and review of clinical incidents

HIW also found some evidence that the health board was not fully compliant with the Health and Care Standards in all areas, and identified where improvements were needed. This is where HIW recommended the service could improve;

- Presence and leadership of medical staff on the postnatal wards and OAU
- Availability of patient lifts across the service
- Review of patient confidentiality on information boards in some areas
- Ensuring that patient records are kept secure at all time
- Some elements of patient record keeping, to ensure that documentation is completed consistently
- Access to hand sanitiser alcohol gels across some areas of the service
- Clarity around checking fridge temperatures across the service
- Arrangements for checking equipment and drugs used in patient emergencies
- Keeping the door locked at all times to treatment rooms
- Ensuring cleaning products are kept secure at all times
- A review of the arrangements for storing blood on the wards

- A review of reception staffing numbers
- Review of staff morale across the service

The UHB has developed an improvement plan to address the recommendations which has been submitted to HIW. The final report is due to be published on 21/02/2020.

### **Self- assessment of surgical services – trauma and orthopedic care**

In the last report to the committee we advised that the UHB has completed a self-assessment and submitted the necessary requested evidence. An unannounced inspection is still yet to have been made and is expected in the very near future.

### **Announced visits**

None have taken place since the last report to Committee. A two day announced visit is due to take place in the Cardiff North CMHT on March 17<sup>th</sup>/18<sup>th</sup> 2020.

### **Unannounced inspections**

Since the last report to Committee in December 2019 no unannounced visits have taken place.

### **Stroke Rehabilitation Centre**

In the last report we advised the Committee of an unannounced inspection that took place on the 17<sup>th</sup> and 18<sup>th</sup> September 2019. The improvement plan was accepted by HIW and the final report was published on 19<sup>th</sup> December 2019 and can be accessed via the link [here](#).

### **Rookwood Hospital (The Welsh Spinal Cord Injury Rehabilitation Centre) – Wards 4 and 5**

In the last report we advised the committee of an unannounced visit that took place on 1<sup>st</sup> and 2<sup>nd</sup> October 2019. The improvement plan was accepted by HIW and the final report was published on 3<sup>rd</sup> January 2020 and can be accessed via the link [here](#).

### **Primary Care Contractors**

The outcomes of visits to Primary care contractors will be presented in a separate report to the April 2020 Committee.

### **Recommendation:**

The Quality, Safety and Experience Committee is asked to:

- **NOTE** the level of HIW activity across a broad range of services.

**AGREE** that the appropriate processes are in place to address and monitor the recommendations.



### Shaping our Future Wellbeing Strategic Objectives

*This report should relate to at least one of the UHB's objectives, so please tick the box of the relevant objective(s) for this report*

1. Reduce health inequalities		6. Have a planned care system where demand and capacity are in balance	
2. Deliver outcomes that matter to people		7. Be a great place to work and learn	
3. All take responsibility for improving our health and wellbeing		8. Work better together with partners to deliver care and support across care sectors, making best use of our people and technology	
4. Offer services that deliver the population health our citizens are entitled to expect		9. Reduce harm, waste and variation sustainably making best use of the resources available to us	
5. Have an unplanned (emergency) care system that provides the right care, in the right place, first time		10. Excel at teaching, research, innovation and improvement and provide an environment where innovation thrives	

### Five Ways of Working (Sustainable Development Principles) considered

*Please tick as relevant, click [here](#) for more information*

Prevention		Long term		Integration		Collaboration		Involvement	
<b>Equality and Health Impact Assessment Completed:</b>	Yes / No / Not Applicable <i>If "yes" please provide copy of the assessment. This will be linked to the report when published.</i>								





<b>Report Title:</b>	<b>Optimising Outcomes Policy</b>						
<b>Meeting:</b>	Quality, Safety and Experience Committee				<b>Meeting Date:</b>	18/2/20	
<b>Status:</b>	<b>For Discussion</b>		<b>For Assurance</b>		<b>For Approval</b>	X	<b>For Information</b>
<b>Lead Executive:</b>	Executive Director of Public Health						
<b>Report Author (Title):</b>	<b>Consultant in Public Health Medicine</b>						

### **Background and current situation:**

The Optimising Outcomes Policy (OOP) was adopted by Cardiff and Vale University Health Board (UHB) in 2013. The aim of OOP is to systematically embed supportive management of smoking cessation and weight management in elective surgical pathways. The OOP identifies the action to be taken as part of elective surgical pathways in order to deliver effective behaviour change support to people who smoke and/or people with a Body Mass Index of 40 or above.

Since the introduction of OOP, smoking and weight management has become an integral part of many pre-operative care pathways within the organisation. It has also influenced developing approaches to prehabilitation (although the latter is focusing on urgent suspected cancer referrals in the first instance).

The last review of the policy was approved in 2016 and a further review is now due.

### **Executive Director Opinion /Key Issues to bring to the attention of the Board/ Committee:**

A small working group reviewed the policy, its accompanying procedure and the associated EQIA/HIA.

No changes have been made to the policy content.

Minor amendments have been made to the procedures document to take account of service changes and updated information resources. Information has also been added to reflect expected changes in legislation affecting smoking on hospital sites. A rapid literature review conducted by Cedar in relation to large joint replacement has been added to the evidence section in appendix 1 of the procedures document.

No changes have been made to the EQIA and HIA assessments; both assessments found the policy to have an overall positive impact.

### **Assessment and Risk Implications (Safety, Financial, Legal, Reputational etc:)**

The policy remains an important and relevant part of preoperative care that aims to ensure that preventative action is considered and teachable moments utilised, thus supporting patients to take action which can reduce their risk of inter and post operative complications.

The preventative approach articulated in OOP is influencing pre-operative clinical pathways

across the organisation, including prehabilitation. The total number of referrals from the UHB's Clinical Boards to the hospital in-house Smoking Cessation Service has increased from 860 (2015/16) to 2037 (2018/19). The total number of patients identified on the 'Pre-operative Surgical Pathway' has increased from 279 (2015/16) to 417 in 2018/19. The Surgical Clinical Board referred 127 patients in 2018/19 compared to 22 in 2015-2016. A year on year increase in referrals for weight management support to the UHB community dietetic service has been seen, increasing from 1182 in 2013/14 to 2546 in 2018/19 (N.B it is not possible to accurately determine what proportion of these individuals are on a pre-operative pathway). Whilst referrals are being made to smoking cessation and weight management, more can be done at all points in the care pathway to fully implement the approach.

### Recommendation:

The Committee is asked to approve the updated policy document.

### Shaping our Future Wellbeing Strategic Objectives

*This report should relate to at least one of the UHB's objectives, so please tick the box of the relevant objective(s) for this report*

1. Reduce health inequalities	X	6. Have a planned care system where demand and capacity are in balance	X
2. Deliver outcomes that matter to people	X	7. Be a great place to work and learn	
3. All take responsibility for improving our health and wellbeing	X	8. Work better together with partners to deliver care and support across care sectors, making best use of our people and technology	
4. Offer services that deliver the population health our citizens are entitled to expect	X	9. Reduce harm, waste and variation sustainably making best use of the resources available to us	X
5. Have an unplanned (emergency) care system that provides the right care, in the right place, first time		10. Excel at teaching, research, innovation and improvement and provide an environment where innovation thrives	X

### Five Ways of Working (Sustainable Development Principles) considered

*Please tick as relevant, click [here](#) for more information*

Prevention	X	Long term		Integration		Collaboration	X	Involvement	
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### Equality and Health Impact Assessment Completed:

Yes / No / Not Applicable

*If "yes" please provide copy of the assessment. This will be linked to the report when published.*

<b>Reference Number:</b> UHB 224 <b>Version Number:</b> 3	<b>Date of Next Review:</b> <i>To be included when document approved</i> <b>Previous Trust/LHB Reference Number:</b> N/A
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## OPTIMISING OUTCOMES POLICY

### Policy Statement

To ensure the Health Board delivers its statutory responsibility for improving the health of the population of Cardiff and the Vale of Glamorgan as well as providing individual patient centred care for promotion, prevention, diagnosis, treatment and rehabilitation, we have adopted an Optimising Outcomes Policy.

The policy contains two statements (relating to smoking and weight management) that must be applied in the context of a patient’s individual clinical need which is ultimately to be determined by the clinician responsible for their care.

### 1 Smoking<sup>1</sup>

Anyone being referred or listed for an elective intervention who is recorded as a smoker is expected to have been offered, accepted and completed smoking cessation support prior to their surgery.

### 2 Weight management<sup>2</sup>

Anyone being referred or listed for an elective intervention who has recorded a BMI of 40 or above is expected to have been offered, accepted and completed weight management support prior to their surgery.

<sup>1</sup> Smoking cessation support includes the following services: Community or hospital based NHS Smoking Cessation Services.

<sup>2</sup>.Weight management support includes one of the following services: Community Dietetic Service, National Exercise Referral Scheme, commercial weight management programmes. Whilst non-NHS provider weight management programmes are an option they currently lie outside of the NHS resourced referral pathway

Document Title: Optimising Outcomes Policy	2 of 4	Approval Date: dd mm 2016yy
Reference Number: UHB 224		Next Review Date: dd mm 2019
Version Number: 3		Date of Publication: dd mm 2016
Approved By:		

## Policy Commitment

Maximising health is a critical element in achieving a sustainable health service into the future. The Optimising Outcomes Policy enables a systematic approach to addressing the lifestyle risk factors of smoking and obesity in pre-operative patients. It enables them to be given appropriate support, with the aim of helping them to experience an optimal post-operative outcome. In supporting best practice, the policy will therefore ensure that the appropriate management of lifestyle risk is a routine part of surgical care pathways.

This policy was developed alongside all Cardiff and Vale University Health Board (the UHB) sites to go smoke free from 1 October 2013 and supports the Public Health (Wales) 2017 Act, which will make it illegal to smoke on hospital grounds once the legislation is approved and implemented.

## Supporting Procedures and Written Control Documents

This Policy and the Optimising Outcomes Policy Supporting Procedures describe the following with regard to the Optimising Outcomes Policy.

- Background
- Aims
- Objectives
- Roles and responsibilities
- Application of this Policy
- Training
- Communication
- Resources
- References
- Definitions

### Other supporting documents are:

- [Patient leaflet – smoking cessation](#)
- [Patient leaflet – weight management](#)
- [Clinician information sheet – smoking cessation](#)
- [Clinician information sheet – weight management](#)
- [Frequently Asked Questions for Clinicians](#)
- [No Smoking and Smoke Free Environment Policy](#)

## Scope

The Policy applies to all patients aged 16 years and above who are residents of Cardiff or Vale of Glamorgan local authority areas, with the exception of the exclusions listed below. Patients who receive surgical treatment with Cardiff and Vale UHB but do not live within these two local authority areas will not be included in the Policy.

Document Title: Optimising Outcomes Policy	3 of 4	Approval Date: dd mm 2016yy
Reference Number: UHB 224		Next Review Date: dd mm 2019
Version Number: 3		Date of Publication: dd mm 2016
Approved By:		

Individuals who smoke and have a BMI of 40 or above will need to complete both pathways.

Completion of a programme includes:

- Attendance at 4 out of 6 Smoking Cessation sessions
- Attendance at 5 out of 8 NHS Weight Management sessions (or equivalent individual consultations)
- Attendance at 10 out of 16 Exercise Referral sessions.

## Exclusions

Exclusions apply primarily to enable access to urgent care. However all patients should be offered access to smoking cessation and/or weight management at the same time, regardless of urgency.

Exclusions include:

- Patients requiring emergency surgery
- Patients receiving surgery for the treatment of cancer.
- Patients referred for bariatric surgery (weight management exclusion only)
- Patients who have a BMI of 40 and above with specific endocrine conditions which make them medically unsuitable for this pathway (weight management exclusion only)

No specific definition of elective and urgent care is provided, as it depends on the specific case of the individual patient and the type of procedure being advised.

<b>Equality Impact Assessment</b>	An Equality Impact Assessment (EqIA) has been completed and this found there to be a positive impact. Key actions have been identified and these can be found in the EqIA/HIA document
<b>Health Impact Assessment</b>	A Health Impact Assessment (HIA) has been completed and this found there to be a positive impact. Key actions have been identified and these can be found in the EqIA/HIA document.
<b>Policy Approved by</b>	People, Planning and Performance Committee
<b>Group with authority to approve procedures written to explain how this policy will be implemented</b>	Quality, Safety and Experience Committee
<b>Accountable Executive or Clinical Board Director</b>	Executive Director of Public Health

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### **Disclaimer**

**If the review date of this document has passed please ensure that the version you are using is the most up to date either by contacting the document author or the [Governance Directorate](#).**

### **Summary of reviews/amendments**

<b>Version Number</b>	<b>Date Review Approved</b>	<b>Date Published</b>	<b>Summary of Amendments</b>
1	29/10/2013	17/04/2014	New policy introduced <ul style="list-style-type: none"> <li>Statements on the smoking cessation and weight management support required in Cardiff and Vale University Health Board elective surgical care pathways</li> </ul>
2	13/05/2014	16/06/2014	Amendment to policy statements
3	28/07/2016	18/08/2016	<ul style="list-style-type: none"> <li>Policy reformatted into new UHB style.</li> <li>Operational detail transferred into procedures document</li> </ul>
4	TBC	TBC	<ul style="list-style-type: none"> <li>Information added to reflect expected changes in legislation effecting smoking on hospital sites</li> <li>Update to service referral details and current versions of information resources</li> <li>Additional evidence added to evidence in appendix 1 of procedures document</li> </ul>

<b>Reference Number:</b> <i>TBA unless document for review</i> <b>Version Number:</b> 1	<b>Date of Next Review:</b> <i>To be included when document approved</i> <b>Previous Trust/LHB Reference Number:</b> Previously part of UHB 224
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## Optimising Outcomes Policy Supporting Procedures

### Introduction and Aim

This document outlines the supporting procedures for the optimising outcomes policy in order to achieve consistent implementation across the Cardiff and Vale University Health Board (UHB)

### Objectives

- Outline the background, evidence and rationale for the policy
- Provide details of the policy statements, aims, objectives, scope and exclusions
- Provide guidance on the implementation of the policy in practice
- Provide details of the resources available to support implementation
- Summarise the finding of the EqlA
- Outline plans for monitoring and audit
- Identify recommended review period

### Scope

These procedures apply to all staff in all locations, including those with honorary contracts, who manage patients that may need to access elective surgical pathways.

<b>Equality Impact Assessment</b>	An Equality Impact Assessment (EqlA) has been completed and this found there to be a positive impact. Key actions have been identified and these can be found in the EqlA/HIA document
<b>Health Impact Assessment</b>	A Health Impact Assessment (HIA) has been completed and this found there to be a positive impact. Key actions have been identified and these can be found in the EqlA/HIA document.
<b>Documents to read alongside this Procedure</b>	<a href="#">Clinician information sheet – smoking cessation</a> <a href="#">Clinician information sheet – weight management</a> <a href="#">Frequently Asked Questions for Clinicians</a> <a href="#">No Smoking and Smoke Free Environment Policy</a>
<b>Approved by</b>	Quality, Safety and Experience Committee

<b>Accountable Executive or Clinical Board Director</b>	Executive Director of Public Health
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<b>Author(s)</b>	Consultant in Public Health Medicine
<p style="text-align: center;"><u><b>Disclaimer</b></u></p> <p style="text-align: center;"><b>If the review date of this document has passed please ensure that the version you are using is the most up to date either by contacting the document author or the <a href="#">Governance Directorate</a>.</b></p>	

<b>Summary of reviews/amendments</b>			
<b>Version Number</b>	<b>Date of Review Approved</b>	<b>Date Published</b>	<b>Summary of Amendments</b>
1	28/07/2016	18/08/2016	<ul style="list-style-type: none"> <li>• Contents previously contained in policy. Transferred to separate document in line with revised UHB style.</li> <li>• Operational details of services update</li> <li>• Literature review updated</li> </ul>
2	TBC	TBC	<ul style="list-style-type: none"> <li>• To reflect expected changes in legislation effecting smoking on hospital sites</li> <li>• Update to service referral details and current versions of information resources</li> <li>• Additional evidence added to evidence in appendix 1</li> </ul>



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## **1. INTRODUCTION**

In July 2013, the UHB Board approved the Optimising Outcomes Policy statements relating to Smoking Cessation and Weight Management. The Policy was approved by the People, Performance and Delivery Committee (PPDC) on 29<sup>th</sup> October 2013 and the Policy became operational from 1<sup>st</sup> December 2013. Amendments to the Policy were made in the light of feedback received during early implementation and accepted by the PPDC on 13<sup>th</sup> May 2014. Policy reviews were conducted in 2016 and 2019, in accordance with UHB governance arrangements, when minor amendments were made to supporting information. These procedures support the amended version of the Policy.

## **2. GUIDANCE AND EVIDENCE**

Guidance and Evidence is attached as Appendix 1.

## **3.AIM**

The aim of this policy is to:

- Support best practice by ensuring the lifestyle risk factors of smoking and obesity are appropriately managed in surgical care pathways.
- Introduce a systematic approach to supporting patients to access smoking cessation and weight management, with the aim of reducing the risk of post-operative complications for the patient.
- Actively promote and support health and wellbeing.

## **4. OBJECTIVES**

The objective of the Policy and the supporting procedures is to improve health by promoting action to limit smoking and obesity risks prior to, during and after surgery to protect and promote the health of the patient.

In order to achieve this, the following will be implemented:

- Provide effective communication processes to ensure compliance and adherence to the policy in Primary and Secondary Care.
- Provide effective communication processes to ensure the public are aware of the policy.
- Ensure Primary Care GPs offer referral to smoking cessation and/or weight management support for those patients who smoke and/or with a BMI of 40 or above that may require a surgical intervention.

- Ensure smoking cessation and weight management services are able to provide timely support for identified patients.
- Ensure that arrangements are in place for enforcing and monitoring of the policy particularly during early implementation. This will be monitored through data collected on outpatient COM (Clinical Outcomes Module).
- Ensure a 'second offer' of support is made at secondary care outpatient attendance if not already undertaken.
- Ensure full UHB commitment and reinforcement of support from all independent members, executive directors, senior clinicians and managers.
- Ensure appropriate information (including patient information leaflets) are available for staff and patients.

If a patient does not accept the offer of referral, or complete the support programme, the clinician responsible for the patient's care should determine whether surgery will go ahead based on an assessment of all relevant operative risk factors.

## **5. DEFINITIONS**

A full list of definitions used in this policy are listed in Appendix 2.

## **6. ROLES AND RESPONSIBILITIES**

### **6.1 The UHB Board**

The UHB Board has agreed the policy statements, and the Quality, Safety and Experience Committee will be responsible for monitoring the policy on behalf of the UHB Board.

### **6.2 Chief Executive**

As Accountable Officer the Chief Executive is ultimately accountable for the effective management of the UHB's business and in particular for ensuring that policies are adhered to.

### **6.3 Director of Public Health**

The Director of Public Health is responsible for ensuring the appropriate policy with regard to optimising outcomes is in place on behalf of the Chief Executive of the UHB. The Director of Public Health advises and supports the commitment to this policy.

### **6.4 Directors and Clinical Board Directors**

Directors and Clinical Board Directors have responsibility for compliance with the Optimising Outcomes Policy at Primary and Secondary Care level.

They should ensure that everyone in their Clinical Board/Directorates understands their responsibilities in ensuring compliance.

## **6.5 Clinical Governance Leads**

Leads on Clinical Governance in each Directorate will ensure that presentations on the policy (including smoking cessation and weight management) feature at least annually in their audit sessions with reference to the Optimising Outcomes Policy.

## **6.6 Clinical Service Managers**

Clinical Service Managers in relevant Clinical Boards have a responsibility to ensure that their staff are aware of the policy and patients are referred in compliance with the policy.

## **6.7 All Employees**

All UHB employees and independent contractors commissioned by the UHB for its population have a responsibility to inform patients about the policy and to offer referral to relevant services prior to their surgery. They also have a responsibility to promote the health and wellbeing of our population.

# **7. APPLICATION OF THIS POLICY**

## **7.1 Patient information**

Patients will be informed about the policy by their GP in a Primary Care setting and also by a member of staff at their first outpatient appointment at hospital and provided with a patient information leaflet (Appendix 3).

## **7.2 Non-compliance**

The commitment to enforcing this policy should not just be a formal statement but be evident in the day to day activities of the UHB, so that it is readily known and understood by all staff. Where managers become aware of deficiencies in adherence to the policy they are required to take action to address this.

Managers and staff are jointly responsible for ensuring that:

- Patients are aware of and understand this policy
- The policy is monitored in their own areas and contraventions are identified and managed.

### 7.3 Referral to relevant services for patients

#### Smoking Cessation

NHS Smoking Cessation services are available to support patients to stop smoking;

- Help Me Quit community based smoking cessation services  
Contact details; Freephone 0800 085 2219 or access the website [www.helpmequit.wales](http://www.helpmequit.wales)

Help Me Quit (HMQ) offers free, friendly support for smokers who are ready to stop.

Before stopping, a trained specialist will help patients understand the reasons for stopping smoking. A quit date is planned and information about the different kinds of treatment available, such as Nicotine Replacement Therapy (NRT) and the newer stop-smoking aids that do not contain nicotine Bupropion (Zyban) and Varenicline (Champix ) are discussed.

Weekly sessions are held across Cardiff and Vale of Glamorgan in local venues on mornings, afternoons and evenings. Those attending can continue to attend sessions even after the quit date to provide help and on-going motivation. Alternatively, stop smoking support can be offered via telephone support 0800 085 2219 or online by accessing [www.helpmequit.wales](http://www.helpmequit.wales)

- Hospital in-house smoking cessation services

Contact details: Helen Poole, Smoking Cessation Counsellor  
02920 743582 (University Hospital Wales, Cardiff)  
[helen.poole@wales.nhs.uk](mailto:helen.poole@wales.nhs.uk)

A hospital in-house smoking cessation service exists for all staff and patients (and their families) accessing Cardiff and Vale UHB. The service can be accessed either by self-referral or referral 'in house' (such as from a Clinician/GP) within the UHB. The programme incorporates elements from various behavioural therapies to allow flexibility, tailoring support to each individual. The first month consists of an intensive phase of weekly advice and support sessions, which includes a discussion of the various kinds of treatment available, such as Nicotine Replacement Therapy (NRT) and the newer stop-smoking aids that do not contain nicotine Bupropion (Zyban) and Varenicline (Champix). The in-house service is also able to prescribe NRT patches/lozenges or Champix (signed by an appropriate consultant). Follow up sessions take place at 3, 6 and 12 months, with telephone support at 2, 5 and 9 months.

An Enhanced Level 3 Smoking Cessation Service for Community Pharmacists operates in specific locations across Cardiff and Vale UHB. A list of current providers can be found here:

<http://www.cardiffandvaleuhb.wales.nhs.uk/sitesplus/documents/1143/PHARMACIES%20PROVIDING%20SMOKING%20CESSATION%20SERVICE%20%28002%29.pdf>

Smokers wishing to quit can access the participating Pharmacy directly and are offered 1:1 weekly support in the Community Pharmacy and free NRT.

Alternatively, some GP Practices offer smoking cessation support either as a routine appointment or in a dedicated smoking cessation group or one to one meeting.

### **Weight Management**

Weight management services are available to support patients to lose weight;

- Eating for Life – group intervention or one to one dietetic support

Contact details: GP e-referral to Community Dietetic Service.

Tel: 02920668089 Email: [Dietitian.Reception.UHW@wales.nhs.uk](mailto:Dietitian.Reception.UHW@wales.nhs.uk)

Patients can also self-refer by e-mailing [dietitians.cav@wales.nhs.uk](mailto:dietitians.cav@wales.nhs.uk) or via Tel: 02920668089

This is an 8 week weight management programme within a group setting. Each session is an hour and a half long with a mixture of men and women in the group. Over the 8 weeks patients will learn about:

- Portion control
- Their individual calorie requirements
- How to resist temptation and break habits
- How to set achievable goals
- How to manage lapses
- How to maintain long term change.

Monthly weight management support sessions are available on completion of the 8 week programme for up to a year.

One to one appointments are offered to people where a group education programme is not suitable.

Details of weight management service referral pathways can be found on cavweb

[http://www.cardiffandvale.wales.nhs.uk/portal/page?\\_pageid=253,82794938,253\\_82794939&\\_dad=portal&\\_schema=PORTAL](http://www.cardiffandvale.wales.nhs.uk/portal/page?_pageid=253,82794938,253_82794939&_dad=portal&_schema=PORTAL)

- National Exercise Referral Scheme

Contact details: GP referral to National Exercise Referral Scheme

Tel (Cardiff): 02920 872924 Tel (Vale-Barry Leisure Centre): 01446 403000

This is a sixteen week programme of physical activity designed around the patient's specific needs based on an initial assessment and discussion with the

patient. Programmes are based in the Leisure centres of Cardiff and the Vale of Glamorgan. Under the scheme patients will have discounted rates to many of the leisure centre facilities.

Throughout the sixteen weeks, patients will be placed with the same instructor wherever possible and receive telephone as well as face to face support. After sixteen weeks the instructor will meet with the patient to measure progress and discuss how to maintain physical activity as a key part of day to day life.

Alternatively, patients can refer themselves to commercial weight management programmes, however this option will not be funded by the NHS.

## **8. TRAINING**

Issues related to smoking cessation, weight management and public health will be included in the following:

- Cardiff and Vale UHB Induction
- Making Every Contact Count training (raising the issue of lifestyle behaviour change, including smoking and weight management, with a patient)
- Brief Intervention Smoking Cessation training.

## **9. COMMUNICATION**

### **9.1 Communication to staff**

This policy will be communicated to staff via the internet, intranet, clinical portal and bulletins.

Leads on Clinical Governance in each Directorate will ensure that presentations feature at least annually in their audit sessions with reference to the Optimising Outcomes Policy.

All induction for relevant staff must refer to this policy.

### **9.2 Communication to Patients**

Patients will be informed about the policy at the point of GP engagement and encouraged to access smoking cessation and/or weight management services prior to engagement with Secondary Care services. Patients will also be reminded about the policy at the first point of engagement with Secondary Care.

Patient information leaflets will be available containing advice as to how to access smoking cessation and/or weight management services.

Patients and visitors can access the full policy on the UHB Internet site.

### **9.3 Consultation**

An Optimising Outcomes Policy group maintains oversight of implementation of the policy.

During development, the policy statements were raised at the following meetings:

- Public Health Steering Group
- Community Health Council
- Cardiff 3<sup>rd</sup> Sector Council Network
- Practising Public Health Organisation
- Tobacco Free Cardiff and Vale Group
- Vale 50+ Forum
- Directors of Public Health meetings
- Local Medical Committee

Support to the policy was also gained from:

- Tobacco Control Leads, Public Health Wales
- Obesity Leads, Public Health Wales
- Directors of Public Health

## **10. RESOURCES**

### **10.1 Patient information leaflets**

Patient information leaflets on smoking cessation and weight management are required to ensure patients can access information on the policy and what is required of them. These are available in English and Welsh and can be made available in other languages on request.

Clinician information sheets have also been devised for Primary Care and Secondary Care. Following implementation, a frequently asked questions sheet was written to address commonly raised operational issues.

### **10.2 Relevant support services**

Smoking cessation and weight management services are outlined in section 10 above.

## **11. REFERENCES**



Details of the documents referred to in the development of this Policy are shown in Appendix 4.

## **12. MONITORING AND AUDIT**

- 12.1** The Optimising Outcomes Policy Group will monitor the progress of the policy via regular meetings.
- 12.2** The UHB's Quality, Safety and Experience Committee will annually conduct a formal review of the effectiveness of the Optimising Outcomes Policy and receive updates as required.
- 12.3** The following indicators will be used to monitor the effectiveness of the policy:
- The number of patients accessing smoking cessation support and weight management support will be monitored.

## Optimising Outcomes Policy Guidance and Evidence

### SITUATION

The NHS Wales Act 2006 places a target duty on the Welsh Health Minister, passed down to Health Boards by the Statutory Instruments that establish them, to promote the health of the people within the population it serves.

Healthcare professionals routinely manage clinical risks such as hypertension in people undergoing surgery. Lifestyle factors can increase clinical risk, with evidence suggesting that smoking cessation and weight loss (if obese) improve post-operative outcomes.

The Optimising Outcomes Policy introduces a systematic approach to supporting patients to access smoking cessation and weight management, with the aim of reducing the risk of post-operative complications for the patient.

### BACKGROUND

#### Pre-operative Smoking Cessation

In the previous policy published in 2013 the following guidance and evidence existed to support the policy:

- People who smoke are more likely to have lung, heart and infectious complications; have reduced bone fusion after fracture and impaired wound healing; be admitted to an intensive care unit; have an increased risk of in-hospital mortality; and remain in hospital longer<sup>2, 3</sup>.
- Patients can reduce their risk of a wide range of complications if they stop smoking eight weeks before elective surgery, with improved recovery and outcomes<sup>2, 3</sup>, including reduced wound related, lung and heart complications; decreased wound healing time; reduced bone fusion time after fracture repair; reduced length of hospital stay; in the long term reduced risk of heart disease, cancer and premature death<sup>2, 3</sup>.
- Specifically for Cardiff and Vale, modelling suggests the following potential savings per year<sup>4</sup>: Based on 9,371 elective admissions being current smokers, approximately 10-30% of people who smoke are likely to give up through a Pre-operative Smoking Cessation programme (as calculated by London Health Observatory<sup>4</sup>), this would result in approximately 754 – 1,574 quitters, resulting in 124 – 1,299 bed days saved and an estimated £41,941 - £437,650 saved per year.

A literature search was conducted to update the evidence base for the OOPs policy review in 2016. Emerging evidence since adoption of the original policy included the following:

## Smoking

- Current smokers are at an increased risk of a range of postoperative complications following a range of surgical procedures compared to non smokers (including abdominal, head/neck, breast, orthopaedic, plastic, thorax, transplantation and general surgeries)<sup>9</sup>. The systematic review and meta-analysis concluded that smokers have a:
  - 1.52 fold higher risk of general morbidity post operatively
  - 2.15 fold higher risk of wound complications
  - a 1.54 fold higher risk of general infections
  - a 1.73 fold higher risk of pulmonary complications
  - a 1.38 fold higher risk of neurological complications
  - and a 1.60 fold higher risk of admission to intensive care unit
- Smokers receiving general anaesthesia for major elective surgery have a 4.40 fold increased risk of peri-operative respiratory complications and a 1.86 fold increased risk of post-operative morbidity compared to non smokers<sup>10</sup>
- Smokers are 1.45 times more likely to experience respiratory events (pneumonia, unplanned intubation, or ventilator requirement) following major surgery and 1.65 times more likely to experience an arterial event (myocardial infarction or cerebrovascular accident)<sup>11</sup>
- Current smokers are 2.21 times more likely to experience organ/space surgical site infections (SSI) and surgical wound complications in orthopaedic surgery with implants<sup>12</sup>
- Current smokers are 1.47 times more likely to have wound complications following primary total hip or knee arthroplasty compared to non smokers<sup>13</sup>
- Current smokers are 2.37 times more likely to experience deep infection and 1.78 times more likely to need an implant revision after primary total hip arthroplasty or total knee arthroplasty compared to non smokers<sup>14</sup>
- Current smoking increases the risk of post-operative morbidity by 1.3 fold and mortality by 1.5 fold for all types of major colorectal surgery (elective major colorectal resection for colorectal cancer, diverticular disease, or inflammatory bowel disease)<sup>15</sup>
- Current women smokers are 1.16 times more likely to experience venous thromboembolism in the first 12 postoperative weeks than never-smokers<sup>16</sup>
- Current smokers are 2.41 times more likely than non-smokers to have post-operative pulmonary complications after coronary artery bypass grafting surgery<sup>17</sup>

- Smoking is associated with wound dehiscence after cesarean delivery (46.7% vs. 21.1%, smokers vs non-smokers)<sup>18</sup>
- Smoking is associated with increased wound complications and 30-day mortality after laparotomy (32% vs 23%, smokers vs non-smokers)<sup>19</sup>
- Current smokers are 1.28 times more likely to develop wound complications after an open cholecystectomy and 1.20 times more likely after a laparoscopic cholecystectomy compared to non smokers<sup>20</sup>

## Pre-operative Weight Management

Obesity is a recognised risk factor for a wide variety of peri-operative complications. Research highlights that obese patients are likely to experience:

- A nearly 12-fold increased risk of a post-operative complication after elective breast procedures<sup>21</sup>
- A 5-fold increased risk of surgical site infection (SSI)<sup>22</sup>
- A two fold increased risk of SSI risk in orthopaedics<sup>23</sup>
- An increased risk of SSI as much as sixty percent (60%) when undergoing major abdominal surgery<sup>24</sup>
- A higher incidence of SSI (up to 45%) when undergoing elective colon and rectal surgery<sup>24</sup>
- An increased risk of bleeding and infections after abdominal hysterectomy<sup>25</sup>
- A 2.1 fold increased risk of any complication after elective spine surgery<sup>27 29</sup> including:
  - a 1.2 - 3.11 fold higher risk of SSI<sup>28, 29, 30, 31, 32, 37</sup>
  - a 1.21 fold increase in risk of SSI for every 5-unit increase in BMI<sup>36</sup>
  - A 2 - 3.15 fold higher risk of venous thromboembolism<sup>28,31,32,33</sup>
  - a 1.43 fold higher risk of revision<sup>28</sup>
  - a 28.89 fold higher risk of blood loss during surgery<sup>28,29,30</sup>
  - a 14.55 fold higher risk of longer surgical time<sup>28,30,37</sup>
  - and 2.6 fold higher risk of mortality<sup>28</sup>
- A 1.67 fold increased risk of superficial wound infection and a 1.52 fold increased risk of deep wound infection following orthopaedic trauma surgery<sup>35</sup>

Research indicates that morbidly obese patients are likely to experience:

- A 1.6 – 1.84 fold increased risk of any complication following spinal surgery<sup>37 38</sup> including:
  - a 2.5 – 3.22 fold increased risk of SSI<sup>32,37</sup>
  - a 2.5 fold increased risk of venous thromboembolism<sup>32</sup>
  - a 1.7-2.43 fold increased risk of urinary complications<sup>32,37</sup>
  - a 15.3 fold increased risk of acute renal failure<sup>32</sup>
  - a 1.7 fold increased risk of sepsis<sup>32 34</sup>
  - a 2.18 fold higher risk of pulmonary complications<sup>37</sup>
  - a 2.3 fold higher risk of re-admission<sup>38</sup>
  - a 1.8 fold higher risk of return to the operating room<sup>38</sup>

- A 2.51 fold increased risk of deep wound infection and a 2.29 fold increased risk of wound dehiscence following orthopaedic trauma surgery<sup>35</sup>
- An increased risk of restrictive pulmonary syndrome, including decreased functional residual capacity (for morbidly obese patients)<sup>26</sup>.

It is understood that around 50 percent of patients who are obese have a poor outcome following joint replacement surgery compared to less than ten percent of patients with a healthy Body Mass Index (BMI) for the following reasons:

- A significantly higher risk of a range of short-term complications<sup>7</sup>
- A less likely outcome of surgery improving symptoms<sup>8</sup>
- A higher risk of the implant failing, requiring further surgery<sup>8</sup>
- A higher incidence of weight gain following joint replacement surgery<sup>7</sup>.

This weight management pre-operative intervention should be seen as a basic component of evidence based commissioning for elective surgery.

In 2017, two rapid evidence reviews were conducted by Cedar to explore the effects of smoking<sup>39</sup> and obesity<sup>40</sup> on primary hip or knee replacement. The conclusions were as follows:

### **Smoking**

Although some studies did not show an association between smoking and poorer outcomes, there seems to be some evidence that smoking is an independent risk factor for poorer outcomes in patients undergoing total hip or knee arthroplasty. Based on current evidence, patients who smoke appear to be at increased risk of both local and systemic complications and have an increased risk of implant failure and revision compared with patients who do not smoke.

### **Obesity**

#### *Hip Arthroplasty*

There is evidence that patients who are obese or morbidly obese have an increased risk of complications following primary hip replacement surgery including major complications such as deep infection, dislocation, osteolysis and/or aseptic loosening and minor complications such as superficial infection, wound healing and/or haematoma.

The evidence indicates that obese patients have a higher risk of dislocations.

The evidence suggests that although obese and morbidly obese patients have significantly lower pre-operative and post-operative patient reported outcome scores compared with non-obese patients, the difference in the change of scores from pre to post op follow-up is not significant at 2 year follow-up suggesting that the magnitude of benefit for obese and morbidly obese patients is similar to that of non-obese patients. One study however did report a

significantly lower patient reported outcome score in obese and morbidly obese patients at 5 year follow-up compared with non-obese patients suggesting that it is possible that although obese and morbidly obese patients benefit from surgery initially, this benefit is not maintained in the longer term. It is not possible to say whether the lower score at 5 years is the result of increased BMI and primary hip surgery however; there are other factors which impact on a patient's score.

### *Knee Arthroplasty*

There is evidence to suggest that patients who are obese or morbidly obese have an increased risk of both superficial infection and deep wound infection following primary knee replacement, however there is some uncertainty around the robustness of the results relating to deep infection and it is possible that the risk of deep infection does not differ between obese and non obese patients. Patients who are obese appear to have a greater risk of undergoing a revision procedure for any reason when compared with non-obese patients.

Obese patients do not appear to have a greater risk of intra-operative complications such as intra-operative fracture, tendon/ligament rupture or nerve damage compared with non-obese patients and there also appears to be no difference in the risk of post-operative deep vein thrombosis.

Patients who are obese or morbidly obese record lower patient reported outcome scores preoperatively compared with patients who are not obese and the evidence suggests that patient reported outcome scores in obese and morbidly obese patients are lower at 6 and 12 months post-operatively. However information was not provided on the change in patient reported outcomes from pre-operative scores to post-operative scores, so it cannot be assumed that the obese/morbidly obese patient group did not achieve an improvement in functional outcomes compared with their pre-operative scores of a magnitude similar to non-obese patients.

No additional literature searches were completed as part of the 2019 policy review. However, it is important to note that both smoking cessation and weight management feature in [national guidance](#) for effective pre-operative care published by the Royal College of Anaesthetists<sup>41</sup>.

## **ASSESSMENT**

The introduction of an Optimising Outcomes Policy to address smoking and weight management in pre-operative patients enables a systematic approach to addressing lifestyle risk factors. They will enable appropriate support to be given to patients with the aim of ensuring that they experience an optimal post-operative outcome.



## Appendix 2

### LIST OF DEFINITIONS

<b>BMI</b>	Body Mass Index
<b>CHC</b>	Community Health Council
<b>Completed programme</b>	A completed programme is defined as a patient having attended the following number of sessions for each programme: 4 out of 6 smoking cessation sessions 5 out of 8 Eating for Life sessions (or equivalent individual sessions) 10 out of 16 Exercise Referral sessions
<b>EqIA</b>	Equality Impact Assessment
<b>Listed</b>	For the purposes of the Optimising Outcomes Policy, listing is defined as 'given a date to come in for surgery'. This means the patient can be added to the waiting list for an elective procedure in the normal way and the waiting time clock will continue.
<b>LMC</b>	Local Medical Committee
<b>'Practising public health organisation'</b>	An organisation that actively demonstrates promotes and implements health promoting behaviour as an example of best practice.
<b>Smoking Cessation Services</b>	Includes NHS community and hospital based Smoking Cessation Service
<b>UHB</b>	University Health Board
<b>UHW</b>	University Hospital of Wales, Cardiff
<b>Weight Management Services</b>	Includes Dietetic Services and National Exercise Referral Scheme



## Patient information leaflets

## Weight management leaflet:

### National Exercise Referral Scheme



This is a 10 week programme of physical activity designed around your specific needs. You will have an initial fitness assessment where these will be discussed. The programme will be based the Cardiff and Vale of Glamorgan Leisure Centres.

Under the scheme you will have discounted rates to many of the leisure centre facilities.

Throughout the 10 weeks you will be with the same instructor whenever possible. You will receive telephone as well as face to face support.

After 10 weeks your instructor will meet with you to measure progress and discuss how to keep physical activity a key part of your day to day life. Each session will cost £2.00 to attend.

If you choose this option your Healthcare Professional will make a referral. You will then be contacted by the National Exercise Referral Scheme and offered a place on the next available programme. You will also be given an Evidence of Completion Form. When you have completed the programme this will need to be signed by the course leader and taken to your next clinic appointment. The course leader will also write to your Health Care Professional to let them know you have completed the course.

**Contact details:**  
Tel: 01570 872524 (Cardiff)  
Tel: 01446 403000 (Vale - Barry Leisure Centre)

### Commercial Weight Management

A third option, if you choose, is to refer yourself to a commercial weight management programme. This option will not be funded by the NHS.

## Why wait to lose weight?



You have been recommended to attend a weight management programme to offer you the opportunity of reducing your body weight prior to your surgery.

Reducing your body weight can reduce the risk of complications both during your surgery and whilst you recover after your operation.

The three available options are explained in this leaflet. Each will provide you with help, education, and support to lose weight and monitor your progress.



### What can you do?

Exercise and healthy eating are known to be the most important factors in aiming for a healthy weight.

Attendance at any of these programmes gives you a unique opportunity to manage and help improve your weight and lifestyle. Committing to the Eating for Life Programme, National Exercise Referral Scheme or a Commercial Weight Management Programme will allow you to develop the knowledge and skills to be able to work towards achieving a healthy weight. Both exercise and healthy eating are important in achieving and maintaining a healthy weight so you can access both Eating for Life and National Exercise Referral Scheme if you wish.

**You are the most important part of the programme.**

#### What are the risks of being overweight?

Being overweight when having surgery carries increased risks. People who are overweight have a greater risk of complications such as:

- infection and bleeding
- Blood clots
- Breathing problems

The surgery may also be less successful.

**The good news...**  
Losing weight before surgery has many benefits, including:

- Improved blood pressure
- Reduced risks during surgery
- Improved general health.

### Eating for Life

This is an 8 week weight management programme within a group setting. Each session is an hour and a half long with a mixture of men and women in the group.

**Over the 8 weeks you will learn about:**

- portion control
- your individual calorie requirements
- how to resist temptation and break habits
- how to set achievable goals
- how to manage lapses
- and most importantly how to maintain long term change.

Monthly weight management support sessions are available on completion of the 8 week programme.

If you choose this option, you will be contacted by the Community Dietetic Service inviting you to discuss your needs. You will be offered a place on the next available 'Eating for Life Programme'. You may be offered a 1:1 appointment if you decide a group setting is not suitable.

The course leader will write to your Health Care Professional to let them know you have completed the course.

**Contact details**  
Tel: 01920 866088  
Email: [Community.Reception.Little@wvss.nhs.uk](mailto:Community.Reception.Little@wvss.nhs.uk)

Smoking cessation patient leaflet:

### Smoke Free Hospitals

Cardiff and Vale University Health Board (CUTHB) is committed to the health and wellbeing of its staff, patients and visitors.

Please be aware that Cardiff and Vale University Health Board is a smoke free organisation. Smoking is not permitted in any Cardiff and Vale UHB hospital or grounds.

A No Smoking and Waste Enforcement Officer [patrols](#) hospital grounds and will challenge people who are smoking. Dropping litter, including cigarette ends, will incur a Fixed Penalty Notice of £80.00.





## STOP BEFORE YOUR OP

### Information for Patients

If you are due to have surgery, the sooner you stop smoking before your operation the better.

Stopping smoking before your operation has many benefits, including reducing your risk of a wide range of complications and improving your recovery and outcomes.

### Support to Stop Smoking

We know how hard it can be to give up smoking, but when you're ready to stop you don't have to go it alone.

There is lots of free support available if you would like to stop smoking for your operation as a **short-term** goal, or if you are thinking of stopping smoking for good. Research has shown you are four times more likely to quit with a support programme than on any other way. You can access services [for free](#), as described on the next page.



### Support to Stop Smoking

The NHS provides a free service to help you stop smoking. **Help Me Quit** is the single point of access for all NHS stop smoking services in Wales making it easy for you to choose the best NHS stop smoking support in your local area.

You can choose whether to access support in your local community, at your hospital or over the telephone. It is up to you to decide which service you prefer to access. All services provide the same level of **support which** includes:

- Individual or group support
- One session per week for several weeks
- Delivered by trained advisors
- Support to plan and prepare to quit
- Setting a quit date
- On-going support to quit
- Information about nicotine replacement therapies.



You can get support to quit by:

Calling 0800 065 2239

Visiting [www.helpmesquits.wales](http://www.helpmesquits.wales)

Texting 0900 to 80018 to get a call back

#### Hospital Smoking Cessation Service (hospital based support)

Telephone: 02920 243582 (USAW)  
02920 715420 (Junkdough)  
Email: [NHS.Helms@wales.nhs.uk](mailto:NHS.Helms@wales.nhs.uk)

Alternatively, some GP Practices offer smoking cessation support, ask your GP if they are part of the Cardiff and Vale University Health Board (CUTHB) approved providers.

### Smoking and Surgery

Smoking and surgery carries increased risks.

**During the operation, people who smoke:**

- are more likely to need a higher dose of anaesthesia than people who do not smoke.
- have decreased blood oxygenation, leading to decreased oxygen delivery to tissues
- are more likely to suffer complications.

**Post-operation, people who smoke:**

- are more likely to suffer complications
- have an increased risk of chest infections and breathing problems
- have an increased risk of blood clots in legs or lungs
- have a higher risk of lung and heart complications
- have a higher risk of infection
- have slower healing of wounds
- are more likely to be admitted to an intensive care unit
- have an increased risk of dying in hospital
- are more likely to have a longer hospital stay
- are more likely to have a longer hospital stay

### Health Benefits of Stopping Smoking

Stopping smoking before your operation will have many health benefits. These include:

- a reduced risk of complications
- a shorter stay in hospital
- faster recovery
- less chance of infection
- improved circulation

There are also **long-term** benefits of quitting smoking such as reduced risk of lung cancer and heart disease.

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## Appendix 4

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## **Integrated Screening Tool**

### **Developing strategies, policies, plans and services that reflect our Mission of 'Caring for People, Keeping People Well'**

#### **Guidance**

The University Health Board's (the UHB's) Strategy 'Shaping Our Future Wellbeing' (2015-2025) outlines how we will meet the health and care needs of our population, working with key partner organisations to deliver services that reflect the UHB's values. Our population has varied and diverse needs with some of our communities and population groups requiring additional consideration and support. With this in mind, when developing or reviewing any strategies, policies, plans, procedures or services it will be required that the following issues are explicitly included and addressed from the outset:-

- Equitable access to services
- Service delivery that addresses health inequalities
- Sustainability and how the UHB is meeting the requirements of the Well-being of Future Generations (Wales) Act (2015)

This explicit consideration of the above will apply to strategies (e.g. Shaping Our Future Strategy, Estates Strategy), policies (e.g. catering policies, procurement policies), plans (e.g. Clinical Board operational plans, Diabetes Delivery Plan), procedures (for example Varicella Zoster - chickenpox/shingles - Infection Control Procedure) and services /activity (e.g. developing new clinical services, setting up a weight management service).

Considering and completing the Integrated Screening Tool in parallel with development stages will ensure that all UHB strategies, policies, plans, procedures or services comply with relevant statutory obligations and responsibilities and at the same time takes forward the UHB's Vision, 'a person's chance of leading a healthy life is the same wherever they live and whoever they are'. This process should be proportionate but still provide helpful and robust information to support decision making. Where a more detailed consideration of an issue is required, the Integrated Screening Tool will identify if there is a need for a full impact assessment.

Some key statutory/mandatory requirements that strategies, policies, plans, procedures and services must reflect include:



- All Wales Standards for Communication and Information for People with Sensory Loss (2014)<sup>1</sup>
- Equality Act 2010<sup>2</sup>
- Well-being of Future Generations (Wales) Act 2015<sup>3</sup>
- Social Services and Well-being (Wales) Act 2015<sup>4</sup>
- Health Impact Assessment (non statutory but good practice)<sup>5</sup>
- The Human Rights Act 1998<sup>6</sup>
- United Nations Convention on the Rights of the Child 1989<sup>7</sup>
- United Nations Convention on Rights of Persons with Disabilities 2009<sup>8</sup>
- United Nations Principles for Older Persons 1991<sup>9</sup>
- Welsh Health Circular (2015) NHS Wales Infrastructure Investment Guidance<sup>10</sup>
- Welsh Government Health & Care Standards 2015<sup>11</sup>
- Welsh Language (Wales) Measure 2011<sup>12</sup>

This Integrated Screening Tool allows us to meet the requirements of the above as part of an integrated screening method that brings together Equality Impact Assessment (EQIA) and Health Impact Assessment (HIA). A number of statutory /mandatory requirements will need to be included and failure to comply with these requirements, or demonstrate due regard, can expose the UHB to legal challenge or other forms of reproach. This means showing due regard to the need to:

- eliminate unlawful discrimination, harassment and victimisation;
- advance equality of opportunity between different groups; and
- foster good relations between different groups.

**EQIAs** assess whether a proposed policy, procedure, service change or plan will affect people differently on the basis of their 'protected characteristics' (ie their age, disability, gender reassignment, marriage or civil partnership, pregnancy or maternity, race, religion, sex or sexual orientation) and if it will affect their human rights. It also takes account of caring responsibilities and Welsh Language issues. They provide a systematic way of ensuring that legal obligations are met and are a practical means of examining new and existing policies and practices to determine what impact they may have on equality for those affected by the outcomes.

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<sup>1</sup> <http://gov.wales/topics/health/publications/health/guidance/standards/?lang=en>

<sup>2</sup> <https://www.gov.uk/guidance/equality-act-2010-guidance>

<sup>3</sup> <http://gov.wales/topics/people-and-communities/people/future-generations-act/?lang=en>

<sup>4</sup> <http://gov.wales/topics/health/socialcare/act/?lang=en>

<sup>5</sup> <http://www.wales.nhs.uk/sites3/page.cfm?orgid=522&pid=63782>

<sup>6</sup> <https://www.equalityhumanrights.com/en/human-rights/human-rights-act>

<sup>7</sup> <http://www.unicef.org/UNICEFs-Work/UN-Convention>

<sup>8</sup> <http://www.un.org/disabilities/convention/conventionfull.shtml>

<sup>9</sup> <http://www.ohchr.org/EN/ProfessionalInterest/Pages/OlderPersons.aspx>

<sup>10</sup> <http://www.wales.nhs.uk/sites3/Documents/254/WHC-2015-012%20-%20English%20Version.pdf>

<sup>11</sup> <http://gov.wales/topics/health/publications/health/guidance/care-standards/?lang=en>

<sup>12</sup> <http://www.legislation.gov.uk/mwa/2011/1/contents/enacted>

**HIAs** assess the potential impact of any change or amendment to a policy, service, plan, procedure or programme on the health of the population and on the distribution of those effects within the population, particularly within vulnerable groups. HIAs help identify how people may be affected differently on the basis of where they live and potential impacts on health inequalities and health equity. HIA increases understanding of potential health impacts on those living in the most deprived communities, improves service delivery to ensure that those with the greatest health needs receive a larger proportion of attention and highlights gaps and barriers in services.

The **Integrated Screening Tool** brings together both impact assessments in to a single tool and helps to assess the impact of the strategy, policy, plan, procedure and/or service. The outcome should be a set of recommendations to mitigate negative, and enhance positive impacts. Throughout the assessment, 'health' is not restricted to medical conditions but includes the wide range of influences on people's well-being including, but not limited to, experience of discrimination, access to transport, education, housing quality and employment.

Throughout the development of the strategy, policy, plan, procedure or service, in addition to the questions in the Tool, you are required to remember our values of *care, trust, respect, personal responsibility, integrity and kindness* and to take the Human Rights Act 1998 into account. All NHS organisations have a duty to act compatibly with and to respect, protect and fulfil the rights set out in the Human Rights Act. Further detail on the Act is available in Appendix 1.

**Completion of this tool should not be undertaken in isolation. It should be led by the individual responsible for the strategy, policy, plan, procedure and/or service and be completed during a meeting with relevant others or as part of a facilitated session. You should start the assessment as soon as you begin to develop a strategy, policy, plan, procedure and/or service proposal or policy. Some useful tips are included in Appendix 2.**

For further information or if you require support to facilitate a session, please contact Susan Toner, Principal Health Promotion Specialist ([susan.toner@wales.nh.uk](mailto:susan.toner@wales.nh.uk)) or Keithley Wilkinson, Equality Manager ([Keithley.wilkinson@wales.nhs.uk](mailto:Keithley.wilkinson@wales.nhs.uk))

**Please note:**

- The completed Integrated Screening Tool must be
  - Included as an appendix with the cover report when the strategy, policy, plan, procedure and/or service change is submitted for approval



- Published on the UHB intranet and internet pages as part of the consultation (if applicable) and once agreed.
- Formal consultation must be undertaken, as required<sup>13</sup>

#### Based on

- Cardiff Council (2013) Statutory Screening Tool Guidance
- NHS Scotland (2011) Health Inequalities Impact Assessment: An approach to fair and effective policy making. Guidance, tools and templates<sup>14</sup>
- Wales Health Impact Assessment Support Unit (2012) Health Impact Assessment: A Practical Guide<sup>15</sup>

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<sup>13</sup> [http://www.cardiffandvale.wales.nhs.uk/portal/page?\\_pageid=253,73860407,253\\_73860411&\\_dad=portal&\\_schema=PORTAL](http://www.cardiffandvale.wales.nhs.uk/portal/page?_pageid=253,73860407,253_73860411&_dad=portal&_schema=PORTAL)

<sup>14</sup> <http://www.healthscotland.com/uploads/documents/5563-HIIA%20-%20An%20approach%20to%20fair%20and%20effective%20policy%20making.pdf> (accessed 4 January 2016)

<sup>15</sup> <http://www.wales.nhs.uk/sites3/page.cfm?orgid=522&pid=63782> (accessed on 4 January 2016)

**Developing strategies, policies, plans, procedures and services that reflect our Mission of  
'Caring for People, Keeping People Well'**

**Integrated Screening Tool**

Please answer all questions:-

1.	Title of strategy/ policy/ plan/ procedure/ service	Cardiff and Vale University Health Board (UHB) Optimising Outcomes Policy
2.	Name of Clinical Board / Corporate Directorate and title of lead member of staff, including contact details	Executive Director of Public Health, Cardiff and Vale University Health Board
3.	Objectives of strategy/ policy/ plan/ procedure/ service	<p>The Optimising Outcomes Policy aims to ensure appropriate smoking cessation and/or weight management support is given to patients prior to surgery in order that they experience an optimal post-operative outcome.</p> <p>Two statements (revised June 2014) outline the policy. These statements must be applied in the context of a patient's individual clinical need which is ultimately to be determined by the clinician responsible for the patient's care.</p> <p>1. Smoking Cessation Anyone being referred or listed for an elective intervention who is recorded as a smoker is expected to have been offered, accepted and completed smoking cessation support<sup>16</sup> prior to their surgery.</p> <p>2. Weight management Anyone being referred or listed for an elective intervention who has recorded a BMI of 40 or above is expected to have been offered, accepted and completed weight management support<sup>17</sup> prior to their surgery.</p>

<sup>16</sup> Smoking cessation support includes one of the following services: NHS community or hospital based Smoking Cessation Services.

<sup>17</sup> Weight management support includes one of the following services: Community Dietetic Service, National Exercise Referral Scheme, commercial weight management programmes.

Whilst non-NHS provider weight management programmes are an option they currently lie outside of the NHS resourced referral pathway

<sup>18</sup>

4.	<p>Evidence and background information considered. For example</p> <ul style="list-style-type: none"> <li>• population data</li> <li>• staff and service users data, as applicable</li> <li>• needs assessment</li> <li>• consultation and involvement findings</li> <li>• research</li> <li>• good practice guidelines</li> <li>• participant knowledge</li> </ul> <p>The UHB's 'Shaping Our Future Wellbeing' Strategy and needs assessment provides good background data<sup>18</sup>.</p>	<p>Mid year population estimated for 2018 suggest 496,400 people are resident in Cardiff and Vale UHB area, 49.3% of whom are male<sup>19</sup>. 18.5% of the population is aged 0-15 years and 15.9% are aged 65 years and older.</p> <p>The ethnic diversity of the populations of Cardiff and the Vale of Glamorgan vary significantly, with Cardiff being more diverse and the Vale having a profile similar to Wales as a whole. Estimates suggest that in Cardiff, 88.8% of the population identify as White (compared to 95.2% in the Vale), 2.1% of mixed ethnicity (Vale 1.4%) , 5.6% Asian/Asian British (Vale 1.8%), 1.7% Black/Black British (Vale 0.6%), and 1.8% 'other' ethnic group (Vale 1.0%)<sup>20</sup>. The majority of the people in the South East Wales Region report having a religious faith, with 48.6% being Christian, 2.3% Muslim and 2.8% other faith. 46.1% report having no religion<sup>21</sup>. In South East Wales, the largest proportion of the population aged 16+ years reported being married/civil partnership (47.3%), followed by single (35.7%), divorced/separated/dissolved civil partnership (10.3%) and widowed/surviving civil partnership (6.7%)<sup>22</sup>.</p> <p>Currently, 16.9% of the population in Cardiff and the Vale of Glamorgan smoke<sup>23</sup> (2018-2019, National Survey for Wales) and smoking is the main cause of preventable disease and premature death in Wales. Smoking cost NHS Wales £386 million in 2007/08, representing seven per cent of our total healthcare expenditure. Smoking accounts overall for an estimated 22 per cent of all adult hospital admission costs, 14 per cent of all prescription costs, 13 per cent of all GP consultant costs and six per cent of outpatient costs<sup>24</sup>.</p>
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<sup>19</sup> Stats Wales. Accessed at <https://statswales.gov.wales/Catalogue/Population-and-Migration/Population/Estimates> [Last accessed 31/12/19]

<sup>20</sup> Stats Wales (2009). Accessed at <https://statswales.gov.wales/Catalogue/Population-and-Migration/Population/Estimates/Ethnicity/PopulationEstimates-by-Localauthority-Ethnicity> [Last accessed 31/12/19]

<sup>21</sup> Stats Wales (2015-17) Accessed at <https://statswales.gov.wales/Catalogue/Equality-and-Diversity/Religion/religion-by-region> [Last accessed 31/12/19]

<sup>22</sup> Stats Wales (2015-17) Accessed at <https://statswales.gov.wales/Catalogue/Equality-and-Diversity/Marital-status/maritalstatus-by-region> [Last accessed 31/12/19]

<sup>23</sup> National Survey for Wales (2018-19). Accessed at <https://gov.wales/national-survey-wales-results-viewer> [Last accessed 31/12/19]

<sup>24</sup> Phillips, C. J., and Bloodworth, A. (2009). Cost of smoking in Wales: Report presented by Action on Smoking and Health, British Heart Foundation at the Smoking Conference Wales 2009. Swansea: Swansea University.

		<p>Smoking prevalence in Wales is highest in the 16-44 age group (20%) and the 45-64 age group (18%) but thereafter the prevalence of smokers declines to 10% by 65+ years<sup>5</sup></p> <p>The prevalence of smoking in males in Wales is 18% compared to 16% in females<b>Error! Bookmark not defined.</b>. There is currently no data collected on smoking prevalence in the transgender community.</p> <p>Smoking rates vary considerably between ethnic groups. A report from ASH Wales in 2011 using combined data from Health Surveys in England in 2006, 2007 and 2008 shows that in men, rates are particularly high in the Bangladeshi (40%), Irish (30%) and Pakistani (29%) populations compared White English (27%). Among women, smoking rates are highest in White English (26%), Black Caribbean (24%) and Irish (26%) and less than 8% in other ethnic groups (Chinese, Black Other, Pakistani, Bangladeshi, and Indian). Overall, smokers from minority ethnic groups smoke fewer cigarettes than the UK population as a whole<sup>25 26</sup>.</p> <p>UK evidence shows that, a quarter of lesbian and bisexual women currently smoke. It also shows that 21% of lesbian and bisexual women who smoke, smoke more than 20 cigarettes per day compared to 28% of women in general who smoke<sup>27</sup>.</p> <p>Smoking rates are higher amongst lower socio-economic groups. Smoking rates increase with deprivation, with rates of those living in the most deprived fifth of areas much higher than those in the least deprived fifth (21% compared with 13%)<sup>28</sup>.</p>
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<sup>25</sup> ASH (2011). ASH Factsheet: Tobacco and ethnic minorities. Available at: [http://www.ash.org.uk/files/documents/ASH\\_131.pdf](http://www.ash.org.uk/files/documents/ASH_131.pdf) [Accessed 20<sup>th</sup> May 2016]

<sup>26</sup> Race Equality Foundation (2011). Better Health Briefing 22: Tobacco use among ethnic minority populations. Available at: <http://raceequalityfoundation.org.uk/sites/default/files/publications/downloads/health-brief22%20final.pdf> [Accessed 24<sup>th</sup> May 2016]

<sup>27</sup> Stonewall (2008) Prescription for change. Available at: [http://www.stonewall.org.uk/sites/default/files/Prescription\\_for\\_Change\\_\\_2008\\_.pdf](http://www.stonewall.org.uk/sites/default/files/Prescription_for_Change__2008_.pdf) [Accessed 20<sup>th</sup> May 2016]

<sup>28</sup> Welsh Government (2015). Statistical Bulletin: Welsh Health Survey 2014: Health-related lifestyle results. <http://gov.wales/docs/statistics/2015/150603-welsh-health-survey-2014-health-related-lifestyle-en.pdf> [Accessed 20<sup>th</sup> May 2016]

		<p><b>Pre-operative Weight Management</b></p> <p>Currently, 56% of the population in Cardiff and the Vale of Glamorgan report being overweight or obese (BMI 25+), with 20% reporting being obese (BMI 30+)<sup>29</sup>.</p> <p>The prevalence of overweight or obesity in Wales peaks in the 45-64 age group at 68%, declining to 58% in the 65+ age group<sup>30</sup>. Prevalence is lowest in the 16-44 age group at 53%. The distribution of obesity by age group is similar, with prevalences of 21% (16-44 yrs), 29% (45-64 yrs) and 20% (65+yrs) respectively.</p> <p>The prevalence of overweight and obesity in males 16+ in Wales is 66% compared to 52% of females<sup>3</sup>. The proportion of males who report being obese is 24% compared to 23% of females.</p> <p>No recent data is available on obesity prevalence by ethnic group in Wales. Data from England, where the prevalence of overweight and obese in adults over 18 is 62%, suggests that black adults were the most likely out of all ethnic groups to be overweight or obese (72.8%)<sup>31</sup>. White British adults were also more likely than average to be overweight or obese (62.9%), whereas adults from the Chinese ethnic group were least likely to be obese (34.5%). The percentage of adults in the Asian, Other White, Mixed and Other ethnic groups was also lower than the national average (57%, 57.8%, 58.5% and 58.3% respectively)</p> <p>The prevalence of overweight or obese people in Wales varies with fifths of deprivation. It is highest (66%) in quintile 2 (second most deprived) and lowest (53%) in quintile 4 (second least deprived); it is higher in the least deprived quintile (61%) than the most deprived (58%)<sup>32</sup>. The prevalence of obesity shows</p>
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<sup>29</sup> National Survey for Wales (2017-18, 2018-19 combined) Accessed at <https://statswales.gov.wales/Catalogue/National-Survey-for-Wales/Population-Health/Adult-Lifestyles/adultlifestyles-by-localauthority-healthboard> [Last accessed 31/12/19]

<sup>30</sup> National Survey for Wales (2018-19) Accessed at <https://statswales.gov.wales/Catalogue/National-Survey-for-Wales/Population-Health/Adult-Lifestyles/adultlifestyles-by-age-gender> [Last accessed 31/12/19]

<sup>31</sup> Gov.UK *Overweight Adults* (2017-18). Accessed at <https://www.ethnicity-facts-figures.service.gov.uk/health/diet-and-exercise/overweight-adults/latest> [Last accessed 31/12/19]

<sup>32</sup> National Survey for Wales (2018-19). Accessed at <https://statswales.gov.wales/Catalogue/National-Survey-for-Wales/Population-Health/Adult-Lifestyles/adultlifestyles-by-wimddeprivation> [Last accessed 31/12/19]

		a gradient from most to least deprived, with a prevalence of 28% in quintile 1 (most deprived) and 22% in quintile 2 (least deprived).
5.	Who will be affected by the strategy/ policy/ plan/ procedure/ service	<p>The stakeholders include:-</p> <ul style="list-style-type: none"> <li>• Patients on elective surgical pathways (with the exception of the exclusions outlined in the policy).</li> <li>• Any referrer e.g. General Practitioners, Surgeons, Physiotherapists, Outpatient Nurses etc.</li> <li>• Primary Care – General Practices, Community Directors, Local Medical Committee (LMC)</li> <li>• CVUHB, Clinical Boards</li> <li>• CVUHB IT Department</li> <li>• Cardiff and Vale Public Health Team</li> <li>• Community Health Council (CHC)</li> <li>• Help Me Quit (HMQ) community based NHS smoking cessation service</li> <li>• Hospital in-house Smoking Cessation Service</li> <li>• Level 3 Pharmacy</li> <li>• CV UHB Nutrition and Dietetic services</li> <li>• CV UHB Level 3 Specialist Weight Management service</li> <li>• National Exercise Referral Scheme (NERS)</li> <li>• Commercial companies</li> </ul>

**6. EQIA / How will the strategy, policy, plan, procedure and/or service impact on people?**

Questions in this section relate to the impact on people on the basis of their 'protected characteristics'

How will the strategy, policy, plan, procedure and/or service impact on:-	Potential positive and/or negative impacts	Recommendations for improvement/mitigation
<p><b>6.1 Age</b></p> <p>For most purposes, the main categories are:</p> <ul style="list-style-type: none"> <li>• under 18;</li> <li>• between 18 and 65; and</li> <li>• over 65</li> </ul>	<p><b>Smoking Cessation</b></p> <p>The policy does not apply to people under the age of 16, however, there are options available to access smoking cessation services. The UHB's in-house smoking cessation service is able to provide 1-2-1 support to those under 16 years although the service can only prescribe to those 12+. Help Me Quit community based services are able to provide support to under 16s in a one to one context or by telephone. It would not be appropriate for them to access a group of mixed ages..</p> <p>Overall, no negative impact was identified.</p> <p><b>Weight Management</b></p> <p>The policy does not apply to people under the age of 16. However, currently children are unable to access weight management services, as there is not an equivalent service for under 16s as the weight management services for adults.</p> <p>The NERS service also delivers the service to individuals 16+.</p>	<p><b>Smoking Cessation</b></p> <p>No recommendations.</p> <p><b>Weight Management</b></p> <p>The local prevention and management of obesity in children and adults will be addressed by the Move Move, Eat Well Plan (2020-2023), which is due to be published in March 2020. This will include the implementation of a complete referral pathway for children and adults who are overweight/obese.</p>

	Overall, no impact was identified for young people aged 16-25 years. A negative impact was identified for children under the age of 16 years old, however it was noted that the policy does not apply to under 16s.	
<b>6.2 Persons with a disability as defined in the Equality Act 2010</b> Those with physical impairments, learning disability, sensory loss or impairment, mental health conditions, long-term medical conditions such as diabetes	<b>Smoking Cessation</b> Smoking cessation services are provided in easily accessible venues enabling access for those with physical impairments.  HMQ conduct an accessibility assessment of each of the venues they use.  HMQ cessation support can also be accessed via telephone and online.  Those with learning disabilities would need to access one to one provision. Carers are invited to attend appointments.  For those with hearing impairments, HMQ are able to provide the hearing loop system and a British Sign Language interpreter.  For those with visual impairments, no specific adaptations are provided by any of the services.  HMQ does not offer a formal one to one support programme for community based mental health patients, but will see clients with low level mental health issues.	<b>Smoking Cessation</b> Provision for clients with visual impairment, learning disability and mental health diagnoses (in the community) will be considered as part of the proposed UHB's smoking cessation service review.



	<p>Services for mental health in-patients have improved, with nursing staff having undertaken smoking cessation training.</p> <p>With regard to access for those with a learning disability, there may be a gap in provision. HMQ may not offer a service. Any support would need to be one to one.</p> <p>Overall no impact or positive impacts were identified for the majority. However a negative impact was identified for those with visual impairments, mental health patients in the community and those with a learning disability.</p> <p><b>Weight Management</b> Venues that deliver the weight management service are accessible to people with disabilities.</p> <p>Housebound patients are offered a dietetic domiciliary visit. There is currently no Level 3 service for housebound patients. Patients' carers are invited to attend all appointments at the patient request.</p> <p>Equipment to support people with hearing impairments is available.</p> <p>For those with visual impairment, the service can still be provided as consultations are provided verbally. Certain resources can be produced in an audio version.</p>	<p><b>Weight Management</b> Consider development of a specialist weight management service for housebound patients.</p>
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	<p>The dietetic service for individuals with a severe learning disability is offered by Swansea Bay UHB. Individuals with less severe learning disabilities who require general lifestyle support would be offered support locally in a 1-2-1 context as the groups would not be suitable.</p> <p>Mental health patients - If the mental health condition is the primary issue they would access the community mental health team. The management of their mental health would be prioritized initially</p> <p>NERS relies on family members/carers to support individuals with sensory impairments.</p> <p>Overall, no negative impacts were identified.</p>	
<p><b>6.3 People of different genders:</b> Consider men, women, people undergoing gender reassignment</p> <p><b>NB</b> Gender-reassignment is anyone who proposes to, starts, is going through or who has completed a process to change his or her gender with or without going through any medical procedures. Sometimes referred to as Trans or Transgender</p>	<p><b>Smoking Cessation and Weight Management</b> There is currently no service data available to assess whether males and females are accessing smoking cessation services services in a way which is proportional to the prevalence of smokers who are male or female in the local population. The same is true of weight management services.</p> <p>Patients would be eligible for referral to the Welsh Gender Service if required.</p> <p>The multi-professional group conducting the EQIA considered that, as the policy is applied</p>	<p><b>Smoking Cessation and Weight Management</b> Continue to monitor the data collected and recorded on the UHB systems with a view to better understanding access to services by gender and to determine if any mitigation is required.</p>

	equally to all individuals needing surgery, there should be no differential effect in relation to gender. No negative impacts were identified.	
<b>6.4 People who are married or who have a civil partner.</b>	<p><b>Smoking Cessation and Weight Management</b> Data on access to services by marriage and civil partnership is not collected.</p> <p>The services are set up so that all individuals needing surgery can access them. The services do not discriminate by marriage and civil partnership, therefore, no negative impact was identified.</p>	<p><b>Smoking Cessation and Weight Management</b> Continue to monitor the data collected and recorded on the UHB systems with a view to better understanding access to services by marriage and civil partnership and to determine if mitigation is required.</p>
<b>6.5 Women who are expecting a baby, who are on a break from work after having a baby, or who are breastfeeding.</b> They are protected for 26 weeks after having a baby whether or not they are on maternity leave.	<p><b>Smoking Cessation</b> A question about pregnancy is asked in the assessment telephone call with HMQ at the start of the 6 week programme.</p> <p>HMQ provide a specific service for pregnant women.</p> <p>All pregnant women, on booking with maternity services, are carbon monoxide monitored (via a breath test) and offered a referral to HMQ if found to be a current smoker.</p> <p>A positive impact was identified</p> <p><b>Weight Management</b> The weight management service detailed in this policy is not appropriate for pregnant women as</p>	<p><b>Weight Management</b> Consider whether a weight management service should be provided specifically for pregnant women on elective lists. To review in February 2020 with the launch of the healthy weight delivery plan and associated funding.</p>

	<p>the focus in pregnancy is on preventing weight gain rather than weight loss. There is currently no separate dietetic service for pregnant women, but this is expected to be addressed as part of the local response to the Healthy Weight Healthy Wales Strategy.</p> <p>The National Exercise Referral Scheme excludes women in the first 12 weeks of pregnancy.</p> <p>Overall, a negative impact was identified on pregnant women in terms of weight management services.</p>	
<p><b>6.6 People of a different race, nationality, colour, culture or ethnic origin including non-English speakers, gypsies/travellers, migrant workers</b></p>	<p><b>Smoking Cessation</b> Services can be provided in other languages through the use of an interpretation service and language line.</p> <p>Some HMQ resources are available in different languages, in addition to English and Welsh.</p> <p>The patient leaflets supporting the policy can be translated in to other languages on request.</p> <p>Overall, no negative impact was identified.</p> <p><b>Weight Management</b> The weight management service is provided in English and the groups are not suitable to be run in consecutive languages. The group is not offered in different languages, but there is a partnership project with Women Connect</p>	<p><b>Smoking Cessation</b> HMQ and in-house smoking cessation written materials could be developed in different languages, if required, and will be considered as part of on-going development of all UHB smoking cessation services including any specific Service Improvement work.</p> <p><b>Weight Management</b> No action suggested</p>

	<p>supporting women from BME communities to lose weight.</p> <p>A one to one service can be provided with the assistance of an interpreter.</p> <p>The consultations and nutritional advice provided is culturally specific. A lot of work has been done previously to achieve this and the team has good links with communities.</p> <p>Resources are available in different languages.</p> <p>Resources can be provided that are pictorial.</p> <p>Overall, a positive impact was identified.</p>	
<p><b>6.7 People with a religion or belief or with no religion or belief.</b> The term 'religion' includes a religious or philosophical belief</p>	<p><b>Smoking Cessation</b> No negative impact was identified.</p> <p><b>Weight Management</b> All staff in the weight management service have an awareness of cultural issues through staff training.</p> <p>The consultations are adapted to meet the individual's religious and cultural needs. They are person centred.</p> <p>NERS offer women only sessions.</p> <p>Overall, a positive impact was identified.</p>	<p><b>Smoking Cessation and Weight Management</b> No recommendations.</p>

<p><b>6.8 People who are attracted to other people of:</b></p> <ul style="list-style-type: none"> <li>the opposite sex (heterosexual);</li> <li>the same sex (lesbian or gay);</li> <li>both sexes (bisexual).</li> </ul>	<p><b>Smoking Cessation and Weight Management</b></p> <p>The impact of the policy on sexual orientation was discussed and no positive or negative impacts were identified.</p>	<p><b>Smoking Cessation and Weight Management</b></p> <p>No recommendations.</p>
<p><b>6.9 People who communicate using the Welsh language in terms of correspondence, information leaflets, or service plans and design</b></p>	<p><b>Smoking Cessation and Weight Management</b></p> <p>OOPs policy resources are available in Welsh.</p> <p>Patient information for HMQ is available in both Welsh and English.</p> <p>HMQ can provide consultations in Welsh with the assistance of language line.</p> <p>In terms of the weight management services consultations can be offered to be undertaken in Welsh (in advance of the appointment).</p> <p>Overall, a positive impact.</p>	<p><b>Smoking Cessation and Weight Management</b></p> <p>No recommendations.</p>
<p><b>6.10 People according to their income related group:</b></p> <p>Consider people on low income, economically inactive, unemployed/workless, people who are unable to work due to ill-health</p>	<p><b>Smoking Cessation</b></p> <p>All smoking cessation services are free to access and prescriptions for Nicotine Replacement Therapy are free.</p> <p><b>Weight Management</b></p> <p>Community Dietitian led Weight Management Services are free.</p>	<p><b>Smoking Cessation and Weight Management</b></p> <p>No recommendations.</p>

	<p>NERS has a mandatory cost of £2 per session which may have an impact on those on lower incomes.</p> <p>Commercial organisations will charge for their services.</p> <p>Overall, no negative impact was identified.</p>	
<p><b>6.11 People according to where they live:</b> Consider people living in areas known to exhibit poor economic and/or health indicators, people unable to access services and facilities</p>	<p>Provision of smoking cessation and weight management services (HMQ, Level 3 pharmacy, Weight Management Service) are aligned with areas of deprivation and therefore there are more services in these areas. Level 3 pharmacies are situated in area of high deprivation.</p> <p>Overall, a positive impact was identified.</p>	<p><b>Smoking Cessation and Weight Management</b> No recommendations.</p>
<p><b>6.12 Consider any other groups and risk factors relevant to this strategy, policy, plan, procedure and/or service</b></p>	<p>Nothing identified.</p>	

**7. HIA / How will the strategy, policy, plan, procedure and/or service impact on the health of our population and help address inequalities in health?**

Questions in this section relate to the impact on the overall health of individual people and on the impact on our population

<b>How will the strategy, policy, plan, procedure and/or service impact on:-</b>	<b>Potential positive and/or negative impacts and any particular groups affected</b>	<b>Recommendations for improvement/mitigation</b>
<p><b>7.1 People being able to access the service offered:</b> Consider access for those living in areas of deprivation and/or those experiencing health inequalities; the availability of health and social care services, transport, housing, education, cultural and leisure services; the ability to access and navigate these services; the quality of services provided and received; access to education and training and information technology</p>	<p><b>Smoking cessation</b> The policy promotes access to several smoking cessation services in the community at venues across Cardiff and Vale.</p> <p>If choosing to access HMQ, there is the flexibility for individuals to choose to access a group that is convenient for them, for example, they could access a group near to work or home.</p> <p>Smoking cessation services are available face to face, online and telephone support.</p> <p>Individuals can self-refer to smoking cessation services.</p> <p>The quality of services is monitored and reported on regularly i.e. by the number of individuals accessing each service and the number of smokers quitting at 4 weeks.</p> <p>Building knowledge, skills and confidence to help individuals change their behaviour is a key component of the support provided by the smoking cessation services.</p>	<p><b>Smoking cessation</b> No recommendations.</p>



	<p>Overall, a positive impact on access to services.</p> <p><b>Weight Management</b> The policy promotes access to weight management services in each locality of Cardiff and Vale.</p> <p>Professional referral is required for weight management services highlighted in this policy and for NERS, although self-referral for Community Dietetics has been recently introduced. All health care providers are provided with information to refer to the service.</p> <p>The weight management service is regularly evaluated and clinical outcomes recorded.</p> <p>Education is intrinsic to the support offered by the weight management service and NERS.</p> <p>Overall, a positive impact on access to services.</p>	<p><b>Weight Management</b> Explore opportunities for online support, linking with wider UHB IT strategy.</p>
<p><b>7.2 People being able to improve /maintain healthy lifestyles:</b> Consider decisions that support healthy lifestyles, including healthy eating, being active, no smoking /smoking cessation, reducing the harm caused by alcohol and /or non-prescribed drugs; access to services that support disease prevention, including immunisation and vaccination, falls prevention</p>	<p>The purpose of this policy and the smoking cessation and weight management services promoted within it are to empower individuals to make decisions that support healthy lifestyles.</p> <p>The weight management services would signpost to some relevant preventative services such as alcohol services.</p>	<p>No recommendations.</p>

	Overall, a positive impact on access to lifestyle support.	
<b>7.3 People in terms of their income and employment status:</b> Consider the availability and accessibility of work, paid/ unpaid employment, wage levels, job security; cost/price controls: housing, fuel, energy, food, clothes, alcohol, tobacco; working conditions	The policy will help improve clinical outcomes, which may help support individuals to return to work or to gain employment. For example, evidence suggests a higher level of absenteeism in smokers compared to non-smokers and this may have an impact on their employment, income and job security and therefore, quitting smoking is likely to have a positive impact on an individual's income, employment and work.  Overall, a positive impact.	No recommendations.
<b>7.4 People in terms of their use of the physical environment:</b> Consider the availability and accessibility of transport, healthy food, leisure activities, green spaces; the Impact of the design of the built environment on the physical and mental health of patients, staff and visitors; air quality and housing/living conditions, exposure to pollutants; safety of neighbourhoods, exposure to crime; road safety and preventing injuries/accidents; quality and safety of play areas and open spaces	The policy aims to support individuals to give up smoking pre-operatively. Individuals who stop smoking will have improved air quality in their living environment. There may also be a reduction in passive smoking by other individuals living in that environment and therefore their exposure to pollutants will be reduced.  Overall, the policy has a positive impact.	No recommendations.
<b>7.5 People in terms of social and community influences on their health:</b> Consider family organisation and roles; social support and social networks;	The smoking cessation and weight management services empower individuals to manage the social and community influences on their health.	No recommendations.

<p>neighborliness and sense of belonging; social isolation; peer pressure; community identity; cultural and spiritual ethos</p>	<p>Relatives are encouraged to attend weight management sessions thereby helping to build support for lifestyle changes in the family.</p> <p>The group sessions may help to build social networks and social support through shared behaviour change of the individuals attending the groups.</p> <p>Overall, a positive impact.</p>	
<p><b>7.6 People in terms of macro-economic, environmental and sustainability factors:</b> Consider government policies; gross domestic product; economic development; biological diversity; climate</p>	<p>The policy influenced the Welsh Government's Planned Care Programme and as such, has had a positive impact on Government policy.</p> <p>Overall, a positive impact on access to services.</p>	<p>No recommendations.</p>

**8. Please answer questions 8.1 to 8.4 following the completion of the Integrated Screening Tool and complete the action plan**

<b>8.1 Please summarise the potential positive and/or negative impacts of the strategy, policy, plan or service</b>	The overall impact was determined to be a positive one.
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**Action Plan**

	<b>Action</b>	<b>Lead</b>	<b>Timescale</b>
<b>8.2 What are the key actions identified as a result of using the Integrated Screening Tool?</b>	The local prevention and management of obesity in children and adults will be addressed by the Move Move, Eat Well Plan (2020-2023), which due to be published in March 2020. This will include the implementation of a complete referral pathway for children and adults who are overweight/obese.	Community Dietetic Clinical Lead/Consultant in Public Health Medicine	Timescale of plan 2020-2023
	Provision for clients with visual impairment, learning disability and mental health diagnoses (in the community) will be considered as part of the proposed UHB's smoking cessation service review.	Principal Public Health Practitioner	September 2020
	Consider development of a specialist weight management service for housebound patients	Community Dietetic Clinical Lead	Paper detailing resource required to be developed by May 2020

	<b>Action</b>	<b>Lead</b>	<b>Timescale</b>
	Continue to monitor the data collected and recorded on the UHB systems with a view to better understanding access to services by gender and to determine if any mitigation is required.	OOP Review Group	December 2020
	Continue to monitor the data collected and recorded on the UHB systems with a view to better understanding access to services by marriage and civil partnership and to determine if mitigation is required.	OOP Review Group	December 2020
	Consider whether a weight management service should be provided specifically for pregnant women on elective lists.	Community Dietetic Clinical Lead/ Consultant in Public Health Medicine	April 2020
	HMQ and in-house smoking cessation written materials could be developed in different languages, if required, and will be considered as part of on-going development of all UHB smoking cessation services including any specific Service Improvement work.	Principal Public Health Practitioner	June 2020
	Explore opportunities for online weight management support.	Community Dietetic Clinical Lead	December 2020

	Action	Lead	Timescale
<p><b>8.3 Is a more comprehensive Equalities Impact Assessment or Health Impact Assessment required?</b></p> <p>This means thinking about relevance and proportionality to the Equality Act and asking: Is the impact significant enough that a full consultation will be required? Is the impact important enough that you need to do a full consultation?</p>	Not required.		
<p><b>8.4 What are the next steps?</b></p> <p>Some suggestions:-</p> <p>1. Decide whether the strategy, policy, plan, procedure and/or service proposal:</p> <ul style="list-style-type: none"> <li>- continues unchanged as there are no significant negative impacts;</li> <li>-adjusts to account for the negative impacts;</li> <li>-continues despite potential for adverse impact or missed opportunities to advance equality (set out the justifications for doing so); or</li> <li>-stops.</li> </ul> <p>2. Get your strategy, policy, plan, procedure and/or service proposal approved</p>	<p>The OOP Review Group will ensure the actions identified by this assessment are included in the ongoing action planning and monitored as part of the work of the group.</p> <p>Review the content of the Policy, supporting procedures and EQIA following publication of Healthy Weight Healthy Wales Strategy and Action Plan.</p>	<p>Consultant in Public Health Medicine</p> <p>OOP Review Group</p>	<p>April 2020</p> <p>September 2020</p>

	Action	Lead	Timescale
3. Publish your report of this impact assessment			
4. Monitor and review			

## Appendix 1 – The Human Rights Act 1998<sup>33</sup>

The Act sets out our human rights in a series of ‘Articles’. Each Article deals with a different right. These are all taken from the European Convention on Human Rights and are commonly known as ‘the Convention Rights’:

1. Article 2 Right to life. NHS examples: the protection and promotion of the safety and welfare of patients and staff
2. Article 3 Freedom from torture and inhuman or degrading treatment. NHS examples: issues of dignity and privacy, the protection and promotion of the safety and welfare of patients and staff, the treatment of vulnerable groups or groups that may experience social exclusion, for example, gypsies and travelers, issues of patient restraint and control
3. Article 4 Freedom from slavery and forced labour
4. Article 5 Right to liberty and security. NHS examples: issues of patient choice, control, empowerment and independence, issues of patient restraint and control
5. Article 6 Right to a fair trial
6. Article 7 No punishment without law
7. Article 8 Respect for your private and family life, home and correspondence. NHS examples: issues of dignity and privacy, the protection and promotion of the safety and welfare of patients and staff, the treatment of vulnerable groups or groups that may experience social exclusion, for example, gypsies and travelers, the right of a patient or employee to enjoy their family and/or private life
8. Article 9 Freedom of thought, belief and religion. NHS examples: the protection and promotion of the safety and welfare of patients and staff, the treatment of vulnerable groups or groups that may experience social exclusion, for example, gypsies and travelers
9. Article 10 Freedom of expression. NHS examples: the right to hold and express opinions and to receive and impart information and ideas to others, procedures around whistle-blowing when informing on improper practices of employers where it is a protected disclosure
10. Article 11 Freedom of assembly and association
11. Article 12 Right to marry and start a family
12. Article 14 Protection from discrimination in respect of these rights and freedoms. NHS examples: refusal of medical treatment to an older person solely because of their age, patients presented with health options without the use of an interpreter to meet need, discrimination against UHB staff on the basis of their caring responsibilities at home
13. Protocol 1, Article 1 Right to peaceful enjoyment of your property
14. Protocol 1, Article 2 Right to education
15. Protocol 1, Article 3 Right to participate in free elections
16. Protocol 13, Article 1 Abolition of the death penalty

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<sup>33</sup> <https://www.equalityhumanrights.com/en/human-rights/human-rights-act>




## Appendix 2

### Tips

- Be clear about the policy or decision's rationale, objectives, delivery method and stakeholders.
- Allow adequate time to complete the Integrated Screening Tool
- Identify what data you already have and what are the gaps.
- Engage with stakeholders early. View them as active partners rather than passive recipients of your services.
- Remember to consider the impact of your decisions on your staff as well as the public.
- Record which organisations and protected characteristic groups you engaged with, when you engaged with them and how you did so (for example, workshop, public meeting, written submission).
- Produce a summary table describing the issues affecting each protected group and what the potential mitigations are.
- Report on positive impacts as well as negative ones.
- Remember what the Equality Act says – how can this policy or decision help foster good relations between different groups?
- Do it with other people! Talk to colleagues, bounce ideas, seek views and opinions.

Document Title: <i>The Laser Risk Management Policy</i>	1 of 2	Approval Date: 28/06/2016
Reference Number: UHB 324		Next Review Date: 28/06/2019
Version Number:2		Date of Publication: 18 Aug 2016

 <div><div>GIG CYMRU NHS WALES</div><div>Bwrdd Iechyd Prifysgol Caerdydd a'r Fro Cardiff and Vale University Health Board</div></div>	<div>Reference Number: UHB xxx</div> <div>Version Number: 1</div> <div>Date of Next Review: dd mmm yyyy</div> <div>Previous Trust/LHB Reference Number: N/A</div>
<div>THE LASER RISK MANAGEMENT POLICY</div>	
<div>Policy Statement</div> <div>To ensure that the Cardiff and Vale UHB delivers its aims, objectives, responsibilities and legal requirements transparently and consistently we will manage the use of medical treatment lasers in a safe manner in order to protect the health and well being of staff working with this equipment and people who may be affected by the work.</div> <div>The Cardiff and Vale UHB will ensure that risks to patients, staff and the UHB arising from the use of medical treatment laser equipment are minimised, and that UHB consistently delivers the best health and financial outcomes from the use of medical laser equipment.</div>	
<div>Policy Commitment</div> <div>The UHB will:</div> <div><ul style="list-style-type: none"><li>• Provide a robust framework for the management of medical treatment lasers to ensure that services are safe, and compliant with current legislation, standards and guidelines, in order to protect the UHB, patients, staff and members of the public.</li><li>• Ensure that managers and staff recognise their responsibility to safeguard of all persons involved with, or who may be affected by, the use of medical treatment lasers.</li><li>• Ensure that measures for the protection of all persons who may be affected by the use of medical treatment lasers on UHB premises are implemented and maintained.</li><li>• Demonstrate compliance through record keeping and audit.</li><li>• Appoint Laser Safety Advisors.</li><li>• Appoint Laser Protection Supervisors.</li></ul></div>	
<div>Supporting Procedures and Written Control Documents</div> <div>This Policy and the supporting Laser Risk Management Procedure describes the following with regard to laser safety:</div> <div><ul style="list-style-type: none"><li>• Responsibilities in the management of medical treatment lasers.</li><li>• Training requirements</li><li>• Procurement and use of medical treatment lasers.</li><li>• Maintenance, repair and quality assurance of medical treatment lasers.</li><li>• Management of laser controlled areas and protection measures.</li><li>• Demonstration of compliance with regulatory requirements.</li></ul></div>	

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## Scope

This Procedure applies to all of Cardiff and Vale UHB staff in all locations, including those with honorary contracts. It covers all Medical Treatment Lasers used by Cardiff and Vale UHB services, irrespective of whether the laser device is owned, loaned, leased, or used by external service providers commissioned by the UHB.

<b>Equality Impact Assessment</b>	An Equality Impact Assessment (EqIA) has been completed for this policy.
<b>Health Impact Assessment</b>	A Health Impact Assessment is not required for this policy.
<b>Policy Approved by</b>	Quality, Safety and Experience Committee
<b>Group with authority to approve procedures written to explain how this policy will be implemented</b>	Radiation Protection Group
<b>Accountable Executive or Clinical Board Director</b>	Executive Director of Therapies and Health Science
<b>Author</b>	<i>Dr Kate Bryant (Head of Non Ionising Radiation, Laser Protection Advisor), Dr Declan Coleman (Laser Protection Advisor)</i>
<p style="text-align: center;"><b><u>Disclaimer</u></b></p> <p>If the review date of this document has passed please ensure that the version you are using is the most up to date either by contacting the document author or the <a href="#">Governance Directorate</a>.</p>	

Summary of reviews/amendments			
Version Number	Date Review Approved	Date Published	Summary of Amendments
1	N/A	dd mmm yyyy	New policy
2			

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**Reference Number:**  
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## THE LASER RISK MANAGEMENT PROCEDURE

### Introduction and Aim

The optical radiation emitted by lasers has potentially hazardous effects on patients, equipment users and the public. Hazards from lasers will depend on the type of laser, but potential problems include eye injury, skin burns, fire or explosion and smoke inhalation.

The UHB has a Laser Risk Management Policy whose aim is to ensure that we manage the use of medical treatment lasers, to ensure the health and safety of all staff working with medical treatment lasers, and any person who may be affected by the work.

This Laser Risk Management Procedure supports the Policy and will provide a set of minimum service standards against which all Clinical Services which use medical treatment lasers will comply with, and outlines the identification of organisational and individual responsibilities.

This will ensure that risks to patients, staff and the UHB arising from the use of medical treatment laser equipment are minimised, and that the UHB consistently delivers the best health and financial outcomes from the use of medical laser equipment.

### Objectives

The Laser Risk Management Procedure establishes a clear framework within which the UHB can:

- Effectively and actively manage its laser services, so as to reduce risk,
- Meet its legal obligations to comply with legislation,
- Meet its governance obligations, both clinical and financial,
- Adhere to the requirements of the relevant Health and Care Standards,
- Demonstrate that it is taking account of MHRA guidance.

The UHB will achieve these objectives by:

- Providing a framework for service managers to develop services that are safe, effective and compliant with current legislation in order to protect the UHB, the public and staff.
- Providing direction to service managers as regards to procedures, training, documentation and resources that must be in place.
- Outlining the responsibilities of staff working with medical treatment lasers.
- Ensuring that employees, contractors and others are adequately informed of the risk



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posed from laser use and, where appropriate, ensure they receive adequate training and supervision.

- Ensuring protection measures for all persons on Cardiff and Vale UHB premises from the associated risks of laser radiation are implemented and maintained.
- Ensuring all laser equipment is in good repair, operating correctly and safely, and regularly maintained.
- Appointing a Laser Safety Advisor(s).
- Appointing a Laser Safety Supervisor(s).
- Monitoring and reviewing the effectiveness of the laser policy and procedure and, if necessary, implement improvements.

### Scope

This Procedure applies to all of Cardiff and Vale UHB staff in all locations including those with honorary contracts. It covers all Medical Treatment Lasers used by Cardiff and Vale UHB services, irrespective of whether the laser device is owned, loaned, leased or used by external service providers commissioned by the UHB.

### Equality Impact Assessment

An Equality Impact Assessment (EqIA) has been completed and this found there to be a positive impact.

### Documents to read alongside this Procedure

Cardiff and Vale UHB Policies:

- The Medical Equipment Management Policy
- Decontamination of Reusable Medical Devices Policy

Regulations, Guidelines and Standards:

- Provision and Use of Work Equipment Regulations (PUWER), 1998
- The EU regulation on Medical Devices, 2017 / 745 and The EU regulation on In Vitro Medical Devices, 2017 / 745
- Managing Medical Devices, Guidance for healthcare and social services organisations, MHRA, April 2014
- Lasers, intense light source systems and LEDs – guidance for the safe use in medical, surgical, dental and aesthetic practices. MHRA, Department of Health, September 2015
- The Control of Artificial Optical Radiation at Work Regulations 2010. Statutory Instruments 2010 No. 1140
- BS EN 207:2009 Personal eye-protection equipment. Filters and eye-protectors against laser radiation (laser eye-protectors)
- BS EN 208:2009 Personal eye-protection. Eye-protectors for adjustment work on lasers and laser systems (laser adjustment eye-protectors)
- BS EN 60825-1:2014 Safety of laser products. Equipment classification and requirements
- BS EN 60601-1:2006+A12:2014 Medical electrical

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	<p>equipment. General requirements for basic safety and essential performance</p> <ul style="list-style-type: none"> <li>• BS EN 60601-2-22:2013 Medical electrical equipment. Particular requirements for basic safety and essential performance of surgical, cosmetic, therapeutic and diagnostic laser equipment</li> <li>• BS 5499-10:2014 Guidance for the selection and use of safety signs and fire safety notices</li> <li>• ICNIRP Guidelines on limits of exposure to laser radiation of wavelengths between 180 nm and 1,000 µm: Health Physics 105(3):271-295; 2013</li> </ul>
<b>Approved by</b>	Quality, Safety and Experience Committee
<b>Accountable Executive</b>	Executive Director of Therapies and Health Science.
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<p style="text-align: center;"><b><u>Disclaimer</u></b></p> <p><b>If the review date of this document has passed please ensure that the version you are using is the most up to date either by contacting the document author or the <a href="#">Governance Directorate</a>.</b></p>	

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## 1 Definition of terms

### **Laser**

For the purposes of this policy the term laser is used for any piece of equipment that emits light at wavelengths between approximately 100nanometres and 1millimetre, and which is capable of producing accessible levels of harmful optical radiation through the physical mechanism of light amplification by stimulated emission of radiation

### **Medical Treatment Laser**

All Medical Treatment lasers covered by this policy are Class 3B or 4.

### **Maximum Permissible Exposure (MPE)**

The Maximum Permissible Exposure ( $W/m^2$  or  $J/m^2$ ) is the maximum exposure level for the eyes or skin considered safe

### **Nominal Ocular Hazard Distance (NOHD)**

Distance over which the laser hazard extends.

### **Laser Controlled Area**

A designated area around an item of laser equipment where the accessible level of laser radiation is considered potentially hazardous.

### **LPA**

Laser Protection Adviser

### **LPS**

Laser Protection Supervisor

### **RPG**

Radiation Protection Group

### **SOP(s)**

Standard Operating Procedure(s)

### **PPE**

Personal Protective Equipment

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## 2 Use and Classification of Medical Treatment Lasers

Lasers are classified according to their potential to cause injury. This classification is summarised below. Full classification has been given by the MHRA guidance document [1].

Class 1	Inherently safe – either completely enclosed or very low power.
Class 2	Low power visible.
Class 2M	Low power. Safe for brief exposure with naked eye. Potentially hazardous when exposure occurs with magnifiers for divergent beams or binoculars for large diameter collimated beams.
Class 3R	Low power. Accidental exposure usually not hazardous, but eye injury possible for intentional intra-beam viewing.
Class 3B	Medium power. Exposure of the eye to the direct beam may cause serious eye injuries. Limited skin hazard. Viewing of reflections normally safe.
Class 4	High power. Exposure of the eye to the direct beam and close viewing of reflected beam may lead to serious eye injuries. May cause serious skin hazard. Presents a fire hazard.

All medical treatment lasers covered by this policy are Class 3B or 4. Lower class laser devices e.g. positioning lasers are not covered by this policy.

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### 3 Duties

Responsibility for implementing the Laser Risk management policy and its supporting procedures lies with the UHB as the employer, with the Executive Director of Therapies and Health Science being the responsible officer. This responsibility is fulfilled by assigning the duties described here.

The duties of the Executive Director of Therapies and Health Science include:

- Taking overall responsibility for the management of Laser Safety on behalf of the UHB
- Providing assurance to the UHB Board that Laser safety is managed in compliance with the UHB's policies and procedures
- Informing the UHB about issues related to laser safety management.
- Appointing the UHB's Laser Protection Adviser(s) in writing.
- Delegating duties to other managers as appropriate

The duties of the Clinical Board Heads of Operations and Delivery include:

- Providing assurance to the Executive Director of Therapies and Health Science that laser safety is managed in compliance with the UHB's policies and procedures.
- Reporting instances of non-compliance and other concerns to the Executive Director of Therapies and Health Science.
- Communicating and liaising with relevant Directorate Managers about issues related to laser safety.

The duties of the Chair of the UHB Radiation Protection Group (RPG) include:

- Reviewing relevant UHB policies and procedures at least every three years, and ensuring that they are amended and updated as necessary.
- Reviewing reports from the Laser Protection Adviser and taking action as necessary.
- Reporting laser safety issues to the Quality and Safety Committee.
- Recommending relevant action to the Chief Executive via the approved route when necessary.

The duties of the Clinical Director of each directorate include:

- Ensuring compliance with this policy, and the requirements of legislation and guidance relevant to the use of medical treatment lasers.
- Authorising Authorised Users in writing.
- Ensuring that local Standard Operating Procedures (SOPs), Local Rules and risk assessments are written to implement the requirements of this UHB procedure.
- Appointing one or more Laser Protection Supervisor (LPS).
- Ensuring sufficient and suitable personal protective equipment (PPE) is provided for all staff.
- Ensuring that all relevant members of staff including the LPS, authorised users and assisting staff are adequately trained and have the resources to comply with the SOPs and Local Rules.

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- Implementing measures to monitor staff compliance with SOPs and Local Rules.
- Maintaining records of staff training.
- Liaising with, and seeking advice from the LPA.
- Making risk assessments and taking mitigating action as necessary.
- Reporting Laser safety issues to the Clinical Board Head of Operations and Delivery.
- Ensuring lasers are regularly serviced and maintained, and subject to adequate quality assurance and safety testing.
- Ensuring adequate records are kept of laser equipment, including servicing, maintenance, electrical safety and quality assurance testing.
- Delegating responsibilities to other managers where appropriate.

The duties of the Service Managers of each laser department include:

- The day-to-day delivery of safe laser services, supported by the LPS(s).

A Laser Protection Advisor (LPA) should be appointed who is knowledgeable in the evaluation of laser hazards. The role profile of the LPA is summarised in Appendix 1. The duties of the Laser Protection Advisor include:

- Advising on compliance with statutory requirements concerning the use of medical lasers.
- Reporting laser safety issues to the Radiation Protection Group.
- Identifying the Laser Controlled Area.
- Advising on the control of hazards.
- Assisting the Laser Protection Supervisor (LPS) in writing Local Rules and SOPs.
- Undertaking a risk assessment in conjunction with the LPS before the laser is brought into operation, and reviewing annually.
- Providing safety training in line with MHRA guidelines [1] for the LPS, laser operators and assistants, or identify relevant training courses for them to attend.
- Performing an annual inspection of all locations where laser equipment is being used in order to review compliance with legislation, guidance and Local Rules.
- Reporting the annual inspection results and recommendations to the LPS, and RPG as necessary.
- Liaising with all appropriate LPSs, laser operators and those who assist with medical procedures involving lasers to promote the safe operation of medical lasers.
- Investigating any adverse events, including reporting the incident to the employer.
- Providing advice on equipment purchase, installation planning, and acceptance testing.

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A Laser Protection Supervisor (LPS) is an individual within the directorate where the laser is used. The role profile of the LPS is summarised in Appendix 2. The duties of the Laser Protection Supervisor include:

- Understanding the nature of the hazards involved.
- Ensuring they have up to date laser safety training.
- Producing the local rules, with assistance and advice from the LPA.
- Undertaking a risk assessment in conjunction with the LPA before the laser is brought into operation, and reviewing annually.
- Ensuring all Laser operators (authorised users) and those assisting with the procedures (including trainee doctors, registrars or visiting staff) sign statements to acknowledge they have read and understood the Local Rules, and agree to abide by them.
- Ensuring that the register and signed statements of those authorised to operate and assist with the laser are kept up to date.
- Implementing and ensuring compliance with the Local Rules on a day-to-day basis.
- Ensuring that only authorised operators use the laser.
- Ensuring that the key for each laser is clearly labelled and is kept in safe custody in a locked key cupboard when the laser is not in use. In addition, the LPS shall ensure that the key for each laser is issued only to a registered authorised operator or assistant.
- Holding an up to date copy of safety training records of all laser operators and those assisting with laser procedures.
- Informing the LPA as soon as possible of any matters which may require the Local Rules to be amended.
- Informing the LPA as soon as possible of any matters which give rise to a potential hazard.
- Informing the LPA as soon as possible of any hazardous event. Verbal communications must be confirmed in writing within 48 hours and include details of the date and time of the event, the nature of the event and a list of those present.
- Seeking assistance from the Laser Protection Adviser on the safety implications of any proposed changes in operating procedure.
- Keeping an inventory of all laser / IPL / optical radiation equipment kept in their department and provide a copy to the LPA.
- Reporting any changes in equipment or environment that may affect laser safety to the LPA.
- Ensuring loan or demonstration equipment complies with, and is covered by the local rules.
- Ensuring that service engineers have followed the correct equipment handover procedures.
- Regularly checking the condition of laser PPE, including protective eyewear (Laser goggles).
- Regularly checking the condition of warning signs, and equipment such as protective blinds and screens on a regular basis.
- Liaising with the LPA during LPA inspections, and acting on any recommendations.

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Authorised users are individuals authorised in writing by the clinical director, and named within the local rules, who operates the laser. The duties of Authorised users include:

- The safety of all persons present, including the patient, visitors and themselves, during the operation of the laser.
- Using all personal protective equipment that has been provided.
- Reading, understanding and signing the Local Rules.
- Understanding the nature of the hazards involved.
- Ensuring that all staff present have been adequately instructed about laser hazards.
- Complying with local rules, SOPs, legislation and guidelines.
- Using the laser safely.
- Only using the laser for specific purposes authorised by the Cardiff and Vale UHB, in which they have been trained, in line with the SOPs.
- Using the laser only in compliance with the manufacturer's operating instructions.
- Ensuring they have up to date laser equipment training, including safety training, how to operate the equipment, and how the controls effect treatments.
- Keeping records of all training.
- Ensuring a record of each laser treatment is kept.

The duties of all staff assisting with, or present during laser procedures include:

- Attending laser safety training.
- Attending training in the use of any laser equipment they may use.
- Reading, understanding and signing the Local Rules.
- Understanding the nature of the hazard involved.
- Complying with local rules, SOPs, legislation and guidelines.
- Using all personal protective equipment that has been provided.
- Following instructions from the LPS and authorised user w.r.t laser safety.

The duties of the Head of Medical Physics and Clinical Engineering include:

- The provision of the Laser Protection Advice Service.
- Recommending suitable member(s) of staff to the Executive Director of Therapies and Health Science for appointment as LPA to the UHB.
- The provision of electrical safety testing of medical lasers by suitably trained Medical Physics staff.
- Delegating duties to other managers as appropriate.

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## 4 General arrangements for the management of Laser Safety

### 4.1 Laser Controlled Areas

The Nominal Ocular Hazard Distance (NOHD) is the distance over which the laser hazard extends. A potential hazard exists where there is a possibility that the Maximum Permissible Exposure (MPE) levels might be exceeded. Any areas where this possibility exists shall be designated a Laser Controlled Area. The advice of the LPA shall be sought on the designation of areas.

All persons entering a Laser Controlled Area must be controlled under Local Rules. All entry points to the laser controlled area must be appropriately and adequately signed, and access restricted when the laser is in use.

### 4.2 Risk Assessment

For each activity involving a medical laser a suitable and sufficient risk assessment shall be carried out before first use, and subject to regular review.

### 4.3 Local Rules

Local Rules shall be issued for each locality where Class 3B or Class 4 medical lasers are to be used. The Local Rules shall be designed to prevent the unauthorised operation of the laser and to control the conditions under which they are used, to minimise the risk to patients, staff and any other persons.

The LPS is responsible for writing the local rules, with assistance from the LPA. Guidance for content of the local rules is given in the MHRA 2015 guidance document [1].

The Local Rules must be read and signed by all laser operators and assistants.

### 4.4 Laser Protection Supervisors

A Laser Protection Supervisor (LPS) shall be appointed for each locality where Class 3B or Class 4 medical lasers are to be used. The LPS must be appropriately trained and is responsible for ensuring compliance with the Local Rules. The LPS shall be named in the Local Rules. The advice of the LPA shall be sought on the appointment of a LPS and their training requirements.

The LPS is not responsible for the safe operation of the laser equipment – this lies with the operator. The role profile of the LPS is summarised in Appendix 2.



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## 4.5 Clinical Protocols

All work involving medical lasers shall be carried out in accordance with written protocols and standard operating procedures.

## 4.6 Register of Authorised Operators and Assistants

For each Class 3B, and Class 4 medical laser, a register shall be kept of:

- (a) persons authorised to operate that specific laser
- (b) persons authorised to assist in the use of that laser

Operators and assistants must be appropriately trained and sign to indicate that they have read and understood the Local Rules and they agree to abide by them. The register and signed statements shall be appended to the Local Rules and the completed document kept by the LPS.

## 4.7 Personal Protective Equipment (PPE)

All personnel in the Laser Controlled Area shall wear protective eyewear of an approved type and appropriate for the laser in use. For certain medical lasers, the operator may be provided with adequate eye protection by means of a suitable viewing device in which case additional protective eyewear may not be necessary.

## 4.8 Laser Security Key Protocol

Class 3B and Class 4 medical lasers must incorporate a key-operated master control. The key must be removed by an authorised operator or assistant whenever the laser is unattended. The key must be kept in safe custody by the LPS in a locked cupboard.

A log shall be kept by the LPS of authorised operator /assistants to whom the key can be issued with the date and time of issue and return.

## 4.9 Adverse Incidents

All adverse incidents including near misses shall be reported and investigated in accordance with the Health Board Incident Reporting and Investigation Procedure.

## 5 Equipment Management

### 5.1 Purchase of New or Replaced Equipment

The Health Board policy on the Management of Medical Equipment applies to the purchase of this type of equipment and must be followed.



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Prior to the purchase of new or replacement medical laser equipment, the prospective purchaser shall consult with the LPA and LPS to gain advice on matters including the following:

- Equipment safety and suitability
- The proposed location of the equipment
- The necessary amendments to the Local Rules
- The requirements for additional training of professional users and assistants
- The provision of commissioning tests
- The provision of regular maintenance, output testing and safety testing

## 5.2 Equipment Maintenance, Repair and Quality Assurance (QA)

All medical laser equipment shall be kept in good repair and regularly maintained and safety tested, including electrical safety testing, by authorised personnel, technically competent in the field of work. Arrangements for repair, maintenance and safety testing shall be made in consultation with the LPA.

Procedures and schedule for QA tests shall be established at the time of commissioning, and this information specified in the Local Rules.

All Class 3B and Class 4 medical lasers equipment shall be regularly tested to monitor power/energy output and alignment of main beam and aiming system. All quality assurance and safety tests must be carried out by an authorised person technically competent in the field of work.

## 5.3 Equipment on Loan, Trial or Hire

Any medical laser equipment received on loan, trial or hire must be assessed for safety before clinical use and the appropriate indemnity arrangements put in place. All loan, hire or trial lasers must comply with this procedure, and be covered by the local rules, and risk assessments.

## 5.4 Equipment Modification

Modification, maintenance or repair of medical laser equipment other than by the manufacturer or his appointed agent is not permitted.

Modification of any medical laser equipment should not be carried out, unless by the manufacturer or his appointed agent. If these modifications affect its performance the laser must be examined and, if necessary, reclassified before use. Adequate notification of such modifications must be given to the LPA.

Modification of equipment other than by the manufacturer or his appointed agent will transfer the manufacturer's liability to the person carrying out the

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modification. The Health Boards insurers (the Welsh Risk Pool) will only provide cover for modifications carried out by the Health Board if a full risk assessment has been carried out.

## 5.5 Infection Control and Decontamination

There is a risk of cross infection from laser equipment that comes into contact with many staff and patients. All laser equipment, including, laser beam applicators and manipulators, and auxiliary equipment must be cleaned and decontaminated according to the UHB's Infection control and reusable medical equipment decontamination policies.

## 6 Resources

In order for this policy to be implemented the following resources will be required:

- Applications training provided by the manufacturer or laser supplier is to be included in purchase arrangements for new Lasers.
- Regular Maintenance and servicing arrangements are to be included in purchase arrangements for new Lasers.
- The appointment of local LPS will impact upon their existing role within respective departments if they are to discharge their duties effectively and therefore arrangements must be put in place.
- Appointment of a LPA.
- Procurement of sufficient PPE and engineering controls

## 7 Training Requirements

### 7.1 Equipment Based Training

The manufacturer or laser supplier should provide equipment based training at the time of installation.

Further equipment based training may be provided by the LPS, manufacturer/supplier or another designated trainer.

### 7.2 Safety Training

The LPA should have received advanced, documented training.

All laser operators and those assisting with laser procedures, should attend a 'Core of Knowledge' course as outlined in the MHRA guidance [1], and re-attend a Core of Knowledge Course or receive update training every 5 years. The LPS will require additional training as advised by the LPA.

Training will be documented and records held by the LPS. The training will form part of the individual's Knowledge and Skills profile and will be reflected in the individual's personal development plan.

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Laser Safety Awareness training may be provided by the LPA.

### 7.3 Procedural Training

- Procedural based training may be provided by the laser manufacturer/supplier.
- The clinician who oversees the procedures may provide the clinical based training to specific staff.

## 8 Review

The effectiveness of this policy will be reviewed post implementation. The indicators used to monitor the effectiveness of this policy are:

- LPA inspection visits and audits
- Reported incidents involving laser use
- Reports of inspections by HSE.

This policy will be reviewed every three years in collaboration with the RPG. The policy will also be reviewed when there is a significant change in relevant legislation or national guidance for the use on Medical Lasers.

## 9 Further Information

### 9.1 Legislation

The legislation controlling the use of medical lasers includes:

- The Health and Safety at Work etc. Act 1974
- The Electricity at Work Regulations 1989
- The Management of Health and Safety at Work Regulations 1999
- The Personal Protective Equipment Regulations 1992 (2002)
- The Provision and User of Work Equipment Regulations 1998
- The Workplace (Health, safety and Welfare) Regulations 1992
- The Control of Artificial Optical Radiation at work Regulations 2010
- The Health and Safety (Safety Signs and Signals) Regulations 1996

### 9.2 Guidance and standards

Guidance and standards for Safety is given by:

- Lasers, intense light source systems and LEDs – guidance for safe use in medical, surgical, dental and aesthetic practices. MHRA September 2015
- Non-binding guide to good practice for implementing Directive 2006/25/EC 'Artificial Optical Radiation'.

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- BS EN 207:2009 Personal eye-protection equipment. Filters and eye-protectors against laser radiation (laser eye-protectors)
- BS EN 208:2009 Personal eye-protection. Eye-protectors for adjustment work on lasers and laser systems (laser adjustment eye-protectors)
- BS EN 60825-1:2014 Safety of laser products. Equipment classification and requirements
- BS EN 60601-1:2006+A12:2014 Medical electrical equipment. General requirements for basic safety and essential performance
- BS EN 60601-2-22:2013 Medical electrical equipment. Particular requirements for basic safety and essential performance of surgical, cosmetic, therapeutic and diagnostic laser equipment
- BS 5499-10:2014 Guidance for the selection and use of safety signs and fire safety notices
- ICNIRP Guidelines on limits of exposure to laser radiation of wavelengths between 180 nm and 1,000 µm: Health Physics 105(3):271-295; 2013

## 10 References

[1] Lasers, intense light source systems and LEDs – guidance for safe use in medical, surgical, dental and aesthetic practices. MHRA September 2015.

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## Appendix 1

### Role profile for Laser Protection Advisor (LPA)

- HCPC Registered Clinical Scientist (Medical Physics)
- Ideally Certificated LPA (RPA 2000)
- Highly knowledgeable and competent on laser safety (documented training)
- Appointed in writing by the Chief Executive / Employer.

## Appendix 2

### Role profile for Laser Protection Supervisor (LPS)

A Laser Protection Supervisor (LPS) is an individual within the directorate where the laser is used who is responsible for implementing the Local Rules and ensuring that they are adhered to on a day-to-day basis. The duties and responsibilities of the LPS include the following.

1. The LPS should be knowledgeable in laser safety, and maintain up to date, documented laser safety training.
2. To ensure compliance with the Local Rules.
3. To inform the Laser Protection Adviser (LPA) as soon as possible of any matters which may require the Local Rules to be amended.
4. To ensure that the register and signed statements of those authorised to assist with and operate the laser are kept up to date.
5. To ensure that the key for each laser is clearly labelled and is kept in safe custody in a locked key cupboard when the laser is not in use. In addition, the LPS shall ensure that the key for each laser is issued only to a registered operator or assistant.
6. To ensure that only authorised operators use the laser.
7. To bring to the attention of the LPA as soon as possible any matters which give rise to a potential hazard.
8. To inform the LPA as soon as possible of any hazardous event. Verbal communications must be confirmed in writing within 48 hours and include details of the date and time of the event, the nature of the event and a list of those present.
9. To seek assistance from the Laser Protection Adviser on the safety implications of any proposed changes in operating procedure.
10. The LPS should regularly check the condition of laser PPE, including protective eyewear (Laser goggles).
11. The LPS should check the condition of warning signs, protective blinds and screens on a regular basis.
12. Liaise with the LPA during laser inspection audits, and act upon any recommendations.

<b>Report Title:</b>	<b>Procedure and Policy for the Pregnancy Testing of Girls of Child Bearing Age(who are menstruating) Before Procedures and Treatments</b>				
<b>Meeting:</b>	Quality Safety and Experience Committee			<b>Meeting Date:</b>	18.12.20
<b>Status:</b>	<b>For Discussion</b>		<b>For Assurance</b>	<b>For Approval</b>	<b>For Information</b>
<b>Lead Executive:</b>	Executive Nurse Directo				
<b>Report Author (Title):</b>	: Directorate Lead Nurse Acute Child Health 029 21841809				

### Background and current situation:

There is evidence which indicates that some surgical / radiological treatments carry the risk of spontaneous abortion and inter-uterine growth retardation. The slight increased risk in spontaneous abortion is more apparent in the first trimester and the risks are both to the mother and the foetus. In order to reduce the risks to any unborn child, it is necessary for all females of child bearing age to be assessed for the possibility of pregnancy prior to these treatments.

The UHB currently does not have a comprehensive policy with accompanying procedure for the systematic pregnancy testing of all girls who have commenced menstruation. A NPSA Rapid Response Alert 'Checking Pregnancy before Surgery' NPSA/2010/RRR011 was released in April 2010 stating that the possibility of pregnancy should be considered in all female patients (age 12 and over) before surgery and exposure to radiation which could pose risks to mother or foetus.

The Policy for the Pregnancy Testing of Girls of Child Bearing Age before Procedures and Treatments was developed to ensure that:-

- There is a consistent and systematic approach to the pregnancy testing of all of girls who have commenced menstruation.
- Staff are clear of their roles and responsibilities with regard to the policy and that testing is undertaken in a consistent, sensitive and confidential manner, and that safe treatment is delivered to girls who have commenced menstruation.
- There is a robust audit trail providing evidence of compliance and action taken. Achieving these aims will ensure that the UHB acts within the clear guidance from NPSA etc.

### Executive Director Opinion /Key Issues to bring to the attention of the Board/ Committee:

Within an organization where the primary focus is on caring for people and keeping people well, it is important to ensure that there is a sound governance framework upon which to base working practices.

The policy is applicable to all healthcare professional working in all areas and departments of the UHB where these patients are cared for.

The Policy is intended to strengthen existing practices. There will be resources required before the policy can be implemented.

The primary source for dissemination of this policy within the UHB will be via the intranet. Documents are also routinely made available externally via the UHB internet site. This ensures that the UHB fulfils the requirements of its Publication Scheme under the Freedom of Information Act.

Consultation took place with all relevant stakeholders and amendments were made as appropriate.

### Assessment and Risk Implications (Safety, Financial, Legal, Reputational etc:)

It is a vital part of governance and risk management to ensure that a systematic approach is followed by all healthcare professionals working in all areas and departments within the UHB to ensure that pregnancy testing of all girls who have commenced menstruation is undertaken in a consistent, sensitive and confidential manner.

### Recommendation:

The Quality Safety and Experience Committee is asked to:

- **APPROVE** the Policy for the Pregnancy testing of girls of child bearing age who have commenced menstruation before procedures and treatments.
- **APPROVE** the full publication of the Policy and Procedure in accordance with the UHB Publication Scheme.

### Shaping our Future Wellbeing Strategic Objectives

*This report should relate to at least one of the UHB's objectives, so please tick the box of the relevant objective(s) for this report*

1. Reduce health inequalities		6. Have a planned care system where demand and capacity are in balance	
2. Deliver outcomes that matter to people		7. Be a great place to work and learn	
3. All take responsibility for improving our health and wellbeing		8. Work better together with partners to deliver care and support across care sectors, making best use of our people and technology	
4. Offer services that deliver the population health our citizens are entitled to expect		9. Reduce harm, waste and variation sustainably making best use of the resources available to us	
5. Have an unplanned (emergency) care system that provides the right care, in the right place, first time		10. Excel at teaching, research, innovation and improvement and provide an environment where innovation thrives	

### Five Ways of Working (Sustainable Development Principles) considered

*Please tick as relevant, click [here](#) for more information*

Prevention		Long term		Integration		Collaboration		Involvement	
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<b>Equality and Health Impact Assessment Completed:</b>	Yes / No / Not Applicable <i>If “yes” please provide copy of the assessment. This will be linked to the report when published.</i>
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<b>Reference Number:</b> <b>Version Number: 1</b>	<b>Date of Next Review:</b> <b>Previous Trust/LHB Reference Number:</b> N/A
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## **Pregnancy Testing of Girls of Child Bearing Age (who are menstruating) Before Procedures and Treatments Procedure**

### **Introduction and Aim**

There is evidence which indicates that some surgical / radiological treatments carry the risk of spontaneous abortion and inter-uterine growth retardation. The slight increased risk in spontaneous abortion is more apparent in the first trimester and the risks are both to the mother and the foetus. In order to reduce the risks to any unborn child, it is necessary for all females of child bearing age to be assessed for the possibility of pregnancy prior to these treatments.

This procedure supports the Pregnancy Testing of Girls of Child Bearing Age Before Procedures and Treatments Policy.

The aim of the policy and supporting procedure is to ensure that a systematic approach is followed by healthcare professionals working in all areas and departments within the UHB to ensure that pregnancy testing of all girls who have commenced menstruation is undertaken in a consistent, sensitive and confidential manner and that safe treatment is delivered to this group of patients.

A patient information leaflet is contained at Appendix 1 to fully inform patients, and a staff checklist at Appendix 2 to assist staff in following this procedure.

### **Objectives**

- To reduce the risks to any unborn child when a girl of child bearing age is to undergo procedures both surgical and radiological involving the lower abdomen or pelvis
- To ensure that additional precautions relating to potential pregnancy are taken prior to girls of child bearing age undergoing the procedures and treatments listed
- That appropriate steps are taken in reported / disclosed cases of sexual activity of girls aged 13 years or younger, in cases of sexual activity in girls aged between 14 and 16 years of age and if any girl is found to be pregnant, and in 16/17 year olds where there is reason to doubt their mental capacity to consent to sex.
- That individual responsibilities are clear and appropriate consideration given to confidentiality and safeguarding
- That in emergency situations priority is given to the lifesaving care of the girl.

### **Scope**

This procedure applies to all of our staff in all locations including those with honorary contracts.

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<b>Equality and Health Impact Assessment</b>	<p>An Equality and Health Impact Assessment has been undertaken to establish any possible or actual impact that this procedure may have on any groups in respect of their sex, maternity and pregnancy, marriage or civil partnership issues, race, disability, sexual orientation, Welsh language, religion or belief, transgender, age or other protected characteristics.</p> <p>The assessment found that there was an overall positive impact to the equality groups mentioned. A potential negative impact in relation to religion was identified; this has been recognised within the document and where appropriate we will take the necessary actions required to minimise any stated impact, and to ensure that we meet our responsibilities under the equalities and human rights legislation.</p>
<b>Documents to read alongside this Procedure</b>	<p>Policy for the Pregnancy Testing of Girls of Child Bearing Age Before Procedures and Treatments</p> <p>The All Wales Girl Protection Procedures</p> <p>Consent to Examination or Treatment Policy</p>
<b>Approved by</b>	Quality Safety and Experience Committee

<b>Accountable Executive or Clinical Board Director</b>	Executive Nurse Director
<b>Author</b>	Directorate Lead Nurse Acute Child Health
<p style="text-align: center;"><b><u>Disclaimer</u></b></p> <p style="text-align: center;"><b>If the review date of this document has passed please ensure that the version you are using is the most up to date either by contacting the document author or the Governance Directorate</b></p>	

Summary of reviews/amendments			
Version Number	Date of Review Approved	Date Published	Summary of Amendments
1			New Procedure

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## **1 Duties**

- 1.1 All health care professionals are responsible for ensuring their practice complies with this procedure.
- 1.2 It is the responsibility of local Managers to ensure that all their relevant staff are aware of the procedure and the documents to be read alongside it.

## **2 Application**

- 2.1 This procedure applies to all girls of child bearing age who are menstruating prior to undergoing:
  - Radiographic examination of the lower abdomen/pelvic area
  - All nuclear medicine exposures
  - Any surgical procedure
  - Any anaesthesia
- 2.2 X-ray examinations in which the primary beam will not irradiate the lower abdomen or pelvis can proceed without additional precautions relating to potential pregnancy.
- 2.3 In emergency situations, priority is given to the lifesaving care of the girl.

## **3 Privacy, Confidentiality and Capacity**

- 3.1 Privacy and confidentiality should be respected when applying this procedure and the girl taken to one side to ask the questions in a simple and clear manner.
- 3.2 In some of these instances, both the law and / or safeguarding guidelines may have to be considered a priority, and in these instances, the professional's duty of confidentiality to the patient is overridden.
- 3.3 The practitioner will need to use professional judgment as to whether a young girl is competent (Gillick/Frazer competence) to answer questions and make a decision about pregnancy testing without a parent or guardian present. If the girl is deemed not competent to

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answer such questions, discussion should take place with someone with Parental Responsibility present.

- 3.4 An assumption must not automatically be made that a young girl with learning disabilities is not competent to answer questions. Many girls will be competent if information is presented in an appropriate way and they are supported through the decision making process. There may be a need to include their carer to provide this support.

## 4 Communication

For patients with communication needs i.e. requiring an interpreting service, sign language etc. staff must follow UHB Policy and book the appropriate interpreter before the consultation.

## 5 Assessment Process

- 5.1 Staff can use the checklist provided at Appendix 2.
- 5.2 Questioning should be part of a routine assessment process. Prior to any questioning explain that these particular questions, although sensitive, will be asked routinely of all females of the same age group. The format which the questioning will take will be to ask the girl if she has started menstruating.
- 5.3 If the girl has not yet started menstruating, record this in the patient notes and proceed with the procedure.
- 5.4 If the patient has missed a period, a negative pregnancy test on the day of the procedure can be accepted as excluding pregnancy only in consultation with the relevant Consultant. Practitioners must be aware that urine pregnancy tests may give false negative results in early pregnancy (between 14 and 28 days of the last menstrual period for a 28 day cycle).
- 5.5 If a pregnancy test is requested by the Consultant prior to any decision about performing the procedure, a verbal explanation of the policy will be given to the girl and her consent has to be obtained. An information leaflet will also be given (see Appendix 1). Staff should assess if the young girl is deemed to be Gillick/Fraser Competent or whether there is a reason to doubt her mental capacity to decide for herself if aged 16/17 years, If she is not, a discussion should take place with the senior person in charge and consent must be sought from a person with parental

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responsibility for her (if under 16 yrs. or by making a best interests decision if aged 16/17 yrs.) If the girl refuses to consent all reasonable efforts should be made to persuade her.

- 5.6 The girl will be asked to provide a urine sample. All reasonable adjustments need to be made to assist a young girl with a physical disability or learning disability in providing a urine sample.
- 5.7 Treatment may then be undertaken, dependent upon the outcome of the urine screening.

## **6 Safeguarding**

- 6.1 In all reported / disclosed cases of sexual activity of a girl aged 13 years or younger, the named nurse or doctor for safeguarding must be informed, and safeguarding procedures will be followed, irrespective if the act was consensual or not (follow the All Wales Girl Protection Procedures).
- 6.2 In cases of sexual activity in girls aged between 14 and 16 years of age, consideration should be given to discuss the case with the named nurse or doctor for safeguarding. If a decision is made to make a referral to Social Services, the practitioner should discuss this with the girl to try to obtain her agreement to pass the information on. If the girl is aged 14-16 years and is not competent to consent to sex a referral to safeguarding must be made. However, if the practitioner believes that the health, safety or welfare of the girl is at risk, then they have a duty to disclose the information, but must inform the girl of these actions. Follow The All Wales Child Protection Policies and Procedures.
- 6.3 In the case of girls aged 16/17 yrs. where there is reason to doubt the girls capacity to consent to sex and she appears to have engaged in sexual activity, a referral must be made to the safeguarding team.

## **7 Finding of Pregnancy**

- 7.1 If any girl is found to be pregnant, they should be advised to speak with their GP, or other associated professional.
- 7.2 Explore the benefits to the girl of confiding in her parents or another member of her family who can support her taking into account any religious / cultural beliefs. If there are religious or cultural issues that arise then they should be discussed with the girl as appropriate. If the

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girl feels that she will be at risk of physical danger if her parents / carers were informed, this must be discussed with a senior person on duty / safeguarding professional before she is discharged.

- 7.3 The clinician caring for the girl must advise her that her GP will be informed. The girl must be given the opportunity to express an opinion on this and where indicated, give her consent. If the girl refuses, all reasonable efforts should be made to persuade her that it is in her best interests to do so, in order to ensure continuity of care for her and to enable the GP to provide care for her on an informed basis. However, if she continues to refuse to allow her GP to be informed and she is aged 13 years or under or the practitioner considers it to be in the best interest of the girl or the public, the GP should be informed in writing, and the girl advised of this action.
- 7.4 A record of the communication with the girl and GP and any actions taken, must be documented in the health records.
- 7.5 If the girl is 14 years old or over, she must have the opportunity to receive the results confidentially.
- 7.6 The girl should be given a printed list of support organisations.
- 7.7 Staff should respect the girl's right to confidentiality and must not disclose any information to her parents / carers without consent.

## **8. Relevant Training**

- 8.1 All staff require Level 2 safeguarding training. Staff will attend the UHB mandatory Safeguarding training programme.
- 8.2 All staff will require training in confidentiality. Information Governance training forms part of the UHB's mandatory training programme therefore all staff are required to attend.
- 8.3 Training using a cascade system following a formal launch will be implemented. This will include a presentation to all staff through the Acute Child Health Forum, and a presentation to the ward managers. Ward managers will cascade to the ward teams.

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## 9. Dissemination

This procedure and policy will be disseminated throughout the UHB to all relevant UHB staff using the following strategy:

- Addition of the document to the UHB Intranet and a link to this will be made available on the Acute Child Health S Drive
- Communication via email to all UHB Clinical staff
- Notification via the UHB Intranet Web site
- Distribution of hard copies to each Clinical area within the UHB
- Presentation to the ward managers
- Link via Acute Child Health Nursing Facebook Page (closed group)

## 10. Monitoring Compliance

- Compliance and effectiveness will be monitored through local audit and fed back to the Acute Child Health Quality Safety and Patient Experience meetings.
- Any issues of non-compliance with this procedure should be reported via the incident reporting system and trends monitored by individual directorates and reported by exception to the Clinical Board's quality and safety groups.



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## Appendix 1

### Information Leaflet Pregnancy Testing in Girls of child bearing Age before Procedures and Treatment

There is evidence that some treatments carry a risk of harming unborn babies during pregnancy. These treatments can include x-rays, scans, operations, some medicines plus many, many more. In order to limit the risk of harm to an unborn child we need to find out if girls of child bearing age may be pregnant.

What does “of child bearing age” mean?

This means girls:

- Who have started their periods
- Who have stopped their periods or have an irregular cycle for whatever reason (this may be due to illness)

#### What questions will I be asked?

You will be asked if you have started your periods, and if so, when your last period was.

Depending on the date of your last period a pregnancy test may need to be carried out. The results will be given to you by an appropriate health care professional e.g. the doctor or nurse in charge of your care. If the result of the pregnancy test is positive your treatment may still be completed but may have to be done at a later date.

If the result of the pregnancy test is negative, your treatment, examination or procedure will take place as planned.

#### Will everything that I say be kept confidential?

None of the hospital staff will share information about you without your agreement unless they consider that your health, safety or welfare is at risk. They will talk with you to encourage you to share that information with others if necessary.

If you are pregnant and aged 13 years or under, it will be necessary for the hospital staff to share information with our safeguarding team and Social Care Services.

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**Do you have any questions you would like to ask?  
Write them down here so that you remember them.**

### **Who can I speak to if I have any other questions?**

- You can talk through concerns with your parent(s), carer(s), a close relative or friend
- You can discuss any concerns with the doctor or nurse who is caring for you at the hospital
- You may prefer to speak to your teacher, school nurse, practice nurse or family doctor (GP)

There are also other places and useful websites where you can find further information, advice and support:

- Family Planning Association: [www.fpa.org.uk](http://www.fpa.org.uk)
- Brook Advisory Service: [www.brook.org.uk](http://www.brook.org.uk)
- [www.nhs.uk/Livewell/Sexandyoungpeople](http://www.nhs.uk/Livewell/Sexandyoungpeople)

We have a duty to help children, young people and families understand how information about them is kept and shared and we include the following information in all our patient leaflets.

### **Looking after and sharing information about you**

Information is collected about your health problem, treatment and care. We store it in written patient records and electronically on a computer. As part of your care and treatment we may have to share some of your information with other people and organisations who are either responsible or directly involved in your care. If you have any questions and/or do not want us to share that information with others, please talk to the people looking after you.

**This leaflet has been produced in consultation with the Senior Nurse Child Health, Lead Nurse for Safeguarding.**

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## Appendix 2

### Staff Checklist Pregnancy Testing of Girls Prior to Procedures and Treatment

1. Ask the girl if she has commenced menstruation and document her answer.
2. If menstruation has not commenced, the treatment, examination or procedure should be undertaken.
3. If menstruation has commenced, ask whether or not the cycle is regular and the date of her last menstrual period (LMP). Document the answers in the medical notes.
4. Refer to the flow diagram Appendix 3 to check if date of her LMP is safe for the procedure to be carried out.
5. Consult with the relevant Consultant if LMP falls outside of the safe period. A decision will be made regarding the need for a pregnancy test.
6. If a urine pregnancy test is requested, give an explanation of the policy to the girl/family/carers.
7. Ensure that the explanation is followed up with a copy of the information leaflet for young people – Pregnancy testing in girls of child bearing age before procedures and treatments (Appendix 1)
8. Explain that adverse consequences can occur to the unborn child if exposed to certain procedures and treatments.
9. Gain consent from the girl and perform a pregnancy test.
10. If the result is negative, the treatment, examination or procedure should be undertaken.
11. If the pregnancy test is positive, the girl should be encouraged to speak with her GP, practice nurse, Brook or her alternative chosen support.

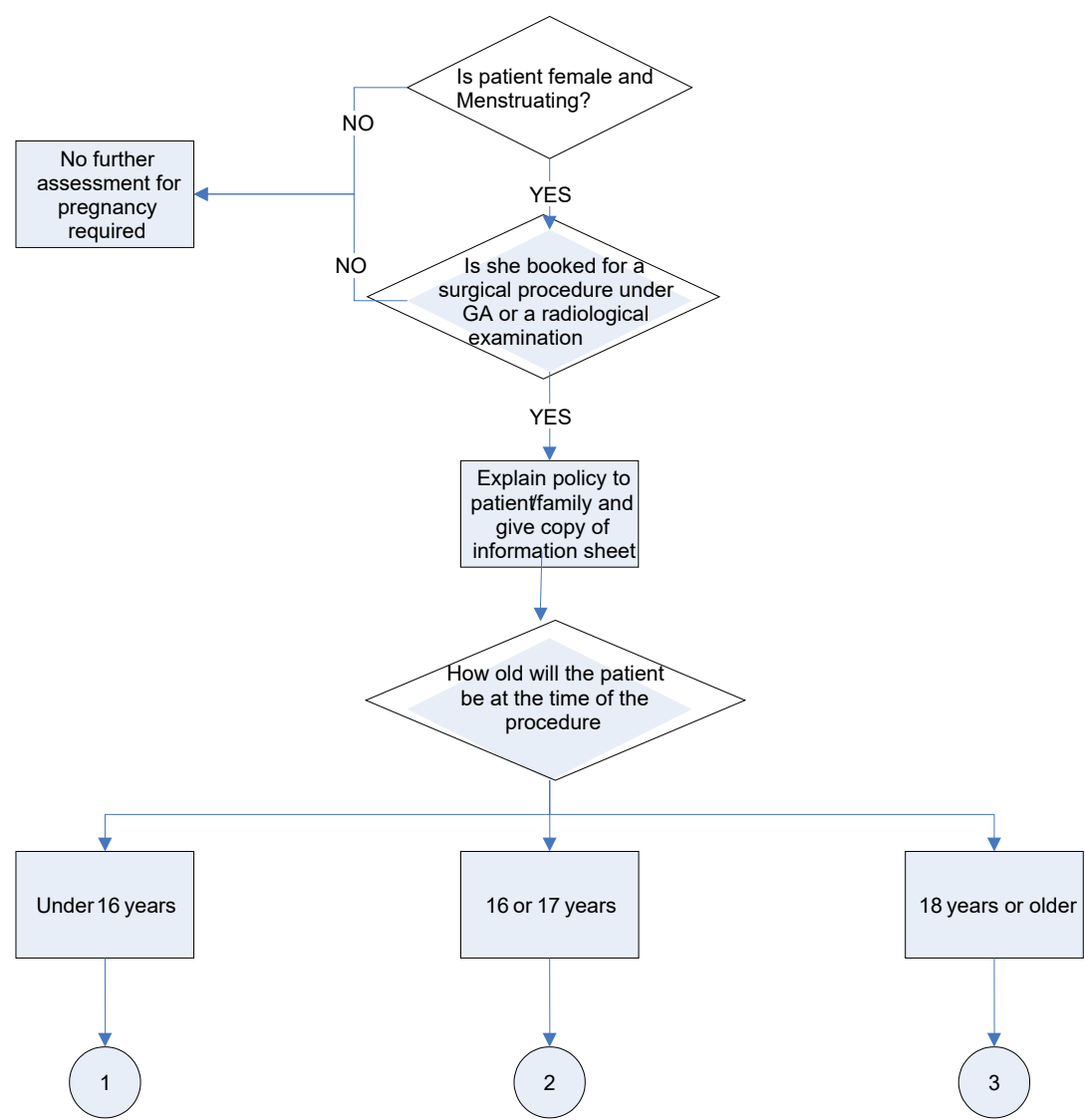
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12. If the girl discloses sexual activity and is aged 13 years or under, the professional involved must notify the named nurse or doctor for girl safeguarding.
13. If the girl discloses sexual activity and is aged between 14-16 years of age, then the practitioner must make a judgement as to whether a discussion with the named nurse or doctor for safeguarding is necessary.
14. Where a girl (aged under 16 yrs.) lacks Gillick/Frazer competence or in the case of a girl 16/17 yrs. where there is reason to doubt her mental capacity to consent to sex and there is evidence of sexual activity, referral to the safeguarding team must be made.
15. The duty of the doctor or nurse is to inform the girl that they would like to share information with the GP and Liaison Health Visitor if it is in their best interests.
16. In emergency situations e.g. an unconscious girl, priority is given to any lifesaving care which they may require.
17. Relevant information must be documented in the girl's health records.
18. Contact details of independent advisors should be given to the girl as appropriate.

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Appendix 3

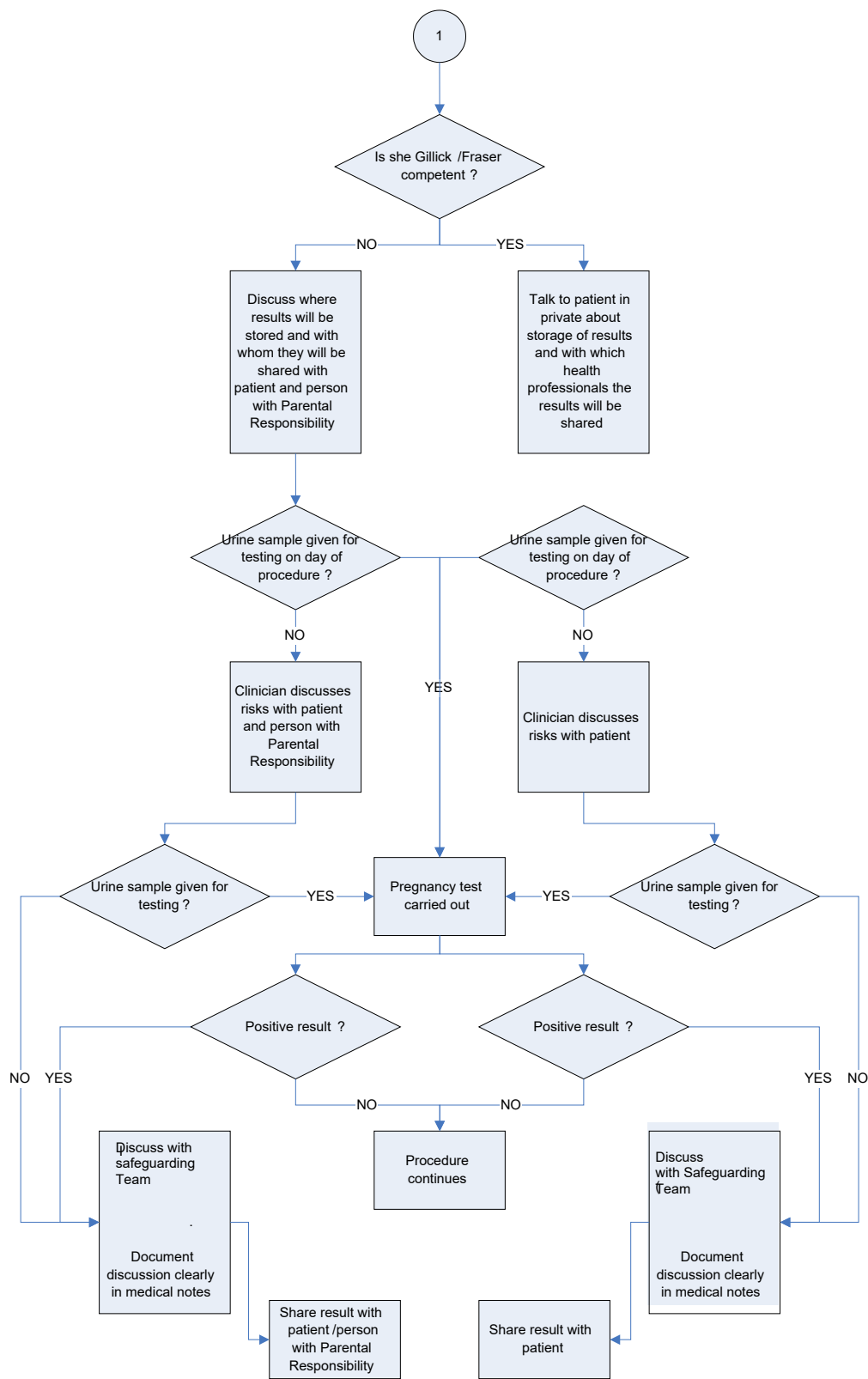
Flow diagram of actions for pregnancy testing



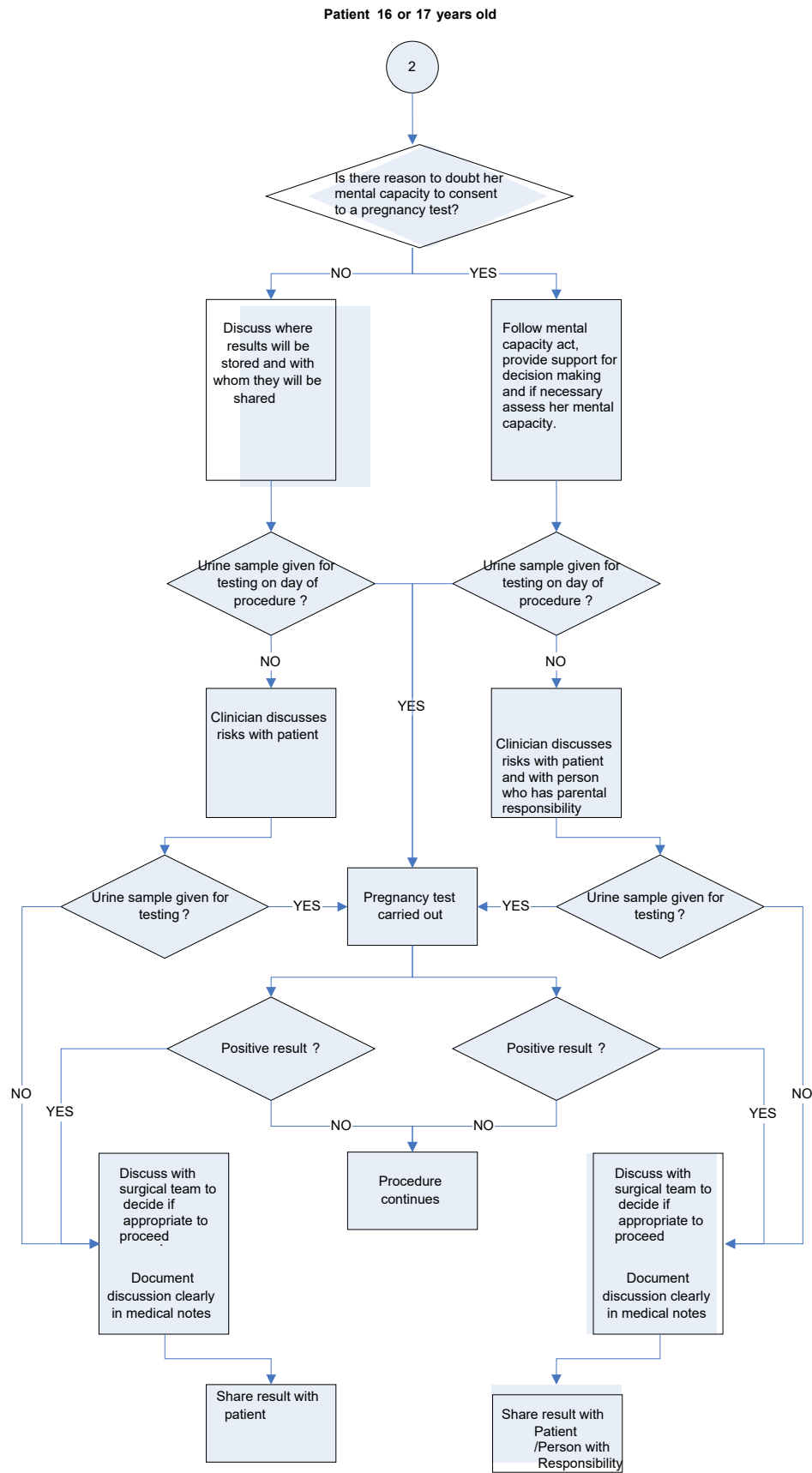
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Patient under 16 years old

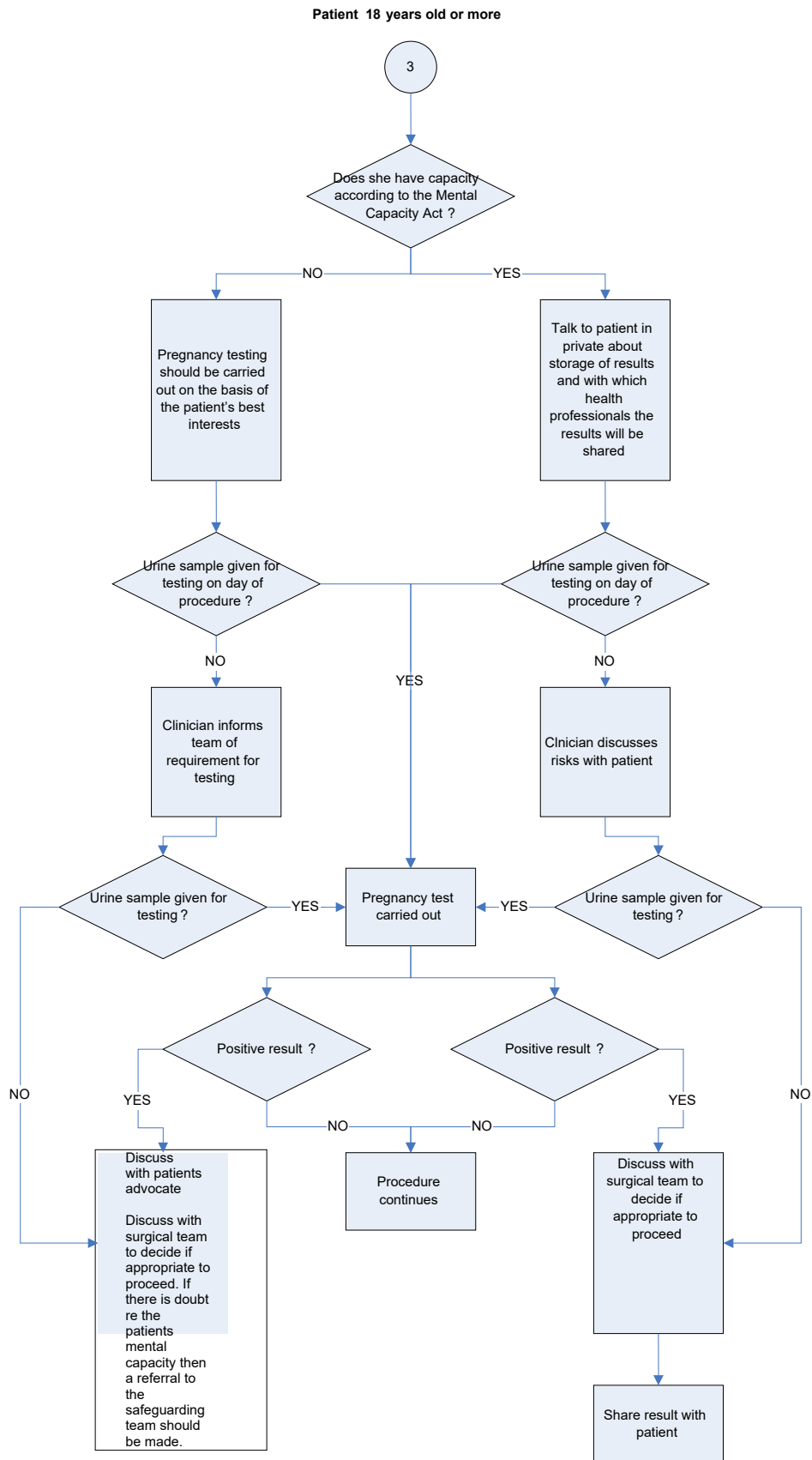


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## Appendix 4

### Glossary of Terms

**Capacity/Competence** – the ability to make a decision. “Capacity” applies to those who are 16 years or older. “Competence” applies to those who are under 16 years old. “Capacity” and “competence” are different things, but they both mean the ability to make a decision.

**Gillick (or Fraser) competence:** the threshold of intellectual and emotional maturity and intelligence that a patient under the age of 16 has either passed or not reached yet. A “Gillick competent” patient can consent for treatment or testing themselves, and can decide whether they want their parent(s) to know their health information.

**Gillick Competent (aka Fraser Competent)** – a patient under the age of 16 who has Gillick/Fraser Competence.

**Mental Capacity Act 2005 (MCA)** – the legal framework for decision-making for those who are 16 years old or over. If a patient has “capacity”, as defined by the MCA, they can consent for their own treatment or testing, and can decide whether they want their parent(s) to know their health information; they can also consent to sexual activity. A parent must have “capacity”, as defined by the MCA, in order to be able to consent for their girl’s treatment.

**Parental Responsibility** – the rights and responsibilities that parents have in law for their girl, including the right to consent to medical treatment for them, up to the age of 18. Not all parents have Parental Responsibility.

**Parents** – references to “parents” in this Policy usually mean “those with Parental Responsibility”. This includes adoptive parents, as they have Parental Responsibility. However, it does not include foster parents, as foster parents never have Parental Responsibility.

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## Appendix 5

### References

Great Ormond Street Hospital For Childre, Policy for the Pregnancy Testing of Young Women of Child Bearing Age before Procedures and Treatments(2014)

Best Practice Guidance on Pregnancy Testing (2006) Royal College of Nursing

NPSA – Checking Pregnancy before Surgery 2011

Developing Guidance for checking Pregnancy STATUS IN Adolescent Girls before surgical, radiological and other procedures Vic Larcher 2012

Pre Procedure Pregnancy checking in under 16's Guidance for Clinicians November 2012

Checking Pregnancy status in Adolescent Girls before procedures under general anaesthetics. Donald, Napier, Jones et al. March 2012.

Caring for Young People – Guidance for nursing Staff (2003)  
Personal, Social and Health Education (PSHE) in Schools: Time for Action (2006) the independent Advisory group on Sexual Health and HIV

Child Protection Procedures Section 13 – Young people who are Sexually Exploited and Abused. Birmingham Safeguarding Children's Board (2007)

Child Protection Procedures– Concerns about Children and Young People Involved in Underage Sexual Activity All Wales Child Protection Procedure

National Service Framework for Children, Young People and Maternity. Services (2004) Department of Health.

Pregnancy Decision-Making Guidelines for professionals Supporting Young People - Brook Advisory

Sexual Offences Act (2003)

Teenage Pregnancy: Working Towards 2010. Good practice and Self-assessment Toolkit (2006) Department for Education and Skills – Department of Health

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Under 16s – the Law and Public Policy on Sex, Contraception and Abortion in the UK (2006) Brook Advisory

Working Together to Safeguard Children (2006) (5.22 – 5.30) Department of Health

[Learning.nspcc.org.uk/media/1541/Gillick-competency-factsheet](https://learning.nspcc.org.uk/media/1541/Gillick-competency-factsheet) (2019)

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<b>Pregnancy Testing of Girls of Child Bearing Age Before Procedures and Treatments Policy</b>	
<b>Policy Statement</b>  <p>To ensure the Health Board delivers its aims, objectives, responsibilities and legal requirements transparently and consistently, we will develop and describe effective arrangements to ensure relevant actions are taken by individuals in order to reduce the risks to any unborn child when a girl of child bearing age is to undergo radiographic examination of the lower abdomen/pelvic area, nuclear medicine exposure, surgical procedures, anaesthesia.</p> <p>Procedures and other written control documents translate these principles into more detailed instructions or guidance including individual responsibilities, and confidentiality and safeguarding considerations.</p>	
<b>Policy Commitment</b>  <p>Our Policy will ensure that a systematic approach is followed by healthcare professionals working in all areas and departments within the UHB to ensure that pregnancy testing of all girls who have commenced menstruation is undertaken in a consistent, sensitive and confidential manner and that safe treatment is delivered to girls who have commenced menstruation.</p> <p>In addition, we will have a robust audit trail providing evidence of compliance and action taken.</p>	
<b>Supporting Procedures and Written Control Documents</b>  <p>The supporting procedures describe the following with regard to pregnancy testing of girls of child bearing age before procedures and treatments:</p> <ul style="list-style-type: none"> <li>• The additional precautions relating to potential pregnancy that need to be taken prior to girls of childbearing age undergoing the procedures and treatments listed</li> <li>• Steps to take in reported / disclosed cases of sexual activity of girls aged 13 years or younger, and in cases of sexual activity in girls aged between 14 and 16 years of age</li> <li>• Steps to take if any girl is found to be pregnant</li> <li>• In emergency situations, priority is given to the lifesaving care of the girl.</li> </ul> <p><b>Other supporting documents are:</b> The All Wales Child Protection Procedures and Pregnancy Testing of Girls of Child Bearing Age Before Procedures and Treatments Procedure.</p>	

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## Scope

This policy applies to all of our staff in all locations including those with honorary contracts.

### Equality and Health Impact Assessment

An Equality and Health Impact Assessment on this policy has been undertaken to establish any possible or actual impact that this policy may have on any groups in respect of their sex, maternity and pregnancy, marriage or civil partnership issues, race, disability, sexual orientation, Welsh language, religion or belief, transgender, age or other protected characteristics.

The assessment found that there was an overall positive impact to the equality groups mentioned. A potential negative impact in relation to religion was identified; this has been recognised within the documents and where appropriate we will take the necessary actions required to minimise any stated impact, and to ensure that we meet our responsibilities under the equalities and human rights legislation.

<b>Policy Approved by</b>	Quality, Safety and Experience Committee
<b>Group with authority to approve procedures written to explain how this policy will be implemented</b>	Child Health Quality, Safety and Experience Group
<b>Accountable Executive or Clinical Board Director</b>	Executive Nurse Director
<p style="text-align: center;"><b><u>Disclaimer</u></b></p> <p>If the review date of this document has passed please ensure that the version you are using is the most up to date either by contacting the document author or the <a href="#">Governance Directorate</a>.</p>	

## Summary of reviews/amendments

Version Number	Date Review Approved	Date Published	Summary of Amendments
1	Date approved by Board/Committee/Sub Committee dd/mm/yyyy	TBA <i>[To be inserted by the Gov. Dept]</i>	New Policy

## Equality & Health Impact Assessment for

### Pregnancy Testing of Girls of Child Bearing Age Before Procedures and Treatments Policy

1.	For service change, provide the title of the Project Outline Document or Business Case and Reference Number	
2.	Name of Clinical Board / Corporate Directorate and title of lead member of staff, including contact details	Children and Women Clinical Board Directorate Lead Nurse Acute Child Health Ext 46653
3.	Objectives of strategy/ policy/ plan/ procedure/ service	<p>The aim of the policy and supporting procedure is to ensure that a systematic approach is followed by healthcare professionals working in all areas and departments within the UHB to ensure that pregnancy testing of all girls who have commenced menstruation is undertaken in a consistent, sensitive and confidential manner and that safe treatment is delivered to this group of patients.</p> <p>Objectives of Policy are:</p> <ul style="list-style-type: none"> <li>• To reduce the risks to any unborn child when a girl of child bearing age is to undergo procedures both surgical and radiological involving the lower abdomen or pelvis</li> <li>• To ensure that additional precautions relating to potential pregnancy are taken prior to girls of childbearing age undergoing the procedures and treatments listed</li> <li>• That appropriate steps are taken in reported / disclosed cases of sexual activity of girls aged 13 years or younger, in cases of</li> </ul>

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		<p>sexual activity in girls aged between 14 and 16 years of age and if any girl is found to be pregnant</p> <ul style="list-style-type: none"><li>• That individual responsibilities are clear and appropriate consideration given to confidentiality and safeguarding</li><li>• That in emergency situations priority is given to the lifesaving care of the girl.</li></ul>														
4.	<p>Evidence and background information considered. For example</p> <ul style="list-style-type: none"><li>• population data</li><li>• staff and service users data, as applicable</li><li>• needs assessment</li><li>• engagement and involvement findings</li><li>• research</li><li>• good practice guidelines</li><li>• participant knowledge</li><li>• list of stakeholders and how stakeholders have engaged in the development stages</li><li>• comments from those involved in the designing and development stages</li></ul> <p>Population pyramids are available from Public Health Wales Observatory<sup>1</sup> and the UHB’s ‘Shaping Our Future Wellbeing’</p>	<p>There is evidence which indicates that some surgical / radiological treatments carry the risk of spontaneous abortion and inter-uterine growth retardation. The slight increased risk in spontaneous abortion is more apparent in the first trimester and the risks are both to the mother and the foetus. In order to reduce the risks to any unborn child, it is necessary for all females of child bearing age to be assessed for the possibility of pregnancy prior to these treatments.</p> <p><b>Figures from the ONS on the female population 12 – 16 yrs.</b></p> <table><tr><th>Age</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th><th>Total Aged 12-16</th></tr><tr><td>No. Females</td><td>1,661</td><td>1,673</td><td>1,746</td><td>1,865</td><td>1,896</td><td>8,841</td></tr></table> <p>Evidence from –</p>	Age	12	13	14	15	16	Total Aged 12-16	No. Females	1,661	1,673	1,746	1,865	1,896	8,841
Age	12	13	14	15	16	Total Aged 12-16										
No. Females	1,661	1,673	1,746	1,865	1,896	8,841										

<sup>1</sup> <http://nww2.nphs.wales.nhs.uk:8080/PubHObservatoryProjDocs.nsf>



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	<p>Strategy provides an overview of health need<sup>2</sup>.</p>	<ul style="list-style-type: none"> <li>• National Patient Safety Agency Rapid Response Report PSA/2010/RRR011: Checking pregnancy before surgery</li> <li>• National Institute for Clinical Excellence Preoperative tests: The use of routine preoperative tests for elective surgery 2003</li> <li>• Medical Exposure and Pregnancy IRMER Employer's Procedure EP3 2010</li> <li>• Sexual Offences Act 2003</li> <li>• All Wales Child Protection Procedures</li> </ul> <p>Benchmarking from other Children's Hospitals/UHBs</p> <ul style="list-style-type: none"> <li>• Bristol Children's, Hospital</li> <li>• Great Ormond St, Hospital</li> <li>• Southampton children's, Hospital</li> <li>• Alder Hay Children's Hospital</li> <li>• Royal Glamorgan Hospital,</li> <li>• Neville Hall Hospital</li> <li>• Morriston Hospital</li> </ul>
5.	Who will be affected by the strategy/ policy/ plan/ procedure/ service	<p>All females who are menstruating and undergoing certain surgical and radiological procedures</p> <p>Families/carers of these individuals</p>

<sup>2</sup> <http://www.cardiffandvaleuhb.wales.nhs.uk/the-challenges-we-face>

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### EQIA / How will the strategy, policy, plan, procedure and/or service impact on people?

Questions in this section relate to the impact on people on the basis of their 'protected characteristics'. Specific alignment with the 7 goals of the Well-being of Future Generations (Wales) Act 2015 is included against the relevant sections.

How will the strategy, policy, plan, procedure and/or service impact on:-	Potential positive and/or negative impacts	Recommendations for improvement/ mitigation	Action taken by Clinical Board / Corporate Directorate. Make reference to where the mitigation is included in the document, as appropriate
<b>6.1 Age</b> For most purposes, the main categories are: <ul style="list-style-type: none"> <li>under 18;</li> <li>between 18 and 65; and</li> <li>over 65</li> </ul>	Positive impact as it is aimed at young females of a particular age only.  Negative impact for those females under 14yrs.	Ensure safeguarding pathway followed.	
<b>6.2 Persons with a disability as defined in the Equality Act 2010</b> Those with physical impairments, learning disability, sensory loss or	The UHB is aware from its demographic information that it employs staff who have disabilities as defined within the Act. As such, the Policy has been made accessible to		

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How will the strategy, policy, plan, procedure and/or service impact on:-	Potential positive and/or negative impacts	Recommendations for improvement/ mitigation	Action taken by Clinical Board / Corporate Directorate. Make reference to where the mitigation is included in the document, as appropriate
impairment, mental health conditions, long-term medical conditions such as diabetes	<p>staff in both electronic and paper copy.</p> <p>It impacts positively on those young females with learning or communication difficulties as it does not automatically assume that the young person will be not be competent and therefore able to answer questions on her own behalf. However the negative impact would be where either cultural or religious beliefs discourage honest and open disclosure by the young person to a health professional.</p>		

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How will the strategy, policy, plan, procedure and/or service impact on:-	Potential positive and/or negative impacts	Recommendations for improvement/ mitigation	Action taken by Clinical Board / Corporate Directorate. Make reference to where the mitigation is included in the document, as appropriate
<b>6.3 People of different genders:</b> Consider men, women, people undergoing gender reassignment  <b>NB</b> Gender-reassignment is anyone who proposes to, starts, is going through or who has completed a process to change his or her gender with or without going through any medical procedures. Sometimes referred to as Trans or Transgender	Not applicable to males.  There is no evidence to suggest that the policy has an impact.		
<b>6.4 People who are married or who have a civil partner.</b>	There is no evidence to suggest that the policy has an impact.		

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<b>How will the strategy, policy, plan, procedure and/or service impact on:-</b>	<b>Potential positive and/or negative impacts</b>	<b>Recommendations for improvement/ mitigation</b>	<b>Action taken by Clinical Board / Corporate Directorate.</b> Make reference to where the mitigation is included in the document, as appropriate
<b>6.5 Women who are expecting a baby, who are on a break from work after having a baby, or who are breastfeeding.</b> They are protected for 26 weeks after having a baby whether or not they are on maternity leave.	The impact would be positive as the purpose of the policy is to safeguard the foetus if the young person is pregnant and undergoing investigations which may have an adverse effect on the mother/pregnancy.		
<b>6.6 People of a different race, nationality, colour, culture or ethnic origin including non-English speakers, gypsies/travellers, migrant workers</b>	There is no evidence to suggest that the policy has an adverse effect on people because of race.		
<b>6.7 People with a religion or belief or with no religion</b>	The policy may have a negative impact on people	The negative impact in regards to religion could be	

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<b>How will the strategy, policy, plan, procedure and/or service impact on:-</b>	<b>Potential positive and/or negative impacts</b>	<b>Recommendations for improvement/ mitigation</b>	<b>Action taken by Clinical Board / Corporate Directorate.</b> Make reference to where the mitigation is included in the document, as appropriate
<b>or belief.</b> The term 'religion' includes a religious or philosophical belief	because of religion or beliefs due to the ramifications if a pregnancy test is positive e.g. the belief that sex outside marriage is wrong this may leave the young person in a vulnerable position.	mitigated against by having discussions with the young person/family/carers.	
<b>6.8 People who are attracted to other people of:</b> <ul style="list-style-type: none"> <li>the opposite sex (heterosexual);</li> <li>the same sex (lesbian or gay);</li> <li>both sexes (bisexual)</li> </ul>	There is no evidence to suggest that the policy has a negative impact on these groups		
<b>6.9 People who communicate using the Welsh language in terms of correspondence, information leaflets, or service plans and design</b>	There is no evidence to suggest that the policy has a negative impact on this group		

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<b>How will the strategy, policy, plan, procedure and/or service impact on:-</b>	<b>Potential positive and/or negative impacts</b>	<b>Recommendations for improvement/ mitigation</b>	<b>Action taken by Clinical Board / Corporate Directorate.</b> Make reference to where the mitigation is included in the document, as appropriate
Well-being Goal – A Wales of vibrant culture and thriving Welsh language			
<b>6.10 People according to their income related group:</b> Consider people on low income, economically inactive, unemployed/workless, people who are unable to work due to ill-health	There is no evidence to suggest that the policy has a negative impact on this group		
<b>6.11 People according to where they live:</b> Consider people living in areas known to exhibit poor economic and/or health indicators, people unable to access services and facilities	There is no evidence to suggest that the policy has a negative impact on this group		

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<b>How will the strategy, policy, plan, procedure and/or service impact on:-</b>	<b>Potential positive and/or negative impacts</b>	<b>Recommendations for improvement/ mitigation</b>	<b>Action taken by Clinical Board / Corporate Directorate.</b> Make reference to where the mitigation is included in the document, as appropriate
<b>6.12 Consider any other groups and risk factors relevant to this strategy, policy, plan, procedure and/or service</b>			

**6. HIA / How will the strategy, policy, plan, procedure and/or service impact on the health and well-being of our population and help address inequalities in health?**

Questions in this section relate to the impact on the overall health of individual people and on the impact on our population. Specific alignment with the 7 goals of the Well-being of Future Generations (Wales) Act 2015 is included against the relevant sections.

<b>How will the strategy, policy, plan, procedure and/or service impact on:-</b>	<b>Potential positive and/or negative impacts and any particular groups affected</b>	<b>Recommendations for improvement/ mitigation</b>	<b>Action taken by Clinical Board / Corporate Directorate</b> Make reference to where the mitigation is included in the document, as appropriate
<b>7.1 People being able to access the service offered:</b> Consider access for those	There is no evidence to suggest that the policy has a negative impact on this group		



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<b>How will the strategy, policy, plan, procedure and/or service impact on:-</b>	<b>Potential positive and/or negative impacts and any particular groups affected</b>	<b>Recommendations for improvement/ mitigation</b>	<b>Action taken by Clinical Board / Corporate Directorate</b> Make reference to where the mitigation is included in the document, as appropriate
<p>living in areas of deprivation and/or those experiencing health inequalities</p> <p>Well-being Goal - A more equal Wales</p>			
<p><b>7.2 People being able to improve /maintain healthy lifestyles:</b></p> <p>Consider the impact on healthy lifestyles, including healthy eating, being active, no smoking /smoking cessation, reducing the harm caused by alcohol and /or non-prescribed drugs plus access to services that support disease prevention (eg immunisation and vaccination, falls prevention). Also consider impact on access to supportive services</p>	<p>There is no evidence to suggest that the policy has a negative impact on this group</p>		

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<b>How will the strategy, policy, plan, procedure and/or service impact on:-</b>	<b>Potential positive and/or negative impacts and any particular groups affected</b>	<b>Recommendations for improvement/ mitigation</b>	<b>Action taken by Clinical Board / Corporate Directorate</b> Make reference to where the mitigation is included in the document, as appropriate
including smoking cessation services, weight management services etc  Well-being Goal – A healthier Wales			
<b>7.3 People in terms of their income and employment status:</b> Consider the impact on the availability and accessibility of work, paid/ unpaid employment, wage levels, job security, working conditions  Well-being Goal – A prosperous Wales	There is no evidence to suggest that the policy has a negative impact on this group		
<b>7.4 People in terms of their use of the physical environment:</b>	There is no evidence to suggest that the policy has a negative impact on this group		

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<p>Consider the impact on the availability and accessibility of transport, healthy food, leisure activities, green spaces; of the design of the built environment on the physical and mental health of patients, staff and visitors; on air quality, exposure to pollutants; safety of neighbourhoods, exposure to crime; road safety and preventing injuries/accidents; quality and safety of play areas and open spaces</p> <p>Well-being Goal – A resilient Wales</p>			
<p><b>7.5 People in terms of social and community influences on their health:</b> Consider the impact on</p>	<p>There is no evidence to suggest that the policy has a negative impact on this group</p>		

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<b>How will the strategy, policy, plan, procedure and/or service impact on:-</b>	<b>Potential positive and/or negative impacts and any particular groups affected</b>	<b>Recommendations for improvement/ mitigation</b>	<b>Action taken by Clinical Board / Corporate Directorate</b> Make reference to where the mitigation is included in the document, as appropriate
<p>family organisation and roles; social support and social networks; neighbourliness and sense of belonging; social isolation; peer pressure; community identity; cultural and spiritual ethos</p> <p>Well-being Goal – A Wales of cohesive communities</p>			
<p><b>7.6 People in terms of macro-economic, environmental and sustainability factors:</b> Consider the impact of government policies; gross domestic product; economic development; biological diversity; climate</p>	<p>There is no evidence to suggest that the policy has a negative impact on this group</p>		

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<b>How will the strategy, policy, plan, procedure and/or service impact on:-</b>	<b>Potential positive and/or negative impacts and any particular groups affected</b>	<b>Recommendations for improvement/ mitigation</b>	<b>Action taken by Clinical Board / Corporate Directorate</b> Make reference to where the mitigation is included in the document, as appropriate
Well-being Goal – A globally responsible Wales			

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**Please answer question 8.1 following the completion of the EHIA and complete the action plan**

<b>8.1 Please summarise the potential positive and/or negative impacts of the strategy, policy, plan or service</b>	Over all the impact of this policy is positive although there may be an impact in regards to religion but this could be mitigated against by having discussions with the young person/family/carers. It should be noted that the overall aim of the policy is to protect unborn babies from unnecessary exposure to harm during some surgical/radiological treatments. There is evidence which indicates that some of these procedures carry the risk of spontaneous abortion and inter-uterine growth retardation. The slight increased risk in spontaneous abortion is more apparent in the first trimester and the risks are both to the mother and the foetus. In order to reduce the risks to any unborn child, it is necessary for all females of child bearing age to be assessed for the possibility of pregnancy prior to procedures.
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### **Action Plan for Mitigation / Improvement and Implementation**

	<b>Action</b>	<b>Lead</b>	<b>Timescale</b>	<b>Action taken by Clinical Board / Corporate Directorate</b>
<b>8.2 What are the key actions identified as a result of completing the EHIA?</b>	Recognition of religion has been inserted into the policy.	M Glover	completed	Explicit statement in policy.

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	Action	Lead	Timescale	Action taken by Clinical Board / Corporate Directorate
<p><b>8.3Is a more comprehensive Equalities Impact Assessment or Health Impact Assessment required?</b></p> <p>This means thinking about relevance and proportionality to the Equality Act and asking: is the impact significant enough that a more formal and full consultation is required?</p>				

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	Action	Lead	Timescale	Action taken by Clinical Board / Corporate Directorate
<b>8.4 What are the next steps?</b>  Some suggestions:- <ul style="list-style-type: none"> <li>Decide whether the strategy, policy, plan, procedure and/or service proposal:               <ul style="list-style-type: none"> <li>continues unchanged as there are no significant negative impacts</li> <li>adjusts to account for the negative impacts</li> <li>continues despite potential for adverse impact or missed opportunities to advance equality (set out the justifications for doing so)</li> <li>stops.</li> </ul> </li> <li>Have your strategy, policy, plan, procedure and/or service proposal approved</li> <li>Publish your report of this impact assessment</li> <li>Monitor and review</li> </ul>				





Stuart Walker  
Medical Director  
Cardiff and Vale University Health Board

05 februar 2020

Dear Stuart,

### **South Wales Trauma Network Clinical Guidelines**

As you know, the South Wales Trauma Network is due to become operational in April this year.

One of the core quality indicators for the network is to have a set of network clinical guidelines, to improve knowledge base and ensure consistency of patient care across South Wales, West Wales and South Powys. As part of the Major Trauma Centre (MTC) and Trauma Unit (TU) designation process all organisations stated committed that they would sign up to the network clinical guidelines.

In November last year, I attended the Executive Medical Directors Forum to discuss how these guidelines, once produced, would be implemented within Health Boards.

I have agreed through the network board that the guidelines will be released to Health Boards in two tranches: tranche 1 and tranche 2. Tranche 1 guidelines are now ready and are attached in final format. I would like to take the opportunity to thank clinical colleagues from across the region, who have contributed to their development.

In order to provide assurance, the following process has been followed:

1. All clinical guidelines are based on best practice evidence and are already current practice in most Health Boards. Most are based on the practice in regional trauma networks in England.
2. The guidelines have been authored and reviewed by experts in trauma management from across the region.
3. Where differences of clinical opinion have arisen, these have been resolved by seeking external expert clinical advice.
4. Subsequently all guidelines have been comprehensively peer reviewed by members of the governance subcommittee. The governance subcommittee has clinical representation from across the network (incl. MTC or TUs).
5. Finally, there has been a sign off by the network board, where all Health Boards are represented from a clinical and managerial perspective.

6. In addition to the above, the paediatric guidelines have been subject to further scrutiny from the network paediatric working group, which has paediatric representation from all Health Boards.
7. The guidelines will be used for benchmarking clinical governance issues that are raised within the network structure; however, as the name implies these are guidelines and not standard operating procedures/policies, therefore individual clinician judgement where appropriate will be supported.
8. There are no significant resource implications for implementation. Training and education will be disseminated through network and local educational programmes. Alignment with these programmes will be critical to their success.
9. Each guideline has a 3 year review period, but the network will undertake a review earlier should this be necessary.

Based on the above, I would be grateful that you could ensure that these guidelines are taken through your Quality and Safety Committee, noting the rigor of the above assurance process. There is no requirement to undertake a further consultation internally, given that all Health Boards have supported their development. Implementation can then occur, with ensuring visibility and accessibility of the guidelines within your organisation. In accordance with this, it would be prudent for the Health Boards trauma clinical leads to be responsible for implementation.

The guidelines will need to be implemented by the time the network goes live, and given the commitment made by Health Boards as part of the designation process, I would be grateful if this could be undertaken in a timely manner. Although confirmation of implementation will not be part of the state of readiness visits, confirmation will be required by the time the implementation board makes its decisions at the end of March 2020.

A smaller tranche 2 will follow at the end of February.

Please also find attached a status update on guidelines included in tranche 1 and 2.

Thanks again for your support on this matter.

Kind regards,

Dr Dindi Gill

Clinical Lead, South Wales Trauma Network

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<b>Guideline</b>	<b>Status Update</b>
<b>Emergency Anaesthesia (SWTN CG01)</b>	Complete (tranche 1)
<b>Emergency Surgical Airway (SWTN CG02)</b>	Complete (tranche 1)
<b>Resuscitative Thoracotomy (SWTN CG03)</b>	Tranche 2
<b>Penetrating Cardiac Injuries (SWTN CG04)</b>	Tranche 2
<b>Chest Drain Insertion (SWTN CG05)</b>	Tranche 2
<b>Rib Fracture Management and Analgesia (SWTN CG06)</b>	Complete (tranche 1)
<b>Major Haemorrhage &amp; Damage Control Resuscitation (SWTN CG07)</b>	Complete (tranche 1)
<b>Abdominal Injuries (SWTN CG08)</b>	Complete (tranche 1)
<b>Severe Pelvic Fracture (SWTN CG09)</b>	Complete (tranche 1)
<b>Severe Traumatic Brain Injury (SWTN CG10)</b>	Tranche 2
<b>Open Fractures (SWTN CG11)</b>	Complete (tranche 1)
<b>Compartment Syndrome (SWTN CG12)</b>	Complete (tranche 1)
<b>Vascular Injuries (SWTN CG13)</b>	Complete (tranche 1)
<b>Spinal Cord Injury (SWTN CG14)</b>	Complete (tranche 1)
<b>Burns (SWTN CG15)</b>	Complete (tranche 1)
<b>Radiology (SWTN CG16)</b>	Complete (tranche 1)
<b>Interventional Radiology (SWTN CG17)</b>	Complete (tranche 1)
<b>Paediatric Guidelines (includes all of the above incl. Non-accidental injury) (SWTN CG18)</b>	Complete (tranche 1)
<b>Trauma in the Older Person (SWTN CG19)</b>	Tranche 2
<b>Traumatic Cardiac Arrest (SWTN CG 20)</b>	Complete (tranche 1)
<b>Long Bones Fractures (SWTN CG21)</b>	Tranche 2
<b>Clinical Guideline – Rehabilitation (SWTN CG22)</b>	Tranche 2

# SOUTH WALES TRAUMA NETWORK (SWTN) CLINICAL GUIDELINE (CG)

## ABDOMINAL INJURY (ADULT MAJOR TRAUMA PATIENTS)

<b>Reference Number</b>	SWTN CG08
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<b>Version</b>	1
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<b>Author(s)</b>	Mr L Davies
<b>Internal reviewer(s)</b>	Mr D O'Reilly
<b>Network Governance Subcommittee review</b>	January 2020
<b>Sign off</b>	Network Board

### Aims and Scope

The aim of this guideline is to:

- The management plan for blunt and penetrating abdominal trauma.
- The operative and non-operative management of abdominal injuries.
- The management of organ specific injuries.

For paediatrics guidelines see SWTN CG18.

## Introduction

Abdominal trauma accounts for over 20% of body regions injured in major trauma and can be difficult to diagnose and manage. A high index of suspicion should be maintained for any multi-trauma patient, particularly where the mechanism of injury may suggest significant abdominal injury.

Understanding the types of injuries is important for the planning and organisation of trauma services. Penetrating injuries are frequently isolated injuries, but may cause severe organ or vessel disruption and rapid bleeding. Rapid assessment and control of bleeding are often the highest priorities with this type of injury.

The vast majority (over 90%) of major trauma is caused by blunt injury mechanisms, such as those caused by motor vehicle collisions (MVC), falls and being forcefully struck. Blunt injuries less often present with rapid exsanguination, but are more often associated with multiple organ failure, combinations of airway, breathing, circulatory, neurological and musculoskeletal deficiencies, and permanent physical and cognitive disabilities among survivors.

Missed abdominal injuries are a major cause of avoidable death in trauma patients. The principles of initial management focus on the detection of any injury and determining the need for urgent intervention. Investigations such as the Focused Assessment of Sonography in Trauma (FAST) and Computerised Tomography (CT) scanning can determine the presence of injuries in combination with assessment.

Abdominal Injuries can in general be classified into a number of categories to aide in their management:-

- Blunt abdominal trauma.
- Low-energy penetrating abdominal trauma.
- High-energy penetrating abdominal trauma (Ballistic).
- Blast trauma.

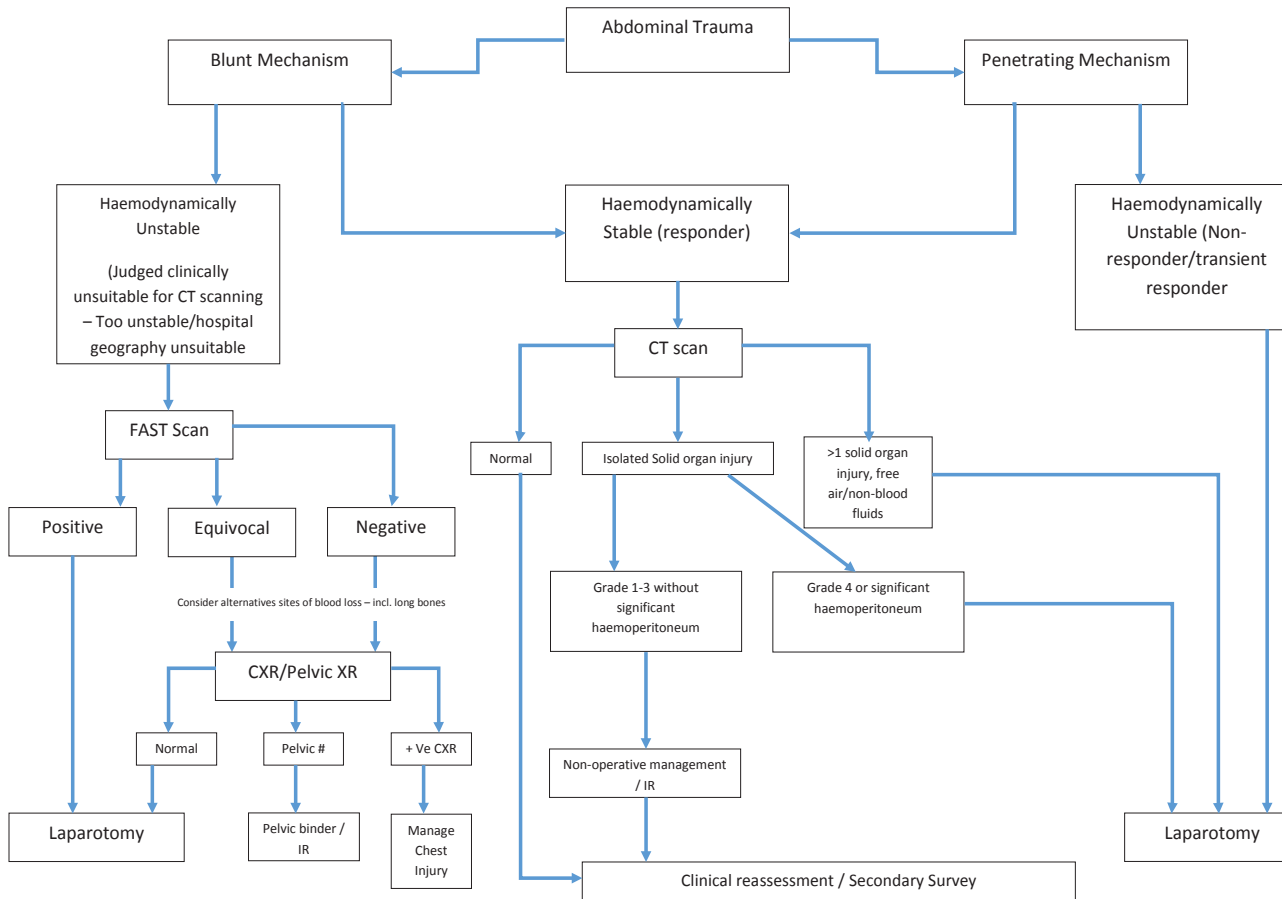
Each of these can be further sub-divided by their haemodynamically stability on assessment at the Emergency Department:-

- Haemodynamically stable.
- Responders to resuscitation.
- Transient responders to resuscitation.
- Non-responders to resuscitation.

Each of these classifications bring with them unique challenges to the management of the patient and their individual circumstances. These guidelines aim to elicit some of these circumstances and aide the major trauma clinicians in the management of these patients.

The general principles of the management of major abdominal trauma are shown within the flow chart in diagram below.

Trauma Units (TUs) and other hospitals across the network need to consider the need for transfer to the Major Trauma Centre (MTC) at an early point in the management of these severely injured patients, whilst the patient is stable. **In the presence of haemodynamic instability in patients requiring Damage Control Surgery, this should be undertaken locally, unless it cannot be provided within 30minutes of a decision being made, in which immediate transfer to the MTC will be required.** In all circumstances consider the use of EMRTS to undertake the transfer.



## Operative vs Non-Operative management of Abdominal Trauma Patients

**All patients who are haemodynamically unstable or who have diffuse peritonitis, evisceration or impalement after abdominal trauma should be taken urgently for laparotomy.**

**In the presence of a pelvic fracture, a binder or external fixator should be in place before laparotomy is performed.**

**Patient should be exposed from nipples to knees so groins are exposed if needed for vascular surgery. A laparotomy, thoracotomy and major vascular set should be available at start of procedure.**

## Penetrating Abdominal Trauma

A routine laparotomy is not indicated in hemodynamically stable patients with abdominal stab wounds without signs of peritonitis or diffuse abdominal tenderness (away from the wounding site) in centres with surgical expertise. A routine laparotomy is not indicated in hemodynamically stable patients with abdominal gunshot wounds if the wounds are tangential and is no peritonism.

## Diagnostic Laparoscopy

Diagnostic laparoscopy (DL) is most useful for inspecting the diaphragm in thoracoabdominal wounds, although some studies suggest it may be useful in evaluating the depth of wound tracts and identifying visceral injury in patients with equivocal peritoneal penetration. In addition, some diaphragmatic and visceral injuries may be amenable to repair using DL, avoiding the need for exploratory laparotomy and thereby decreasing length of stay, morbidity, and cost. However, laparoscopy is inadequate for identifying hollow viscus and retroperitoneal injury.

## Damage Control Surgery

Damage control surgery (DCS) has been shown to reduce mortality in severely and multiply injured patients.

DCS involves immediate operative control of haemorrhage and gastrointestinal contamination followed by transfer to the intensive care unit for ongoing resuscitation. Intraperitoneal packing and temporary abdominal closure are followed by fluid resuscitation, patient warming and correction of coagulation deficits in the intensive care unit.

### **The aim is to complete the laparotomy within an hour and for the patient to be transferred to ICU.**

Upon arrival to the Intensive Care Unit the lethal triad of acidosis, hypothermia, and coagulopathy is corrected with ongoing fluid resuscitation and component transfusion therapy. Once the patient is stabilised, definitive treatment of the patient's injuries can be undertaken.

Hemodynamically unstable patients and those with multiple injuries should be explored through a generous midline abdominal incision. Trauma laparotomy should be performed in a standard fashion by packing the four quadrants and evaluating the intra-abdominal organs in a systematic fashion, and when indicated, exploring the retroperitoneum.

Injuries to the gastrointestinal tract should be evaluated and repaired in a systematic manner. Control of intra-abdominal haemorrhage should be the first priority to minimise the need for transfusion and minimise fluid requirements, followed by control of gastrointestinal contamination.

A focused team brief should occur prior to the start of the surgical procedure lead by the Consultant surgeon in charge.

A sitrep (situation report) should occur every 10 minutes to assess surgical progress, patient haemodynamic status and ongoing surgical plan and disposal.

At 1 hour following the start of surgery, a surgical decision should be made to confirm if ongoing surgery is appropriate.



## Management of Organ Specific Injuries

### Liver Injuries

The initial management of patients with blunt hepatic trauma should be mandated by their hemodynamic status rather than their grade of hepatic injury.

The AAST grading system is most useful for predicting the likelihood of success with non-operative management, which is higher for low-grade injuries (Grade I, II, III) compared with high-grade injuries (Grade IV, V). Patients with Grade VI injuries are universally hemodynamically unstable, mandating surgical intervention.

If high-grade liver injuries are present on CT then consideration should be given to contacting a regional Hepatic surgeon at the earliest opportunity for an early opinion if available. Haemodynamically unstable patients require urgent, damage control laparotomy.

Control of hepatic haemorrhage is approached in a step-wise fashion initially using simple measures and progressing to more aggressive techniques, as needed. Initial control of bleeding is performed with manual compression, portal clamping or perihepatic packing. Ongoing mild-to-moderate bleeding from the parenchyma can be controlled using topical haemostatic agents, electrosurgical techniques, and ligation of the parenchymal vessels. For more severe injuries, liver suturing techniques or hepatic artery ligation may be needed. If these techniques fail, the segment of liver may need to be resected. Advanced techniques will require the input of a specialised hepatic surgeon.

Nonoperative management is the treatment of choice for hemodynamically stable patients with hepatic injury. It consists of observation and supportive care with the adjunctive use of arteriography and hepatic embolization.

Patients who are hemodynamically stable but demonstrate extravasation from the liver on computed tomography (CT) of the abdomen have higher failure rates with non-operative management, and these patients should undergo arteriography and possible liver embolization followed by continued observation and serial haemoglobin determination. Angiography with embolisation should be considered in a hemodynamically stable patient with hepatic injuries with evidence of active extravasation (a contrast blush) on abdominal CT scan.

### Follow-up care

There are few data to guide the routine care and follow-up of patients with hepatic injury who have been managed non-operatively. No definitive recommendations have been established regarding the need or timing of follow-up imaging, the need for or duration of bed rest, the timing of return to daily activities and/or exercise, or the timing to initiate prophylactic or therapeutic anticoagulation. A length of stay between 3-5 days depending on grade of injury would be appropriate for patients with isolated hepatic trauma. It is a common recommendation that patients avoid strenuous activities for six weeks. For patients with higher grade injuries, strenuous physical activity is restricted for a longer period of time up to three months.

## Splenic Injuries

The initial management of patients with splenic trauma should be mandated by their hemodynamic status rather than their grade of injury.

Haemodynamically unstable patients with splenic injury require urgent laparotomy.

The decision to perform splenectomy versus splenic salvage (i.e. splenorrhaphy, partial splenectomy) is made based upon the grade of injury, presence of associated injuries, patient's overall condition, and experience of the surgeon. The small future risk of overwhelming post splenectomy sepsis needs to be balanced against the more significant risk of recurrent haemorrhage.

When considering splenic salvage, the surgeon must determine whether the patient can tolerate rebleeding and reoperation for the small, but real, risk of recurrent haemorrhage. Splenectomy is often a more appropriate choice for patients with multiple injuries or comorbidities who may not tolerate a significant or recurrent episode of hypotension or a second surgical procedure.

Splenectomy is also more appropriate for patients requiring urgent surgical management of other significant injuries that preclude taking the extra time needed for splenic salvage. In the setting of damage control, delayed splenic salvage can be considered (within 24 to 48 hours) for low-grade splenic injuries, provided that the bleeding is controlled with packing. Splenectomy is the safest option, given that most patients who require damage-control surgery are on the brink of physiological collapse, are hypothermic, acidotic, coagulopathic, and will likely only poorly tolerate recurrent haemorrhage.

### Non Operative Management & Embolisation

Hemodynamically stable patients with low-grade (I to III) blunt or penetrating splenic injuries may be initially observed safely. In general, patients who meet the criteria for observation but who require intervention to manage extra-abdominal injuries (e.g. leg fracture stabilization) can also be safely observed.

The duration of observation should be individualized based upon the grade of splenic injury, nature and severity of other injuries, and the patient's clinical status. Higher-grade injury generally require longer observation periods. An observation period of five days identifies at least 95 percent of patients who would require some form of intervention.

Portal hypertension is a relative contraindication to non-operative management due to the increased venous pressures that may prevent clot formation and control of haemorrhage even after successful splenic embolization. Other relative contraindications include higher-grade splenic injury (>Grade III), active contrast extravasation, large volume haemoperitoneum (though difficult to accurately quantify), traumatic brain injury, refusal of blood transfusion in the setting of pre-existing anaemia, or altered neurologic status precluding adequate serial abdominal examination.

Splenic embolisation requires specialized imaging facilities and a vascular interventionalist (i.e. interventional radiology, vascular surgeon) experienced with celiac artery catheterization and embolization techniques. Where available, embolisation is potentially most useful when employed selectively in hemodynamically stable patients who have CT findings that include active contrast extravasation, splenic pseudoaneurysm, or large volume haemoperitoneum.

Splenic embolisation is associated with additional risks that include bleeding, pseudoaneurysm formation at the arterial puncture site, splenic infarction, splenic/sub diaphragmatic abscess, inadvertent embolization of other organs (e.g. kidneys) or lower extremities, allergic reaction to contrast and contrast-induced nephropathy.

Patients who fail observation require either splenic embolization, or more commonly, operative management. Indications to pursue intervention include hemodynamic instability, the development of diffuse peritoneal signs, or decreasing haemoglobin attributed to splenic haemorrhage. Hypotension may be absolute or relative, or evidenced as persistent tachycardia in spite of adequate fluid resuscitation.

### **Post splenectomy vaccination and antibiotics**

Immunization is recommended for asplenic patients, since splenectomy impairs opsonisation of encapsulated organisms.

Ideally, vaccines are administered either 14 days prior to or 14 days following splenectomy for maximal immunologic benefit. Delaying vaccinations for 14 days postoperatively increases the antibody response, but may not be feasible in all trauma patients given the historically sporadic follow-up in this patient population. Therefore all splenectomy patients should be immunised at the time of discharge, regardless of the postoperative day if they have not already received the appropriate vaccinations.

Asplenic patients should receive a booster dose of HiB/Men C vaccine and a single dose of pneumococcal polysaccharide vaccine. They also receive yearly influenza vaccinations.

Ongoing antibiotic prophylaxis to prevent Overwhelming Post Splenectomy Infections (OPSI) should be administered as per national splenectomy guidelines.

### **Advice to patient**

Upon discharge, patients are typically restricted from participation in high-risk activities such as skiing, mountain biking, skydiving, wrestling, contact sports and military combat, for a period of up to three months. While there are no clinical studies to support this duration, one assumes that repeat trauma to the fragile, healing spleen could lead to re-injury.

### **Bowel injury**

CT of the abdomen is the test of choice for identifying specific intra-abdominal injuries in hemodynamically stable patients with blunt injury and is the most sensitive non-invasive imaging test for identifying gastrointestinal injury. However CT scan findings should always be evaluated in the context of the patient's clinical condition. The presence of intraperitoneal free air, vascular beading, abrupt vessel termination, or the presence of extra-luminal contrast, are highly suggestive of injury.

Patients with CT findings suggestive of bowel injury require urgent laparotomy.

Those patients who have sustained penetrating injury which has not breached the peritoneal cavity or blunt trauma with no CT findings suggestive of injury may be treated conservatively.

It is important to maintain a high index of suspicion for bowel injury as initial CT findings may not show free fluid or free air. It may be that a persistent lactic acidosis is the only indication for laparotomy.

## **Operative Management of Bowel Injuries.**

Patients who are hemodynamically stable with limited other injuries can undergo definitive management of their bowel injuries at the time of the initial exploration.

In the setting of damage control, repair of gastrointestinal injury should be delayed until after hemodynamic stabilization, which is typically within 24 hours of the injury. Contamination is controlled with stapling off bowel ends and resecting damaged bowel. Formation of a defunctioning stoma is also delayed until definitive surgery. Repair should be undertaken no later than 48 to 72 hours after injury because bowel distention can extend the injury.

The anterior and posterior surfaces of the stomach should be inspected for signs of contusion or laceration. The posterior surface can be examined after opening the lesser sac.

The entire bowel and mesentery, beginning from the ligament of Treitz, should be examined. All abnormalities should be thoroughly evaluated and tagged (e.g. bowel clamp), but definitive repair should not be undertaken until the entire length of bowel has been examined.

Evaluation of duodenal injury requires mobilising the duodenum from its retroperitoneal attachments, and the pancreas, which is commonly injured as well, should also be examined. Duodenal and pancreatic injuries are discussed in detail separately.

If there is evidence of large bowel injury, the involved region of the colon should be fully mobilized to allow inspection of the colon circumferentially.

Mesenteric bleeding and mesenteric hematomas identified intraoperatively can be managed using straightforward techniques. Embolisation may be appropriate for patients with a transient response to resuscitation. Active mesenteric arterial bleeding can usually be controlled with simple ligation. Due to the rich collateral blood supply to most areas of the small intestine, limited ligation of mesenteric arterial vessels will not result in bowel compromise, but multiple ligations, proximal arterial branch ligation, or mesenteric resection may necessitate resection of the associated bowel. Once the injury to the mesentery has been managed, the viability of the bowel should be assessed.

A defunctioning stoma may be required in the presence of an open fracture to limit contamination

## **Operative management of Pancreatic and Duodenal injuries.**

Damage control to manage duodenal injuries may involve rapid closure of the injured segment or resection of a full-thickness duodenal injury without re-establishing continuity. For suspected pancreatic duct injuries, wide drainage is used, but if the injury is distal, a quick distal pancreatectomy can be performed.

Bleeding from the pancreas distal to the head of the pancreas can usually be controlled with packing; however, high grade injuries to the head of the pancreas, which may also involve the duodenum, are often associated with bleeding that cannot be controlled by packing. In these cases resection without reconstruction may be needed.

To resect the proximal duodenum and pancreas, the pylorus, pancreatic neck, and proximal jejunum are stapled across and transected, the common bile duct is ligated, and the biliary tract is drained using

tube cholecystostomy Closed suction drains are placed to control duodenal and pancreatic secretions. Following resuscitation and stabilization, definitive resection and reconstruction (Whipple) can be performed.

For high grade injuries to the upper GI tract and the pancreas please contact the Upper GI or HpB surgical teams.

## Renal Injury

Urine from patients with suspected renal injury should be examined for haematuria both visually and by dipstick, serum creatinine should also be noted to assess for existing renal injury or impairment.

Decision to image must be made based upon both clinical findings and the method of injury. Radiographic imaging is indicated in cases where there is gross haematuria, microscopic haematuria with hypertension or major associated injuries. Those with rapid deceleration injury, clinical indicators of renal trauma or associated injuries should be imaged immediately. Those with penetrating trauma to the torso or abdomen should be imaged for renal injury if there is suspicion based upon the entry or exit wound, both in the presence and absence of haematuria.

The management of renal injuries may be influenced by the decision to explore or manage associated abdominal injuries. Irrespective of mode of injury, patients with renal haemorrhage resulting in haemodynamic instability despite aggressive fluid resuscitation require renal exploration. In addition, renal exploration is indicated in those with incidental finding of expanding or pulsatile peri-renal haematoma. Grade 5 vascular injuries may be treated conservatively if haemodynamically stable at presentation, the need for invasive management is based upon the requirement of continuous fluid and blood resuscitation. The overall aim of exploration after renal trauma is control of haemorrhage and renal tissue salvage. Intra-operatively, renal reconstruction should be attempted when haemorrhage is controlled and there is enough viable renal parenchyma.

When there is no indication for open abdominal surgery, renal angiography with selective embolization is indicated. Angiography is indicated in those with haemodynamic stability who are found to be candidates for radiological control of haemorrhage on CT.

Non-operative management is the treatment of choice in most renal injuries. Haemodynamically stable patients with blunt renal trauma should be managed conservatively and closely observed until resolution of haematuria. Risk of complication with conservative management increases with grade of injury. Repeat imaging 2-4 days post trauma reduces the incidence of missed complications. CT scans should always be performed on patients with fever, unexplained decreasing haematocrit or significant flank pain. In those with grade 1-4 injuries who are clinically well, imaging can be safely omitted.

## Urinary Tract Trauma

In patients with a low risk pelvic fracture and no evidence of urethral injury on physical examination, it is reasonable to make one attempt at passage of a Foley catheter.

Low risk fractures include single ramus fractures and ipsilateral rami fractures without posterior ring disruption. The risk of urethral injury approaches zero with isolated fractures of the acetabulum, ilium, and sacrum. If resistance is met during this single attempt, remove the catheter and obtain a retrograde urethrogram. If the urethra is intact, insert a Foley and inspect the initial output for evidence of haematuria.

If a urethral injury is suspected subsequent to successful placement of a Foley catheter, do not remove the catheter. A retrograde urethrogram may be obtained by inserting a small feeding tube alongside the catheter and proceeding as above. Please seek advice from urology for management of patients with an abnormal urethrogram or in cases of suspected urethral injury when an urethrogram cannot be performed. In females, suspected urethral injury mandates discussion with urology; urethrography is not indicated in the emergency department.

With bladder injuries, the primary goal is to keep the bladder completely decompressed, which facilitates healing by minimising bladder wall tension. If urethral injury is excluded, place a Foley catheter and irrigate the bladder as needed to clear any clots and ensure adequate drainage. Because bladder injuries are frequently associated with intraabdominal trauma, a diligent search for additional injuries should be undertaken in all patients with an abnormal cystogram. When undertaking this search, keep in mind that ultrasound cannot distinguish between blood and urine.

With upper tract injuries, identification and urologic consultation are the priorities of emergent management. Patients with microscopic haematuria, but without apparent significant genitourinary injury, should be referred for routine outpatient urology follow-up within a few of weeks

## **Major Blood Vessel Injuries**

Damage to major blood vessels will require urgent referral to the on-call vascular surgeon.

## **Abdominal Wall Closure**

### **Laparostomy**

Following trauma surgery, a decision to close the abdomen with or without skin closure depends upon the ability to approximate the fascial edges, the amount of intra-abdominal contamination, the potential for anastomotic breakdown, and the need to perform a second-look operation.

In patients undergoing damage control surgery and in those with a planned second-look operation to assess bowel viability, the abdomen should be left open and a temporary abdominal closure used. Leaving the abdomen open may also be more prudent in patients who are at risk for abdominal compartment syndrome.

Following the use of a TAC there should be attempts to close the abdomen usually within the first 72 hours of injury. The preferred method of closure within this period is primary closure but sometimes a mesh is necessary to bridge the fascial gap. The choice of mesh in this situation is a vicryl mesh.

## **Long term management of the open abdomen**

If fascial closure is not achieved then the insertion of a vicryl mesh to bridge the fascial defect will aid changing to conventional Vac Rx. Once the wound has granulated then healing can be facilitated by a skin graft and advice of the plastic surgical team may be required.

## Appendix 1: AAST Organ Injury Grades

### Liver Injury Grading

The grades of hepatic injury are as follows:

- Grade I – Hematoma: subcapsular <10 percent surface area. Laceration: capsular tear <1 cm parenchymal depth.
- Grade II – Hematoma: subcapsular 10 to 50 percent surface area, intraparenchymal <10 cm in diameter. Laceration: capsular tear 1 to 3 cm parenchymal depth, <10 cm in length.
- Grade III – Hematoma: subcapsular >50 percent of surface area or ruptured subcapsular or parenchymal hematoma; intraparenchymal hematoma >10 cm or expanding. Laceration >3 cm in depth.
- Grade IV – Laceration: parenchymal disruption involving 25 to 75 percent of a hepatic lobe or 1 to 3 Couinaud segments.
- Grade V – Laceration: parenchymal disruption of >75 percent of a hepatic lobe, >3 Couinaud segments within a single lobe. Vascular: juxtahepatic venous injuries (retrohepatic vena cava, central major hepatic veins).
- Grade VI – Hepatic avulsion.

### Splenic Injury Grading

The American Association for the Surgery of Trauma (AAST) has published a spleen injury grading scale based upon the anatomic injury identified on CT scan. The grade of injury and the degree of hemoperitoneum on CT scan relate to the success of nonoperative management, but do not consistently predict the need for initial operative.

The AAST criteria for hematoma and laceration for each splenic injury grade are as follows:

- Grade I – Hematoma: subcapsular, <10 percent of surface area. Laceration: capsular tear <1 cm in depth into the parenchyma.
- Grade II – Hematoma: subcapsular, 10 to 50 percent of surface area. Laceration: capsular tear, 1 to 3 cm in depth, but not involving a trabecular vessel.
- Grade III – Hematoma: subcapsular, >50 percent of surface area OR expanding, ruptured subcapsular or parenchymal hematoma OR intraparenchymal hematoma >5 cm or expanding. Laceration: >3 cm in depth or involving a trabecular vessel.
- Grade IV – Laceration involving segmental or hilar vessels with major devascularisation (i.e. >25 percent of spleen).
- Grade V – Hematoma: shattered spleen. Laceration: hilar vascular injury which devascularises spleen.

### Gastrointestinal Tract Injury Grading

#### Stomach:

- Grade I – Intramural hematoma <3 cm; partial-thickness laceration.
- Grade II – Intramural hematoma ≥3 cm; full-thickness laceration <3 cm.
- Grade III – Full-thickness laceration >3 cm.
- Grade IV – Full-thickness laceration involving vessels on greater and/or lesser curvature.
- Grade V – Extensive rupture >50 percent; devascularisation.



**Small intestine:**

- Grade I – Contusion or hematoma without devascularisation; partial-thickness laceration.
- Grade II – Full-thickness laceration <50 percent of circumference.
- Grade III – Full-thickness laceration ≥50 percent of circumference.
- Grade IV – Transection.
- Grade V – Transection with segmental tissue loss; devascularised segment.

**Colon:**

- Grade I – Contusion or hematoma; partial-thickness laceration.
- Grade II – Full-thickness laceration <50 percent of circumference.
- Grade III – Full-thickness laceration ≥50 percent of circumference.
- Grade IV – Transection.
- Grade V – Transection with tissue loss; devascularised segment.

**Rectum and rectosigmoid colon:**

- Grade I – Contusion or hematoma; partial-thickness laceration.
- Grade II – Full-thickness laceration <50 percent of circumference.
- Grade III – Full-thickness laceration ≥50 percent of circumference.
- Grade IV – Full-thickness laceration with perineal extension.
- Grade V – Devascularised segment.

**Duodenal injury scale**

- Grade I: Hematoma involving a single portion of duodenum or partial thickness laceration without perforation.
- Grade II: Hematoma involving more than one portion or disruption <50 percent circumference or major laceration without duct injury or tissue loss.
- Grade III: Laceration with disruption of 50 to 75 percent circumference of 2nd portion or disruption of 50 to 100 percent circumference of 1st, 3rd, 4th portion.
- Grade IV: Laceration with disruption >75 percent circumference of 2nd portion or involving ampulla or distal common bile duct.
- Grade V: Massive laceration with disruption of duodenopancreatic complex or devascularisation of duodenum.

**Pancreas injury scale**

- Grade I: Minor contusion without duct injury or superficial laceration without duct injury.
- Grade II: Major contusion without duct injury or tissue loss, or major laceration without duct injury or tissue loss.
- Grade III: Distal transection or parenchymal/duct injury.
- Grade IV: Proximal transection or parenchymal injury involving ampulla.
- Grade V: Massive disruption of the pancreatic head.



## Kidney Injury Scale

- Grade I: Subcapsular, nonexpanding contusion/haematoma without parenchymal laceration.
- Grade II: Nonexpanding perirenal haematoma confirmed to renal retroperitoneum or Laceration <1 cm of parenchymal depth of renal cortex without urinary extravagation.
- Grade III: Laceration <1 cm parenchymal depth of renal cortex without collecting system rupture or urinary extravagation.
- Grade IV: Parenchymal laceration extending through renal cortex, medulla and collecting system or main renal artery or vein injury with contained haemorrhage.
- Grade V: Completely Shattered Kidney or Avulsion of renal hilum which devascularises kidney.

# SOUTH WALES TRAUMA NETWORK (SWTN) CLINICAL GUIDELINE (CG)

## ANALGESIA FOR RIB FRACTURES (ADULT MAJOR TRAUMA PATIENTS)

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Version	1
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Author(s)	Mr L Davies
Internal reviewer(s)	Dr D Gill
Network Governance Subcommittee review	January 2020
Sign off	Network Board

### Aims and Scope

The aim of this document is to describe:

- The importance of optimising analgesia in rib fracture management.
- The use of risk stratification tools in guiding analgesia and ongoing care.

## Introduction

Rib fracture analgesia management can be difficult at times and appropriate control of pain requires complete patient assessment and placement of the patient in an environment that is able to safely and effectively manage the pain control techniques appropriate to the needs of the patient.

Pain assessment requires a holistic and escalated approach to ensure that pain is controlled whilst minimising the adverse effects of the analgesic techniques applied. Effective acute pain management is a core tenant of the network and has been highlighted as an area of improvement by patients experiencing the system pre-dating the trauma network.

Effective pain management for rib fractures reduces in-hospital mortality, morbidity including all pulmonary complications (chest infection, pneumonia, haemothorax, pneumothorax, pleural effusion, or empyema), ICU admission, or a prolonged length of stay.

As such each health board with the network should develop a policy for the management of analgesia in rib fractures which can be applied to both major trauma and non-major trauma patients in order to minimise morbidity and mortality and improve patient comfort. This should be based on local knowledge and experience.

## Risk Stratification

Recent evidence suggests that the use of rib fracture management tool can help reducing morbidity and mortality in the following ways:

- Risk stratification that increase the risk of complications (incl. age, number of rib fractures, chronic disease, pre-injury anticoagulation and oxygen saturations on presentation). For example, even for patients with a risk score of 11-15, the probability of developing complications is 29%
- Provide analgesic approaches suitable for each risk category. Techniques available include the regular use of Paracetamol and NSAIDs, weak and strong opioids, IV PCA and epidural or local block techniques (e.g. serratus anterior/erector spinae plane block/paravertebral block). These may be applied in isolation or in combination. The use of an acute pain service for full pain control and on call anaesthetic support is as appropriate is recommended.
- Guide additional support that might be required (e.g. chest physiotherapy) and disposition.

## Rib fracture management tools

Two examples are provided here of rib fracture management tools based the same risk stratification score. The view of network is that these should be locally adapted, based on local knowledge, experience and skills available, whilst maintaining core functions.

## Rib fixation

Rib fixation forms an important part of analgesic control of rib fractures in selected patient groups.

Polytrauma patients with multiple rib fractures transferred to the MTC will be discussed with the thoracic surgical service to be considered for rib fixation.

Whilst there is presently no dedicated rib fixation service in the region, as a guide, the following groups of patients should be discussed with the nearest thoracic surgical service following a CT thorax (with 3D reconstructions):

Ventilated (either invasive or non-invasive) with flail segment OR any of the following:

>3 rib fractures ribs; multiple comorbidities; difficulty weaning from ventilator, failure of regional and systematic analgesia strategies and thoracotomy having been undertaken for thoracic injuries.

The above represents trigger points for discussion with respective thoracic teams. The outcome could be the following:

Patient accepted for rib fixation and transferred.

Patient not requiring rib fixation and to be continue to managed locally. Trauma Unit to contact thoracic team if any change in clinical condition, to reassess indications.

## References

Battle CE et al. Predicting outcomes after blunt chest wall trauma: development and external validation of a new prognostic model. Crit Care 2014; 18(3): R98. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4095687/> [Accessed 6/1/2020].

NICE guidance (IPG361). Insertion of metal rib reinforcements to stabilise a flail chest wall, 2010. <https://www.nice.org.uk/guidance/ipg361> [Accessed 8/1/2020].



## RIB FRACTURES

### A SCORING TOOL TO DETERMINE THE PROBABILITY OF SERIOUS COMPLICATIONS POST BLUNT CHEST WALL TRAUMA



Bwrdd Iechyd Prifysgol  
Caerdydd a'r Fro  
Cardiff and Vale  
University Health Board

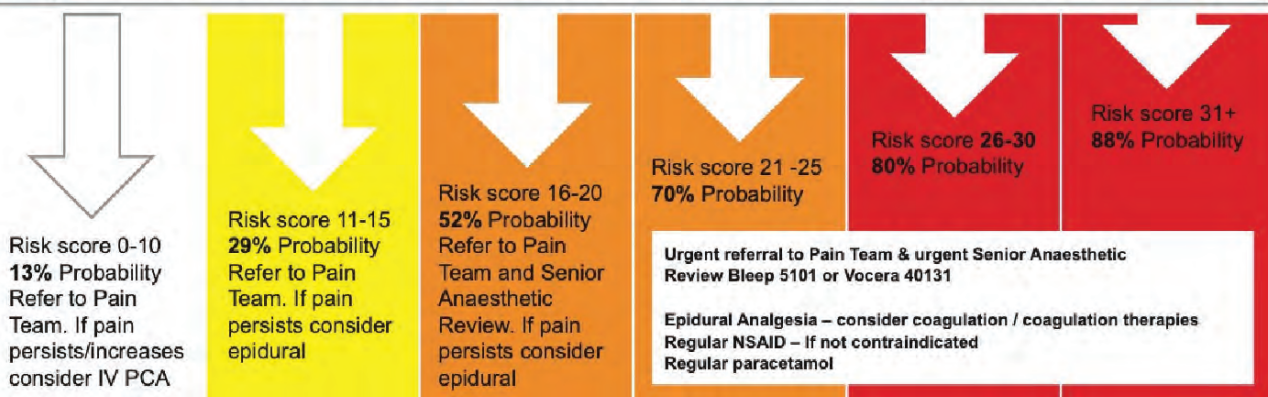
Age:	Rib Fractures:	Chronic Lung Disease:	Pre Injury Anticoagulant:	Oxygen Saturation on room air:	Total Risk Score:
Score 1 point for every complete 10 years i.e. 63 years = 6 points	Score 3 points for every rib fractured. Flail: score 3 x 2 points for every flail rib	e.g. asthma, COPD, smoker. If yes score 5 points	If yes score 4 points	≤94% - 2 points ≤89% - 4 points ≤85% - 6 points	

**Apply total risk score** to appropriate column below and follow the guidance.

**Apply principles of WHO analgesic ladder** to provide analgesia based on rib fracture score and clinical presentation.

**Assess pain** on deep breathing, cough and movement using none, mild, moderate or severe.

For patients with communication difficulties use the C&V UHB Pain Assessment Toolkit in conjunction with "Show me Where"



## WHO ANALGESIC LADDER

### RECOMMENDED ANALGESIA FOR ACUTE PAIN IN ADULT PATIENTS

#### Pain Severity on Movement & Deep Breathing

Assess the level of pain and start at the appropriate point of pain severity

**Regular Paracetamol** 1g qds po/pr. Max 4g daily.

Consider IV paracetamol if patient is NBM.

If pt weight < 50kg dose IV at 15mg/kg every 4-6hrs (max 60mg/kg in 24hrs)

**Regular NSAID** (if not contraindicated)

Ibuprofen 400mg PO TDS

Naproxen is preferable to ibuprofen in patients on aspirin and with a history of cardiovascular disease. Diclofenac PR may be used for patients unable to take oral NSAIDs.

\*Cautions include renal disease, oral anti-coagulation, history of hypersensitivity to NSAIDs, history of gastric irritation, asthma.

Refer to BNF for full list.

**Regular Weak Opioid**

Either Codeine 30-60mg po qds.

Or Tramadol 50-100mg qds. Consider a reduced dose in the elderly e.g. 50mg tds.

**Regular Strong Opioid or Interventional Pain Management**

Either:

- Regular Slow Release Morphine e.g. MST, plus prn oramorph
- Follow prn im/sc/po hourly opioid algorithm (see intranet page)

Or:

- IV PCA if risk score > 11
- Epidural if risk score > 16 **ANAESTHETIC REVIEW**

Co-prescribe naloxone and consider prophylactic anti-emetics and laxatives.

If standard analgesic options are contraindicated e.g. when dealing with very frail elderly patients with significant co-morbidities, the use of a 5-7 day course of lidocaine 5% patches overlying the rib fractures (12 hours on 12 hours off) for inpatient use only may provide benefit.

Acute Pain Service, Bleep 5414. Anaesthetist bleep 5101, Vocera 40131.



STUMBL Adult Blunt Chest Trauma Risk Tool<sup>1</sup>

Add patient ID  
sticker

Age	Suspected Rib Fractures	Chronic Lung Disease	Anticoagulated	Pre-injury	O2 Sats on Room Air	Total Score
Score 1 point for every complete decade  e.g. 63 = 6 points	Score 3 points for every suspected rib fracture. Score 6 for each segmental rib fracture in the flail segment	5 points for COPD or productive chest disease (not smokers)		If yes score 4	<94% = 2 <89% = 4 <85% = 6	Add each separate score to give a total risk score
Risk Score	≤10	11-15	16-20	21-25	26-30	≥31
Patient destination	Consider discharge home with analgesia / advice sheet	D/W senior doctor in ED re admission OR discharge home	Recommend admission to ward	Recommend admission to ward	Recommend admission to Critical Care	Recommend admission to Critical Care
Oxygen delivery		If admitted: • Titrate to SATS • Nebulisers	• Titrate to SATS • Nebulisers	*Humidified oxygen titrated to SATS *Nebulisers	• Nasal high flow oxygen • Nebulisers	• Advanced ventilation support • Nebulisers
Team involvement		• Admitting team • Chest trauma support team (see below for contacts)  If discharged: Give analgesia and advice sheet	• Admitting team • Chest trauma support team (see below for contacts)	• Admitting team • Chest trauma support team (see below for contacts)	*Admitting team *Chest trauma support team (see below for contacts) *ICU	• Admitting team • Chest trauma support team (see below for contacts) • ICU  Consider surgical fixation

## ANALGESIC LADDER:

In ED: Regular paracetamol or Cocodamol\* +/- NSAIDS\*\* prn

If admitted: MST 5-10mg BD  
+/- Gabapentin 300mg  
+/- oramorph as needed

Strong opioid bolus iv titrated to pain  
IV morphine / Fentanyl PCA

Contact anaesthetist to discuss regional technique

Serratus anterior / erector spinae plane block / paravertebral block / thoracic epidural

\* If giving co-codamol 30/500 x 2 tablets qds: this gives an equivalent morphine dose of 24mg over 24 hours.

\*\*Contraindications: renal disease, hypersensitivity, anti-coagulation, gastric irritation, asthma, Refer to BNF. \*Precautions: haemothorax

## Chest trauma support team:

Theatre general anaesthetic reg. 23488  
Cardiac anaesthetic reg: 23615  
Ceri Battle / ITU physio team: 23920 / switch out of hours  
Acute pain team: 23997 / 23488 out of hours  
Trauma fellow: 23658

NB: Additional guidance on whom to contact re regional analgesia techniques can be found in the anaesthetics dept

1) Battle CE, et al Predicting outcomes after blunt chest wall trauma: development and external validation of a new prognostic model. Crit Care. 2014, 18:R98 DOI: 10.1186/cc13873

# SOUTH WALES TRAUMA NETWORK (SWTN) CLINICAL GUIDELINE (CG)

## BURNS

<b>Reference Number</b>	SWTN CG 015
<b>Application</b>	All Health Board providers
<b>Version</b>	1
<b>Replaces</b>	N/A
<b>Issue date</b>	January 2020
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<b>Author(s)</b>	Mr P Drew, Mr Ni Wilson-Jones
<b>Internal reviewer(s)</b>	Mr Niall Martin, Mr L Davies, Dr D Gill
<b>Network Governance Subcommittee review</b>	January 2020
<b>Sign off</b>	Network Board

### Aims and Scope

**The aim of this document is to describe:**

- The recognition and management of vascular injuries.
- The management of suspected vascular injuries.

For paediatrics guidelines see SWTN CG18.

## Introduction

Burn injury is defined as that resulting from exposure to thermal, chemical, electrical or radiated energy. Such injury often occurs in isolation, but may be associated with other trauma. Small, uncomplicated burns can usually be managed safely by suitably trained primary care providers, with guidance from the specialised services if required. Outcome from severe burn injury is optimal when patients are managed by specialised burn services from an early stage.

## Burn Care in the UK

Specialised Burn Care in England & Wales is delivered by four regional Operational Delivery Networks (ODNs). Within each, burn services are designated as providing care at one of three levels. Burn Centres provide specialised burn care for patients with burn injuries of any severity, including the most severe and complex. Burn Units provide care up to a moderate level of injury complexity, while Burn Facilities provide care for non-complex burn injuries only.

Specialist paediatric burn services are available within each ODN, at Paediatric Burn Centres and Units. These may or may not be co-located with Adult Burn Services.

## Burn Care in Wales

Burn Care for South and Mid-Wales is provided by the South West UK (SWUK) ODN. The Welsh Centre for Burns and Plastic Surgery at Morriston Hospital, Swansea, is the only service located in Wales and is designated as an Adult Burn Centre and Paediatric Burn Unit within the SWUK ODN. Thus, this service will manage any severity of adult burn injury and small to moderately severe paediatric injuries. Severe and complex paediatric injuries are managed by the South West UK Children's Burns Centre at the Bristol Royal Hospital for Children.

Burn Care for North Wales is usually provided by specialised burn services within the Northern Burns ODN in Liverpool. Adult services are based at Whiston Hospital, while Paediatric services are based at Alder Hey Children's Hospital.

## Network Policy for Managing Burn Injuries

The network policy on managing burn injury follows nationally and regionally agreed guidance, already in place under the SWUK ODN.

### First Aid

Advice on First Aid is available via the British Burn Association (BBA) website, at <https://www.britishburnassociation.org/wp-content/uploads/2017/06/BBA-First-Aid-Guideline-24.9.18.pdf>

### Initial Management

SWUK Burn Care ODN guidance on various aspects of the initial assessment & management of burn-injured patients is available on the Network website.



**Initial Assessment & Management**

[http://www.mysurgerywebsite.co.uk/website/SWUK001/files/SWUK Guideline Initial Assessment and Management Burn Injury v1 \(Oct 2018\).pdf](http://www.mysurgerywebsite.co.uk/website/SWUK001/files/SWUK%20Guideline%20Initial%20Assessment%20and%20Management%20Burn%20Injury%20v1%20(Oct%202018).pdf)

**Smoke Inhalation Injury and Airway Management**

[http://www.mysurgerywebsite.co.uk/website/SWUK001/files/SWUK Guideline Smoke Inhalation and Airway Management V2.0 \(July 18\)NB.pdf](http://www.mysurgerywebsite.co.uk/website/SWUK001/files/SWUK%20Guideline%20Smoke%20Inhalation%20and%20Airway%20Management%20V2.0%20(July%2018)NB.pdf)

**Wound Management**

[http://www.mysurgerywebsite.co.uk/website/SWUK001/files/SWUK%20Wound%20Management%20Guidelines%20V1%20\(Oct18\).pdf](http://www.mysurgerywebsite.co.uk/website/SWUK001/files/SWUK%20Wound%20Management%20Guidelines%20V1%20(Oct18).pdf)

**Requirement for Surgery Prior to Transfer**

<http://www.mysurgerywebsite.co.uk/website/SWUK001/files/SWUK%20Guideline%20Need%20for%20Surgery%20prior%20to%20Transfer%20V1.0NB.pdf>

**Burns Intensive care in the First 48 Hours**

[http://www.mysurgerywebsite.co.uk/website/SWUK001/files/SWUK%20Guideline%20Burns%20Intensive%20Care%20First%2048%20Hours%20V2.0NB%20\(July%202018\).pdf](http://www.mysurgerywebsite.co.uk/website/SWUK001/files/SWUK%20Guideline%20Burns%20Intensive%20Care%20First%2048%20Hours%20V2.0NB%20(July%202018).pdf)

**Referral to a Specialised Burn Service**

National guidance on referring burn-injured patients to specialised burn services is available at: [http://www.britishburnassociation.org/downloads/National\\_Burn\\_Care\\_Referral\\_Guidance\\_-\\_5.2.12.pdf](http://www.britishburnassociation.org/downloads/National_Burn_Care_Referral_Guidance_-_5.2.12.pdf)

**Referrals to the Burn Centre at Morriston Hospital, Swansea**

Non-urgent referrals & enquiries – via Hospital Switchboard, 01792 702222 ext. 23882.

Urgent Consultant-to-Consultant referrals:

08:00 – 17:00 weekdays – Duty Burns Consultant via Hospital Switchboard.

17:00 – 08:00 & weekends – On-call Burns Consultant via Hospital Switchboard.

**Referrals to the Paediatric Burn Centre at Bristol Royal Children's Hospital, Bristol**

Guidance for the referral of paediatric burns to the regional Paediatric burns centre at Bristol Royal Children's Hospital can be found online at:

<http://www.uhbristol.nhs.uk/patients-and-visitors/your-hospitals/bristol-royal-hospital-for-children/what-we-do/the-south-west-uk-children's-burn-centre/how-to-refer/>

Discussion with the On-Call Paediatric burns team can be made on the number below:

Referrals & enquiries – 0117 923 0000 Bleep 6780.

**Triage decision making**

Broadly, if major trauma is the predominant issue, the patient should be transferred to the adult and children's MTC at UHW. If burns are the predominant issue, the patient should be transferred to the appropriate burns centre or unit. For further guidance, discuss cases with the MTC TTL and Burns Consultant at Morriston Hospital.

# SOUTH WALES TRAUMA NETWORK (SWTN) CLINICAL GUIDELINE (CG)

## COMPARTMENT SYNDROME (ADULT TRAUMA PATIENTS)

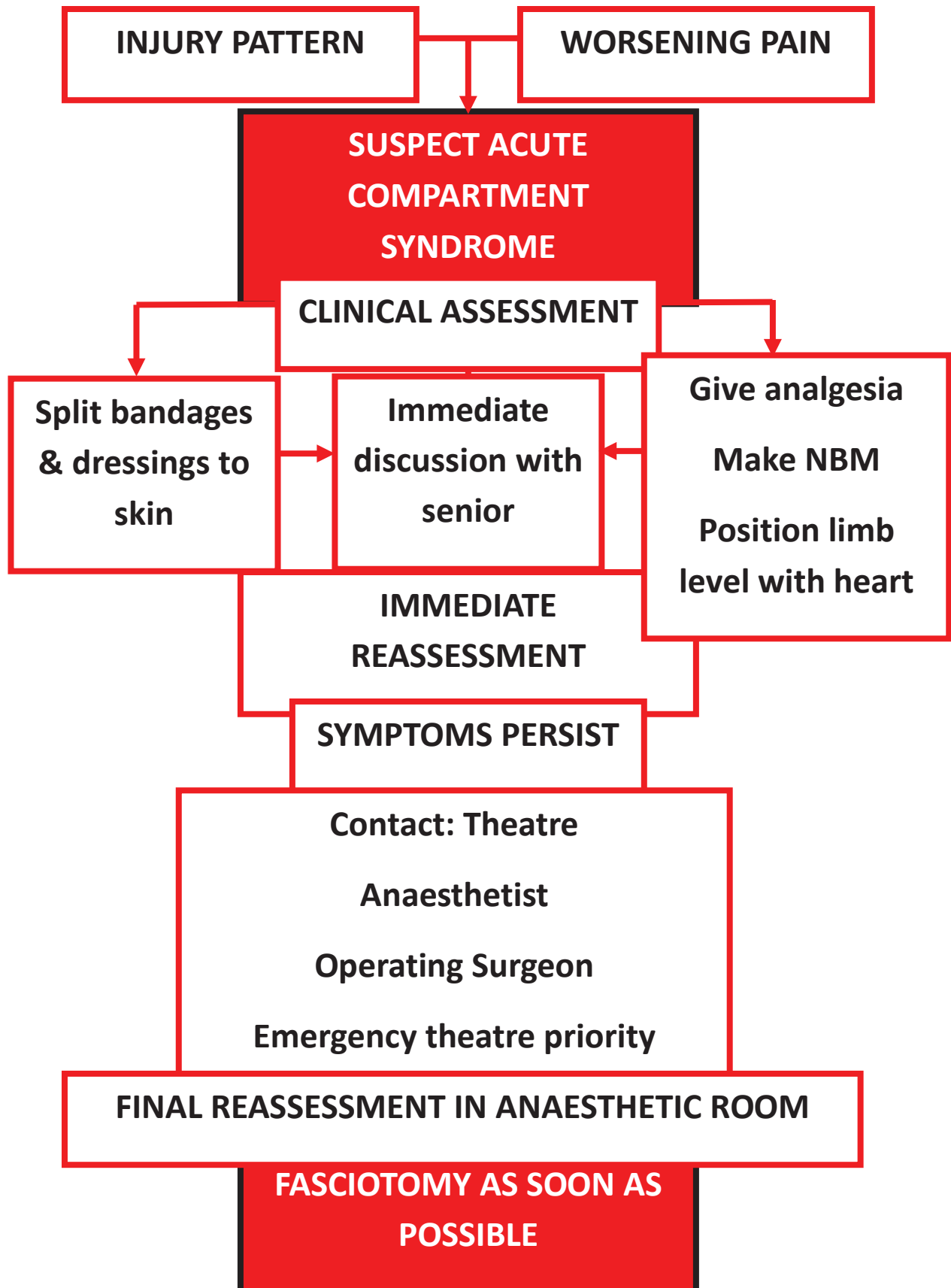
<b>Reference Number</b>	SWTN CG012
<b>Application</b>	All Health Board providers
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<b>Author(s)</b>	Prof I Pallister, Mr M Hossain, Dr S Ford,
<b>Internal reviewer(s)</b>	Dr A Jayakumar, Mr H Dafydd, Mr R Clement
<b>Network Governance Subcommittee review</b>	Mr J Lewis, Dr D Gill
<b>Sign off</b>	January 2020
	Network Board

### Aims and Scope

**The aim of this guideline is to describe:**

- The risk factors for developing compartment syndrome
- Clinical assessment and recognition.
- Fasciotomy approaches and aftercare.

For paediatrics guidelines see SWTN CG18, although principles will apply from this guideline to the paediatric trauma population.

**Aide Memoire**

## Background

- Acute compartment syndrome is a surgical emergency.
- Prompt detection and urgent treatment are the keys to successful management of this condition. Delay in recognition and treatment can result in significant morbidity or loss of limb.
- Acute compartment syndrome occurs when the pressure inside any closed myofascial compartment rises. The increased pressure impedes blood flow and leads to ischaemia and rapid tissue death. Any condition that raises intra-compartmental pressure can cause compartment syndrome. Common causes include acute trauma, infective myositis, reperfusion of ischemic limbs and IV fluid infusions that have become tissue.
- British Orthopaedic Association Standards for Trauma (BOAST) has recently published national standard for management of acute limb compartment syndrome and highlighted the importance of a clear written protocol in centres managing trauma.

## Identification

- The admitting doctor should assess all patients with significant limb injuries for compartment syndrome. Clear documentation should include: the time and mechanism of injury, time of evaluation, level of pain, level of consciousness, response to analgesia and whether a regional anaesthetic has been given.
- Patients with signs of compartment syndrome on admission should be immediately discussed with the registrar on call and escalated to the consultant.
- Patients who do not currently have signs of compartment syndrome but are deemed to be at risk of developing it should have this clearly documented. The registrar or consultant on call should be informed of concerns and nursing staff on the admitting ward should be informed of the need to monitor the patient according to the protocol outlined below.
- The following patients are at high risk of developing compartment syndrome:
  - Injuries sustained from high energy transfer mechanisms (road traffic accidents, falls from significant height etc.).
  - Open fractures.
  - Crush injuries.
  - Prolonged compression of the limb including tourniquet use.
  - Supracondylar fracture in a child.
  - Young (adolescent) patients with fractures of the tibia and/or radius/ulna.
  - Immediate post-operative patients following fracture fixation of long bones.
  - Patients who have had reperfusion of an ischemic limb.
  - Blunt injury to a myofascial compartment.
- It is stressed that clinical assessment may be difficult in the following group of patients:
  - Unconscious.
  - Intubated.
  - Patient controlled analgesia (PCA).
  - Regional anaesthesia.
  - Intoxicated or uncooperative patients.
  - Children.
- In suspecting compartment syndrome in these groups of patients the mechanism and site of injury should be considered paramount and the limb compartment should be clinically assessed for tense swelling. Measurement of compartment pressures should be considered in these patients and escalation to the registrar or consultant on call is essential.
- Patients who have sustained low velocity fractures of the hip/femur/ankle/wrist etc. and are deemed to be at low risk

## Monitoring of at Risk Patients

- The admitting doctor must clearly instruct nursing staff to monitor pain levels and neurovascular status of any patient at risk of developing compartment syndrome.
- High-risk patients should have observations at least once an hour for the first six hours. Provided their pain and active digit movement are satisfactory after this initial observation period then transition to four hourly observations are acceptable changing to four hourly observations must be agreed by the Registrar.
- Low-risk patients can have regular observations at standard 4 hourly rates.
- When there is any change in the clinical condition of the patient suggesting developing compartment syndrome, the patient must be reviewed immediately by the registrar or consultant and hourly observations should be resumed.
- The most important symptom of acute compartment syndrome is worsening or uncontrolled pain. It is therefore proposed that:
  - Severity of pain (at rest and with active and passive movement of the digits) must be clearly assessed and documented at each time point on a scale of 0-3 (0 = no pain, 1 = slight pain, 2 = moderate pain, 3 = severe pain).
  - Pain score must be re-assessed following analgesic administration.
  - Neurovascular assessment of the limb is made.
- The responsible nurse must keep the patient fasted and immediately inform the Registrar that acute compartment syndrome is suspected if:
  - Pain is worsening in spite of regular appropriate analgesia, including PCA or regional blocks.
  - There are increasing analgesic requirements to control the pain.
  - If the patient is on a PCA and pain is uncontrolled, after calling for the Registrar or Consultant to review the patient ensure that:
    - Infusion system is working.
    - IV access is patent.
    - Syringe is not empty.
    - PCA demand button is attached to pump.
    - Patient understands how to use the demand button.
    - Patient has received adequate analgesia.

## Diagnosis of Acute Compartment Syndrome

- A clinical suspicion of acute compartment syndrome requires urgent clinical assessment of the patient.
- A junior doctor must promptly assess the patient and discuss with the registrar on-call immediately. If the registrar is unavailable, busy in theatre or unable to assess the patient this must then be discussed with the consultant on-call immediately.
- A thorough assessment of pain is mandatory.
- A review of the type, timing and dosages of analgesia administered should be undertaken.
- High pain scores, increasing or excessive analgesia requirements are red flags and concerns should be escalated to the registrar or consultant.
- The compartments should be palpated to assess if they are tense or painful on palpation. Significant pain over a compartment, which does not immediately overly the site of injury, is a red flag.
- The most important sign is exacerbation of pain on passive stretching of the affected muscles. Stretching ischaemic muscle causes pain, thus dorsiflexion of the toes will elicit pain from the deep posterior compartment. Plantar-flexing the toes, will elicit pain from the anterior compartment.

- Paraesthesia in the distribution of the sensory nerves passing through the affected compartment. Most commonly paraesthesia of the first web space in the foot due to deep peroneal nerve is affected in cases of leg compartment syndrome. Paraesthesia develops later than pain and ideally patients should be identified prior to this sign. DO NOT WAIT UNTIL IT IS PRESENT to escalate to a senior.
- Paresis is a very late sign.
- Remember skin colour and pulses are normal in compartment syndrome unless there is an associated arterial injury. If pulses are absent the patient might have a vascular injury, the doctor should seek immediate vascular opinion or a plastics opinion in the upper limb, in addition to informing the seniors in their own team as outlined above.

## Management

### Immediate Interventions

- Keep patient fasted.
- Remove circumferential bandages and split any plaster cast including cotton wool bandage down to the skin along the whole length of the cast and relieve pressure.
- Position affected limb at heart level.
- Maintain the patient at normotensive blood pressure and prescribe fluids if BP is low.
- If there is immediate improvement then re-assess the patient again within 30 minutes.
- If there is no clinical improvement or the clinical diagnosis is unequivocal, arrange immediate transfer to theatre for fasciotomy and call the consultant.
- If diagnosis is unclear discuss with consultant on-call and arrange for immediate compartment pressure measurement in the anaesthetic room in theatre.

### Compartment pressure measurement

It is important to be aware of the correct technique for measuring compartment pressure. In a study only 31% of measurements were performed using the correct technique). Even when the correct technique is used measurement accuracy can vary. Therefore orthopaedic registrars must familiarise themselves with the available instruction manual and seek help if not confident with the procedure.

- Perform compartment measurement in a sterile fashion.
- Insert needle within 5cm of the fracture, measure pressure from all compartments deemed to be at risk.
- Follow manufacturers' guideline for measuring compartment pressure.
- Decide on the need for fasciotomy based on the highest pressure obtained from the compartments after the reading has reached a steady state.
- Document compartment pressure measurement results.
- Repeated measurements may sometimes be needed.
- Proceed to Fasciotomy when:
  - Compartment pressure is  $> 40\text{mmHg}$ .
  - Perfusion pressure (Delta P) is  $< 30\text{mmHg}$ .

Delta P = diastolic pressure - compartment pressure)

## Fasciotomy

Fasciotomy is a limb saving emergency procedure and its importance cannot be over-emphasized. However, it is rarely performed and trainees often do not have enough exposure to this procedure. Only 10% of orthopaedic trainees correctly marked the proposed incision in a study. It is recommended that the responsible consultant is present for the procedure. If there are concerns regarding the potential requirements for plastic surgical intervention or amputation at a later stage then it is imperative that a plastic surgeon is consulted for advice regarding the optimal decompression technique.

## DECOMPRESSION OF THE ANTERIOR AND PERONEAL COMPARTMENTS

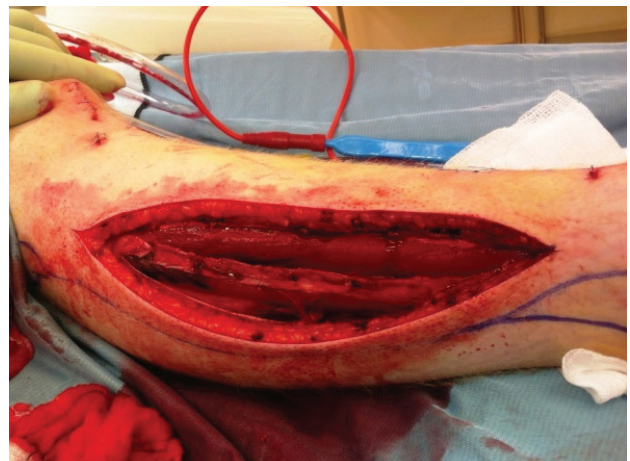
Two techniques have been described for the decompression of the anterior and lateral compartments.

### Technique 1: The Septal Incision or Military Technique:

- The surgeon attempts to place the skin incision directly over the inter-muscular septum between the anterior and lateral compartments. Each is then decompressed by a separate incision releasing the fascia directly over each compartment.
- In a very swollen or maligned limb, it is possible to misplace the skin incision, and so have difficulty locating the inter-muscular septum. Undermining the skin edges may prove necessary and if the surgeon doesn't orientate themselves correctly it is possible to fail to decompress the anterior compartment.
- Furthermore, if placed too lateral, it has been suggested that the incision will compromise the peroneal perforators which may provide a useful soft tissue reconstruction option in the case of certain patterns of open fracture. If damaged, a patient may be consigned to having a free tissue transfer in an injury which was otherwise amenable to a local flap.

### Ultrasound assisted military technique for anterior and lateral compartment decompression:

The technique of using ultrasound to mark the position on the intermuscular septum between the anterior and peroneal compartments has recently been described in volunteers and used in cases of acute compartment syndrome. This allows the incision to be placed directly over the lateral intermuscular septum, and each compartment to be decompressed through separate fascial incisions, minimizing any risk to perforator blood vessels. See figure below (permission gained from patient).



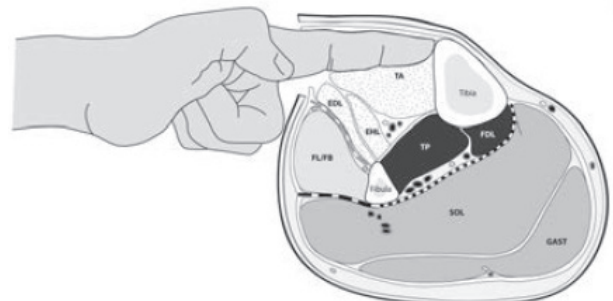
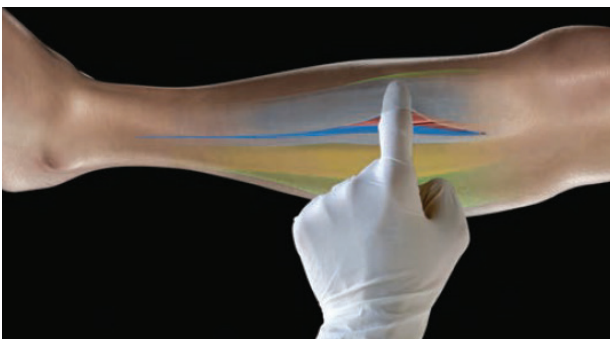




- Distally the intermuscular septum can be easily identified as it becomes continuous with the periosteum of the distal fibular crest. The probe should be positioned just posterior to the line of the subcutaneous border of the fibula proximal to the lateral malleolus. This can then be followed proximally.
- Alternatively, starting proximally, just below the tibial tubercle, the ultrasound transducer is moved laterally towards the fibula, to acquire an axial cross-sectional view of the antero-lateral aspect of the proximal lower leg, and to identify the muscles of the anterior compartment and the inter-muscular septum between anterior and lateral (peroneal) compartments. The inter-muscular septum is then followed distally, keeping the junction of the septum and the deep fascia in the centre on the scanning image, until the septum disappears just above the level of the lateral malleolus.
- Place distal incision 1.5cm anterior to the lateral malleolus to avoid exposure of bone.

### The Poke Test:

It can be difficult to identify the intended compartments due to swelling. A simple poke test is useful in this scenario. After entering the deep fascia, a finger is inserted and advanced towards the midline, superficial to the muscle but deep to the fascia.



- If the finger is in the anterior compartment, it will touch the tibia easily.
- If, however, the finger is in the lateral compartment, this will be impossible. But, if the direction of the finger is reversed and advanced, the fibula will be felt.
- It is imperative to 'poke' the finger in and never to sweep it along the length of the wound. This would avulse perforators with potentially disastrous results.



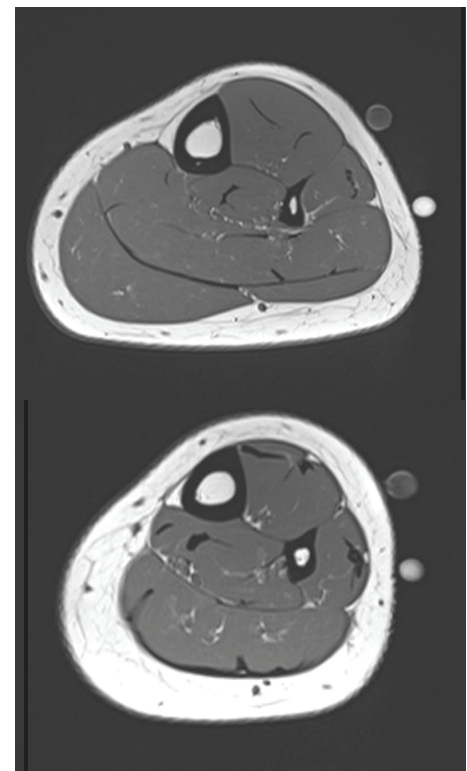
### Technique 2: The Direct Anterior Technique:

- The alternative approach places the skin incision much more anteriorly and decompresses the anterior compartment directly by incising the fascia exactly in line with the skin incision, about 1.5-2cm lateral to the tibial crest.
- This is then followed by medial retraction of the muscle bulk of the anterior compartment to allow decompression of the lateral compartment by incision of the inter-muscular septum.
- A clear advantage of this approach is that location of the anterior compartment is assured. Another perceived advantage is that undermining the skin to locate the inter-muscular septum is unnecessary. In addition the peroneal muscular perforators will not be compromised.
- An acknowledged risk of the technique is damage to the superficial branch of the common peroneal nerve because of its variable but close relationship to the inter-muscular septum.
- Despite these potential advantages, blistering of the narrow skin bridge has been encountered, along with poor soft tissue cover over the tibial fracture itself.
- Finally, if a below knee amputation is ultimately required, then fashioning of the flaps to close the amputation is very challenging.

### POSTERIOR COMPARTMENT DECOMPRESSION:

#### POSTERIOR COMPARTMENT DECOMPRESSION:

MRI cross sections of the leg below the knee demonstrating the superficial posterior compartment wrapping around the deep posterior compartment, with the origin of soleus from the tibia concealing the deep compartment in the left hand image. More distally, the deep compartment has emerged from this concealed position, shown in the right hand image.



- The medial incision is made in a longitudinal manner 1-2 cm posterior to the posterior medial palpable edge of the tibia to avoid damaging the medial perforators.
- Once down to the fascia, this should be incised in line with the skin incision. When required, the saphenous vein and nerve should be retracted anteriorly as the superficial posterior compartment is decompressed.
- The soleus takes origin from the proximal 1/3 of the tibia and covers the proximal portion of the deep posterior compartment. Adequate decompression requires detaching the soleus origin from the medial aspect of the tibial shaft. Detach the soleus from the tibia to expose the deep posterior compartment. In the distal leg, the deep posterior compartment lies just below the subcutaneous tissue. Decompress the deep posterior compartment by incising the overlying fascia. Do not elevate the deep muscle from the bone as this will devascularise it.
- Posterior neurovascular structures are at risk when the deep posterior compartment is decompressed and this must be borne in mind.
- After initial decompression reassess wound as swelling may result in compression of tissues at the margin of the incision that may require further wound extension, however take care not to expose bone.

**The Next Steps:**

- Following decompression carefully assess muscle viability (colour, bleeding and contractility) and excise all dead tissue.
- Extend wounds further if following initial decompression swelling of the limb is manifest with tight skin bridges at the edges of the fasciotomy but take care not to expose bone.
- Whenever possible obtain clinical photos at the end of the procedure.
- Consider applying a topical negative pressure dressing to cover the fasciotomy wound and carefully apply an appropriate back-slab to prevent the development of a disabling contracture.
- Liaise with Plastic Surgical team regarding the future definitive management of the fasciotomy wounds if they have not already been consulted.
- Following fasciotomy patients should not be repeatedly taken back to theatre for second look.
- Patients whose legs are too swollen for early wound closure are rarely closed by delayed primary closure. Early plastics input with split thickness skin graft is often an excellent alternative in these cases.

**Additional Points****Aftercare:**

All patients are at risk of rhabdomyolysis and should have a creatine kinase measured. Carefully monitor renal function and institute appropriate systemic treatment, including IV fluids and electrolyte correction.

**Summary**

Acute limb compartment syndrome is a potentially life threatening orthopaedic emergency. The most important cause of poor outcomes following acute compartment syndrome is a delay in making the diagnosis, followed by inadequate decompression. Therefore a number of possible predictive factors have been discussed while emphasising that the diagnosis may not be obvious in certain groups of patients.

Overall a high index of suspicion must be maintained. It is also emphasised that compartment pressure measurement, when performed, must be undertaken in a standard fashion to avoid variability. Surgical decompression, when necessary, must be executed immediately and all compartments must be adequately decompressed.

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# SOUTH WALES TRAUMA NETWORK (SWTN) CLINICAL GUIDELINE (CG)

## DAMAGE CONTROL RESUSCITATION (ADULT MAJOR TRAUMA PATIENTS)

<b>Reference Number</b>	SWTN CG07
<b>Application</b>	All Health Board providers
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<b>Related guidelines/policies</b>	Multiple
<b>Author(s)</b>	Dr A Jones
<b>Internal reviewer(s)</b>	Mr L Davies, Dr D Gill
<b>Network Governance Subcommittee review</b>	January 2020
<b>Sign off</b>	Network Board

### Aims and Scope

The aim of this guideline is to:

- Describe the principles of Damage Control Resuscitation.
- Use of Tranexamic Acid.
- Provide a mnemonic for management of trauma patients with major haemorrhage.

For paediatrics guidelines see SWTN CG18.

## Introduction

- Damage Control Resuscitation (DCR) has drastically changed trauma care in the last decade. The aim is to control bleeding, optimise oxygen delivery and prevent physiological deterioration whilst simultaneously restoring anatomical stability and addressing any coagulopathy.

In a 'shocked' patient the 3 underpinning principles of management of are:

- Immediate temporary control of obvious bleeding – Catastrophic Haemorrhage.
- Clot stabilisation with haemostatic resuscitation.
- Identification and definitive control of all significant sources of bleeding and decompression of extremity compartment syndrome – Damage Control Surgery.

Appendix 1 provides a mnemonic for management of trauma patients with major haemorrhage for display in resuscitation areas (including emergency/trauma theatres and intensive care units).

## Catastrophic Haemorrhage

The immediate application of tourniquets in the presence of significant bleeding from open limb injuries, and pelvic binders for open book pelvic trauma have clearly been shown to improve survival. In more than 90% of cases bleeding in pelvic ring injuries is due to venous injury and will respond well to immediate binding and haemostatic resuscitation.

These methods are temporary means of haemorrhage control and must be replaced with definitive treatment as soon as possible.

## Haemostatic Resuscitation

The Acute Coagulopathy of Trauma Shock (ACoTS) is known to be common-place at admission to hospital and arises directly as a consequence of the shock state. Coagulopathy on admission to hospital correlates to overall mortality so must be addressed aggressively.

Transfusion strategies must therefore aim to replace lost blood with the nearest equivalent to whole blood. This affords the patients physiology the best opportunity to ensure tissue perfusion and oxygen delivery, whilst mitigating against the effects of ACoTS.

Haemostatic resuscitation (using hospital "Massive Transfusion Protocols" - see Appendix 2 as an example) will allow the use of equivalent volumes of packed red blood cells and fresh frozen plasma, supported but the appropriate use of platelets and fibrinogen with haematology advice and use the of point of care coagulation testing such as ROTEM (where available).

Boluses of 250ml of blood products via a warming device to achieve the required level of perfusion is recommended. Target blood pressures are difficult to dictate and depend upon patient injuries (for example head injuries), presence of compressible or non-compressible haemorrhage, time since injury and any pre-morbid patient factors. Adequacy of tissue perfusion can be guided by regular blood gases (lactate, base excess).

Care should be given to keeping calcium levels  $>1.0\text{mmol/L}$  (usually 10mmol of CaCl with every 'shock pack') and hyperkalaemia should be treated aggressively with insulin and dextrose infusions.

Clot stabilisation using Tranexamic acid (TXA) is of proven benefit in trauma, both in the civilian and military settings. The figure below describes indications for use and doses:

### TXA

- Within 3 hours of injury.
- Significant haemorrhage (BP < 90 systolic, pulse >110) OR considered to be at risk of significant haemorrhage (e.g. compensated shock or patients in whom bleeding may restart).

### Prescribe as follows:

- 1g TXA given as an IV/IO bolus immediately (if not given pre-hospital already) or 15mg/kg for those below 50kg.
- Followed by 1g TXA in 100ml N saline over 8hrs.

## Identification of Bleeding

The duration and depth of hypovolaemic shock influence survival. Occult bleeding must be identified & controlled as soon as possible.

Diagnostic imaging is vital when the source of bleeding is not obvious. CT scanning should be regarded as the best option. FAST scanning should never delay access to CT.

Consideration should be given to omitting plain radiographs of the chest & pelvis if CT is immediately available. Such a decision is the responsibility of the trauma team leader.

Remember the arterial phase CT abdomen/pelvis is very useful in identifying intra-pelvic arterial bleeding.

Where CT imaging of other injured regions (such as the facial bones and mandible) is likely to be required for definitive reconstruction then it should be acquired in the same visit to the scanner as the trauma CT scan. This reduces the number of times that the shock trauma patient is transferred to and from the radiology department and allows injuries to be addressed in one visit to theatre where appropriate.

**Direct to theatre:** In exceptional condition, the patient may be in extremis and proceeding to immediate surgery without advanced imaging may be considered. However serious consideration should be given to proximity of CT scanner and theatres to the resuscitation room; it is preferable to gain CT images 'en-route' to theatres so that images are available prior to knife to skin.

## Damage Control Surgery

Duration and depth of hypovolaemic shock are independent predictors of mortality. Time must not be wasted and communication between surgeons, anaesthetists & theatres must be clear.

Emergency surgery should aim to stem life-threatening haemorrhage, minimise contamination, decompress compartment syndrome, revascularise arterial injuries, debride (or amputate) and stabilise open fractures.

A decision to re-fill the patient aiming to restore haemodynamic normality and global tissue perfusion must be taken as soon as bleeding is controlled or sooner should there be evidence of end organ damage. Vasopressors should be avoided.

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**Appendix 1: TRAUMATIC mnemonic (expand, print and display in resuscitation areas including emergency/trauma theatre and intensive care units)**

<b>Major Trauma?</b> <b>Major Haemorrhage? Then...</b>		
<b>T</b>	<b>Tranexamic Acid</b>	<ul style="list-style-type: none"> <li>Initial 1g bolus:               <ul style="list-style-type: none"> <li>Often already given pre-hospital</li> <li>Otherwise, administer only if within 3 hours of injury or ongoing hyperfibrinolysis</li> <li>Do not delay, every minute counts</li> </ul> </li> <li>Subsequent 1g infusion over 8 hours</li> </ul>
<b>R</b>	<b>Resuscitation</b>	<ul style="list-style-type: none"> <li>Activate Major Haemorrhage Protocol</li> <li>Initial Transfusion Ratio 1:1:1 and consider:               <ul style="list-style-type: none"> <li>Rapid infuser and cell salvage</li> <li>Time-limited hypotensive resuscitation</li> <li>Pelvic binder / splint fractures / tourniquet</li> </ul> </li> <li>Avoid any crystalloid use</li> </ul>
<b>A</b>	<b>Avoid Hypothermia</b>	<ul style="list-style-type: none"> <li>Target temperature &gt; 36°C</li> <li>Increase ambient theatre temperature</li> <li>Remove wet clothing and sheets</li> <li>Warm all blood products &amp; irrigation fluids</li> <li>Warm the patient using forced-air warming device / blanket / mattress</li> </ul>
<b>U</b>	<b>Unstable?</b> <b>Damage Control Surgery</b>	<ul style="list-style-type: none"> <li>If unstable, coagulopathic, hypothermic or acidotic, perform damage control surgery of:               <ul style="list-style-type: none"> <li>Haemorrhage control, decompression, decontamination and splintage</li> </ul> </li> <li>Time surgery aiming to finish &lt; 90mins and conduct Surgical Pauses at least every 30mins</li> </ul>
<b>M</b>	<b>Metabolic</b>	<ul style="list-style-type: none"> <li>Perform regular blood gas analysis</li> <li>Base excess and lactate guide resuscitation               <ul style="list-style-type: none"> <li>Adequate resuscitation corrects acidosis</li> </ul> </li> <li>If lactate &gt; 5mmol/L or rising, consider stopping surgery, splint and transfer to ICU</li> <li>Haemoglobin results are misleading</li> </ul>
<b>A</b>	<b>Avoid Vasoconstrictors</b>	<ul style="list-style-type: none"> <li>Use of vasoconstrictors doubles mortality               <ul style="list-style-type: none"> <li>However, use may be required in cases of spinal cord or traumatic brain injury</li> </ul> </li> <li>Anaesthetic induction - Suggest Ketamine</li> <li>Maintenance - When BP allows, titrate high dose Fentanyl and consider Midazolam</li> </ul>
<b>T</b>	<b>Test Clotting</b>	<ul style="list-style-type: none"> <li>Check clotting regularly to target transfusion:               <ul style="list-style-type: none"> <li>Laboratory or point of care (TEG / ROTEM)</li> <li>Aim platelets &gt; 100x10<sup>9</sup>/L</li> <li>Aim INR &amp; aPTT ≤ 1.5</li> <li>Aim fibrinogen &gt; 2g/L</li> </ul> </li> </ul>
<b>I</b>	<b>Imaging</b>	<ul style="list-style-type: none"> <li>Consider:               <ul style="list-style-type: none"> <li>CT:                   <ul style="list-style-type: none"> <li>Most severely injured / haemodynamically unstable patients gain most from CT</li> </ul> </li> <li>Interventional radiology</li> </ul> </li> </ul>
<b>C</b>	<b>Calcium</b>	<ul style="list-style-type: none"> <li>Maintain ionised Calcium &gt; 1.0 mmol/L               <ul style="list-style-type: none"> <li>Administer 10mls of 10% Calcium Chloride over 10 minutes, repeating as required</li> </ul> </li> <li>Monitor Potassium and treat hyperkalaemia with Calcium and Insulin / Glucose</li> </ul>
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## Appendix 2: Example of Hospital Massive Haemorrhage Protocol (MHP)

### Massive Haemorrhage Protocol – Clinical Area

Immediate assessment of cause of bleeding and appropriate management	<p><u>TEAM LEADER MUST DECLARE</u>  <b>Massive Haemorrhage</b>- clinical area if:            clinical evidence of suspected massive haemorrhage</p>	<p>switchboard send out <b>Massive Haemorrhage</b>- clinical area- Alert blood bank by phone (day) or bleep (OOH), Porters Lodge, appropriate Specialist Consultant and Consultant Haematologist</p>
	<p>Nominated member of team</p> <ul style="list-style-type: none"> <li>• Generate emergency ID number for patient</li> <li>• Call switchboard – Notify massive haemorrhage- clinical area and request Senior support</li> <li>3. Send porter for 'Emergency Blood' 4 units</li> </ul>	
	<p>Take <b>baseline blood</b> samples prior to transfusion            Including FBC, crossmatch, Clotting screen and fibrinogen  <b>Send porter direct to lab with samples</b>            And to collect FFP x 4            plus O Neg Red cells x 4</p>	<p>Laboratory protocol:  <b>'Massive Haemorrhage'</b>            Call for assistance            Assume O neg used            Thaw 4 A FFP            Issue 4 O Neg (emergency use)            Restock emergency O Neg            Ensure Platelets available            Check fibrinogen available</p>
Senior review of management plan and appropriate intervention to arrest bleeding	<p>Immediate Transfusion            Give Emergency O Neg red cells x 4 units            4 units FFP and further 4 O Neg units red cells</p>	
	<p>If bleeding continues –  <b>contact lab</b> to inform of need for ongoing support            Send porter to collect 4 units red cell, group specific,            4 units FFP,            1 platelet pool,            fibrinogen concentrate 4gms</p>	
	<ul style="list-style-type: none"> <li>• <b>REPEAT FBC AND CLOTTING SCREEN</b>            Administer further products if:</li> <li>• Platelets &lt;80x10<sup>9</sup>/l – 1 pool platelets (2 if &lt;30)</li> <li>• Fibrinogen &lt;2.0g/l – 4gms fibrinogen</li> </ul>	



# SOUTH WALES TRAUMA NETWORK (SWTN) CLINICAL GUIDELINE (CG)

## EMERGENCY ANAESTHESIA (ADULT MAJOR TRAUMA PATIENTS)

<b>Reference Number</b>	SWTN CG01
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<b>Replaces</b>	N/A
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<b>Related guidelines/policies</b>	SWTN CG02, SWTN CG07, SWTN CG18
<b>Author(s)</b>	Dr M Argent, Dr M Creed, Dr A Jones, Dr T Kitchen
<b>Internal reviewer(s)</b>	Dr S Gill, Dr I Bowler, Dr D Gill
<b>Network Governance Subcommittee review</b>	December 2019
<b>Sign off</b>	Network Board

### Aims and Scope

#### The aim of this document is to:

- Provide guidance for the safe and effective provision of emergency anaesthesia in adult major trauma patients across the South Wales Trauma Network (SWTN).
- Encourage standardisation of in-hospital adult major trauma anaesthesia across the SWTN.

#### The scope of this document is to:

Describe the management of in-hospital emergency anaesthesia in adult major trauma patients (i.e. 16 years and over). For paediatrics guidelines see SWTN CG18.

## Airway Management

- Rapid Sequence Induction (RSI) of Anaesthesia in major trauma is undertaken to:
  - Prevent aspiration of gastric contents in patients who are unfasted.
  - Stabilise physiology.
  - Facilitate investigation and treatment.
- The essential features of RSI are safety, pre-oxygenation, intravenous induction (using a pre-determined induction dose) and insertion of a tracheal tube prior to mechanical ventilation of the lungs.
- It is imperative to avoid hypoxia, hypotension, hypercarbia and aspiration during the procedure.
- Airway management in major trauma patients can present a significant challenge. There are a variety of physiological, technical and non-technical factors that may increase complexity of induction of anaesthesia and subsequent airway management.
  - Examples include:
    - Haemodynamic instability (secondary to hypovolaemic, obstructive or spinal shock).
    - Airway soiling and/or disruption of airway anatomy due to trauma or burns.
    - The need for cervical spine precautions and immobilisation.
    - Hypoxaemia due to major chest injury.
    - Cerebral irritation due to trauma causing agitation and combative behaviour.
- Non-technical factors such as time pressure, an unfamiliar team, environment and equipment; should all be addressed locally with simulation, training and standardisation of practice in line with this guideline.
- Improved patient safety and team performance with reduced cognitive loading while performing RSI can be promoted by common guidelines, training and the use of checklists.
- Anaesthetic, Critical Care and Emergency Medicine staff attending trauma calls should be familiar with this guideline, ensuring clarity around roles and responsibilities and providing an additional layer of quality control.

## Indications

- RSI is indicated when the benefits of conducting the procedure outweigh the potential risks.
- Patients requiring emergency airway management generally fall into 2 groups:
  - **Immediate:** Immediate intubation is required on arrival in the emergency department to save life and cannot be delayed due to airway/respiratory compromise. This will be a rare occurrence.
  - **Delayed:** Intubation can be delayed for a brief period to permit controlled and considered resuscitation prior to RSI.
- Possible indications for RSI include, but are not limited to, the following categories:
  - **Airway:** Obstruction or impending obstruction.
  - **Breathing:** Oxygenation and ventilation are inadequate or potentially inadequate.
  - **Circulation:** Massive haemorrhage, where anaesthesia will permit continued aggressive resuscitation. Blood product resuscitation to support RSI must be considered before induction of anaesthesia.
  - **Disability:** A reduced conscious level with loss of airway reflexes, seizures resistant to treatment or head injuries. A Glasgow Coma Score (GCS) less than 15 may be an indication to consider RSI to optimise oxygenation and ventilation. A GCS <9 is significant and requires RSI in

all but the most exceptional of cases.

- **Clinical course:** Where a patient will be heading to definitive treatment imminently, and anaesthesia will facilitate further investigation and management.
- **Humanitarian:** In some circumstances anaesthesia can be administered for humane reasons, e.g. extreme pain from significant burn injuries.

## Decision to Intubate

- RSI is indicated when the clinicians feel the benefits of conducting the procedure outweigh the potential risks.
- The decision to RSI will be made by the Trauma Team Leader in collaboration with the trauma team anaesthetist(s). Anaesthesia in major trauma patients can present many challenges, and benefits from the experience of a senior anaesthetist (ST4+ or equivalently experienced non-training grade doctor), with consultant support (at a minimum of distant supervision).
- During the brief period where RSI is being undertaken, it is appropriate for the Trauma Team Leader to briefly delegate control of the patient to the anaesthetic team, with control being handed back once the patient's airway has been secured and tube position confirmed.

## Preparation

- **Briefing**
  - It may be possible after the initial pre-alert to determine if RSI is required.
  - At this time an emergency intubation checklist can be used to guide preparation.
- **Environment**
  - The majority of major trauma patients are received into a resuscitation bay in the Emergency department.
  - Ensure that 360 degree access to the patient is maintained as this facilitates additional interventions.
  - Aim to maintain a low noise level – this facilitates effective team communication.
- **Equipment**
  - The anaesthetist and their airway assistant should take joint responsibility for checking the presence and function of equipment they wish to use.
  - Full AAGBI standard monitoring (3 lead-ECG, Non-Invasive Blood Pressure, SpO2, EtCO2) is required.
  - Confirm suction is working with appropriate sized “yankauer” suction catheter attached and placed on the right hand side of the patients head.
  - The ventilator should be tested to confirm suitable initial settings, that the correct tubing is attached and the circuit is tested for any leaks.
  - Airway equipment should be laid out nearby and ready for use.
  - Minimum layout must include:
    - Laryngoscope x 2 with suitable sized blade (the use of a Video Laryngoscope as the first line device is highly encouraged, such a device should be available in all departments receiving major trauma patients).
    - Bougie – routine use during all intubations is encouraged irrespective of view at laryngoscopy.

- Appropriately sized, cuffed oral endotracheal tube [cuff tested] and spare alternative [smaller sized] tube.
- 10 ml syringe.
- Nasopharyngeal airways x 2.
- Oropharyngeal airways.
- Bag-valve-mask connected to O2 tubing with catheter mount, filter and side stream capnography attached. (Mapleson “C” circuit may be used if desired in particularly in the presence of hypoxia pre-intubation), but a self-expanding bag must be immediately available at all times).
- Nasal cannula.
- o Confirm the immediate availability within the resuscitation bay of:
  - An alternative laryngoscope [alternative blade size and/or device type].
  - “Plan B” Airway – a suitably sized supraglottic airway.
  - “Plan D” Airway – Emergency Front of Neck Access [eFONA] / Can’t Intubate, Can’t Oxygenate [CICO] equipment.
- **Identify tasks/roles**
  - o Airway/anaesthesia team lead.
  - o Manual in-line stabilisation (if required).
  - o 1st intubator.
  - o 2nd intubator.
  - o Airway assistant (ideally this will be an Anaesthetic Operating Department Practitioner).
  - o Drug delivery.
- **Enable a rapid primary survey**
  - o Facilitate the team completing a rapid primary survey working with the trauma team leader to ensure that **all** of the following are assessed and recorded:
  - o Vital signs: Respiratory rate, Oxygen saturations, Heart rate and rhythm, Blood pressure.
  - o Glasgow Coma Score (especially motor score).
  - o Limb movements: and where applicable neuro-vascular status distal to any significant limb injury).
  - o Pupillary size and response to light.
  - o Blood glucose level.
  - o Abdominal tenderness and guarding.
- During the primary survey (if not all ready present) the team should secure two points of vascular access (intravenous or intraosseous) for drug delivery &/or blood product resuscitation.
- **Complete a full emergency anaesthetic (RSI) checklist**
  - o The local emergency anaesthetic (RSI) checklist must be completed as the last step prior to delivery of anaesthetic drugs (e.g. Appendix 1).

## Induction Drugs

- Induction agents should be chosen to maximise optimal intubating conditions while minimising cardiovascular instability which is detrimental to the major trauma patient.
- The following standard agents, doses and concentrations should be available for the induction and maintenance of anaesthesia across the SWTN:
  - o (Racemic) Ketamine [10mg/ml] 200mg in 20mls.
  - o Fentanyl [50mcg/ml] 500mcg in 10mls.
  - o Rocuronium [50mg/ml] 100mg in 10mls.

- Propofol 1% [10mg/ml] 500mg in 50mls.
- Midazolam [1mg/ml] 10mg in 10mls.
- **Fentanyl should be used with caution** in patients with haemodynamic instability and in the elderly:
  - Earlier delivery of Fentanyl, rather than a high dose is preferable to ensure sufficient obtunding of the pressor response at laryngoscopy, and when using this approach the team should be aware of the risk of pre-induction apnoea, and be prepared to treat accordingly.
  - Fentanyl is a potential cause of post-RSI hypotension and **in severe hypovolaemia it is appropriate for fentanyl to be omitted.**
  - The authors strongly recommend that the dose of Fentanyl used at induction of emergency anaesthesia in major trauma patients does not exceed the 3mcg/kg maximum recommended within this guideline.
- Ketamine is the preferred induction agent of choice in major trauma due to relatively greater haemodynamic stability and a wide therapeutic margin.
- Rocuronium is the preferred muscle relaxant - it causes a lesser degree of desaturation due to the absence of fasciculations:
  - Sugammadex should be available to emergency departments, from theatres.
  - With major trauma patients clinicians must be prepared to rapidly progress to eFONA/ CICO techniques as per Appendix 2 (Difficult Airway Society – Tracheal Intubation in Critically Ill Patients). “Wake up” is rarely (if ever) a suitable option in this patient population.
- Dosing regimens should be titrated based to individual patient physiology and clinician experience, remain vigilant for the young fit patient with significant polytrauma and a compensated shock state.
- A recommended induction regimen is illustrated below:

**CONSIDER – Does the patient need further resuscitation (fluids or blood products) prior to induction?**

Muscle relaxation and Positive Pressure Ventilation can cause significant haemodynamic instability.

<b>Isolated Head Injury or Haemodynamically Stable - '3/2/1'</b>	<b>Haemodynamically Unstable – '1/1/1'*</b>
Fentanyl 3mcg/kg Ketamine 2mg/kg Rocuronium 1mg/kg	Fentanyl 1mcg/kg Ketamine 1mg/kg Rocuronium 1mg/kg

**\*There are situations where the use of Ketamine as a sole induction agent, in lower doses than above will be appropriate due to profound and catastrophic trauma.**

- **Be aware** - there are **various Ketamine preparations** available.
- The use of Racemic Ketamine as standard in a concentration of 10mg/ml is recommended for ease of titration:
  - Where Ketamine is discussed in this document it is in reference to Racemic Ketamine.
- The alternative entamerically pure preparation of S-Ketamine is supplied typically in a 5mg/ml concentration and has double the potency of racemic Ketamine. If using S-Ketamine the induction dose would be 1mg/kg in the stable patient, and 0.5mg/kg in the unstable patient
- The routine use of S-Ketamine cannot be advised for trauma RSI.

## Procedural Sedation to Facilitate RSI

- Use of a local emergency intubation (RSI) checklist is considered mandatory, including vocalization of the airway strategy to be adopted in the event of a difficult intubation (e.g. Appendix 1):
  - This should be read as a challenge response checklist immediately prior to administering induction agents.
  - As discussed above, procedural sedation may be appropriately given in advance of completing the checklist. It is best to give pre-induction fentanyl after the checklist has been completed.
  - Anticipate haemodynamic instability post-induction due to hypovolaemia, effects of positive pressure ventilation and loss of sympathetic tone. Consider other potential causes (tension pneumothorax, cardiac tamponade, neurogenic shock) in the context of the presenting mechanism of injury.
- Prepare airway equipment as above.
- Apply full AAGBI monitoring:
  - All monitoring should be displayed on a single monitor screen visible to the whole team.
  - Fixation on inserting invasive arterial monitoring must be avoided. It is not mandatory to have this and it should rarely delay RSI or subsequent management.
  - As standard the Non-Invasive Blood Pressure Cuff should be set to cycle at a minimum interval of 3 minutes and must ideally be placed on a different limb to that on which the pulse oximeter is attached.
- If required C-spine immobilisation with manual in line stabilisation (MILS) can be applied from the front on the patients left hand side, aiming to minimise neck movement without limiting mouth opening which may impede laryngoscopy:
  - If a cervical collar has been fitted this should be opened or removed prior to induction
- Pre-oxygenation – 3 minutes with a Bag Valve Mask (or Mapleson C circuit) assembled with a heat & moisture exchanging filter (HMEF) and EtCO<sub>2</sub> monitoring attached.
- Apnoeic Oxygenation (“Per-oxygenation”) may prolong time to desaturation – nasal specs should be applied at 4L/min, with flow increased to 15L/min on induction:
  - Assisted ventilations during the apnoeic period should be considered in hypoxic patients, or if the patient is at risk of desaturation during the apnoeic period.
- At induction of Anaesthesia (as described above) “RSI Commenced” must be declared to the trauma team leader and time of Rocuronium administration noted.
- The use of a video laryngoscope as a first line device is strongly encouraged.
- A bougie or stylet should be used regardless of predicted or actual direct laryngoscopic view.
- Secure endotracheal tubes with tapes or holders (not tie) to avoid venous congestion of the brain.

## Failed Intubation

- Failed intubation should be managed according to the existing national guidance (Appendix 2).

## Special Circumstances

- **Facial burns or severe facial trauma**
  - Airway management should be tailored to the individual patient based on the extent of injuries:
    - The use of an uncut non-armoured tube is mandated to allow for facial swelling.
    - The endotracheal tube should ideally be of sufficient internal diameter to permit bronchoscopic lavage as required.
    - Senior Anaesthetic support and difficult intubation equipment must be available for a burns patient.
    - Torrential maxillofacial bleeding can make videolaryngoscopy impossible, and use of a



direct laryngoscope may be preferable in these cases.

- Additional suction may be required and a plan for splinting or packing of the facial skeleton after intubation should be discussed.
- Beware of profound bradycardia secondary to the trigeminocardiac reflex during any manipulation of the fractured facial skeleton.

- **High Spinal Cord Injuries**

- o profound bradycardia and hypotension.
- o In this situation, where haemorrhage can be excluded as a cause of hypotension, it is appropriate to have a lower threshold for the administration of vasoactive drugs to increase systemic vascular resistance.

- **Paediatrics**

- o When considering the RSI in paediatric patients (particularly those under 12 years of age) senior (consultant level) input is required at the earliest opportunity.
- o Reference should be made to separate network & local guidelines concerning emergency anaesthesia of paediatric major trauma patients (SWTN CG18).

## Post RSI Care

- The immediate post-RSI period should be used to reassess the patient in a structured ABCDE manner and prepare for ongoing care. Use of a post-RSI checklist will facilitate this (e.g. Appendix 3).
- **Post-RSI haemodynamic instability:**
  - o Hypotension after RSI is often multi-factorial. Potential causes include induction drugs, vasodilatation, myocardial depression, tension pneumothorax from positive pressure ventilation, as well the unmasking of pre-existing hypovolaemia by the removal of endogenous catecholamine mediated vasoconstriction.
  - o Haemodynamically compromised trauma patients where ongoing haemorrhage is highly likely should receive prompt resuscitation with blood products as detailed within the SWTN Major Haemorrhage and DCR Guidelines (SWTN CG07).
  - o Vasopressors should be avoided in this group in preference to providing balanced blood product resuscitation.
  - o If the cause is thought to be neurogenic or cardiac in origin then these patients may require treatment with crystalloid fluids and/or inotropic and vasopressor support.

## Post Intubation Analgesia and Sedation

- Where rapid progress to imaging, resuscitative procedures or emergency theatre is required after induction of Anaesthesia, do not delay these to commence maintenance infusions.
- Instead, it is recommended to provide bolus dose maintenance with Ketamine, 0.1-0.25mg/kg every 5-10mins (e.g. 10-20mg every 5-10mins in a 70kg Adult patient).
- The following maintenance of anesthesia is recommended:

INFUSIONS	
Analgesia	Sedation
Fentanyl 0.25-0.5mcg/kg boluses <i>or</i> Fentanyl infusion (50mcg/ml) - 2-5ml/hour	Propofol 1% Infusion; <i>Titrated to effect</i> 1-3mg/kg/hour (0.1-0.3ml/kg/hr)
For grossly haemodynamically unstable patients 'Trauma Mix' can be used.	

MAINTAINANCE INFUSION				
"TRAUMA MIX" of KETAMINE & MIDAZOLAM				
Age	Weight Estimate (Kg)	Using MIXED 200mg/20ml Ketamine + Midazolam 5mg/5ml [Total Volume 25mls]	Using NEAT 10mg/ml Ketamine [1mg = 0.1ml]	Using NEAT 1mg/ml Midazolam
		33mcg/kg/min Ketamine + 50mcg/kg/hr Midazolam	33mcg/kg/min (2mg/kg/hr)	50 mcg/kg/hr
		RATE IN MLS PER HOUR		
Small Adult	50	12.5	10	2.5
Adult	70	17.5	14	3.5
Large Adult	100	25	20	5
The Ketamine & Midazolam CAN be mixed in the same syringe (Ratio of mix is Ketamine 200mg:Midazolam 5mg)				

## Mechanical Ventilation in Major Trauma

- In most cases there is no clear advantage of any one mode of ventilation. It is more important to remain vigilant to all parameters in order to reduce iatrogenic lung injury.
- In general, the following parameters should be targeted:
  - Limit tidal volumes to 6ml/kg, keeping Ppeak (or Pplat if available) to <30cmH2O.
  - Alter respiratory rate to rapidly achieve control of PaCO<sub>2</sub>.
  - In the first instance (until arterial blood gases available) an ETCO<sub>2</sub> of 4kPa should be targeted for neuroprotection. PaCO<sub>2</sub> is normally at least 0.5-1.0kPa higher.
  - Arterial blood gas analysis should be used when appropriate to guide the ETCO<sub>2</sub> equating to a PaCO<sub>2</sub> of 4.5-5kPa.
  - Titrate FiO<sub>2</sub> to individual patient: aim to minimize FiO<sub>2</sub> whilst still maintaining saturations >92%.
  - PEEP should be used for all patients: usually 5-10cmH2O.
- In non-brain injured patients a similar ETCO<sub>2</sub> should be maintained where a lung protective strategy allows.

- Permissive hypercarbia may be preferable in a limited number of cases - e.g. severe asthma/COPD.
- Remain vigilant for pneumothoraces. It is recommended to have a low threshold for decompressing the chest – finger thoracostomy and subsequent insertion of an intercostal chest drain [ICD] is technique of choice.

## Intra-Hospital Transfer

- In most cases where the patient is hypovolaemic, the need to progress to imaging or provide emergency treatment should be prioritised over invasive monitoring, nasogastric tube, ICD and urinary catheter insertion.
- Minimum monitoring standards, provision of emergency (airway rescue) equipment and prevention of hypothermia should all be provided during any intra-hospital transfer.

## Governance of Emergency Anaesthesia

- All units providing remote anaesthesia (sedation or anaesthesia away from the main theatre suite and/or anaesthetic department) should have in place local arrangements for its overarching governance.
- Any critical or untoward incidents related to emergency anaesthesia in major trauma patients should follow local and network reporting procedures for investigation and sharing of lessons learnt.

## Appendices

- This guideline provides example checklists. In the absence of a single national in-hospital checklist, units are expected to use (or develop) their own checklists.

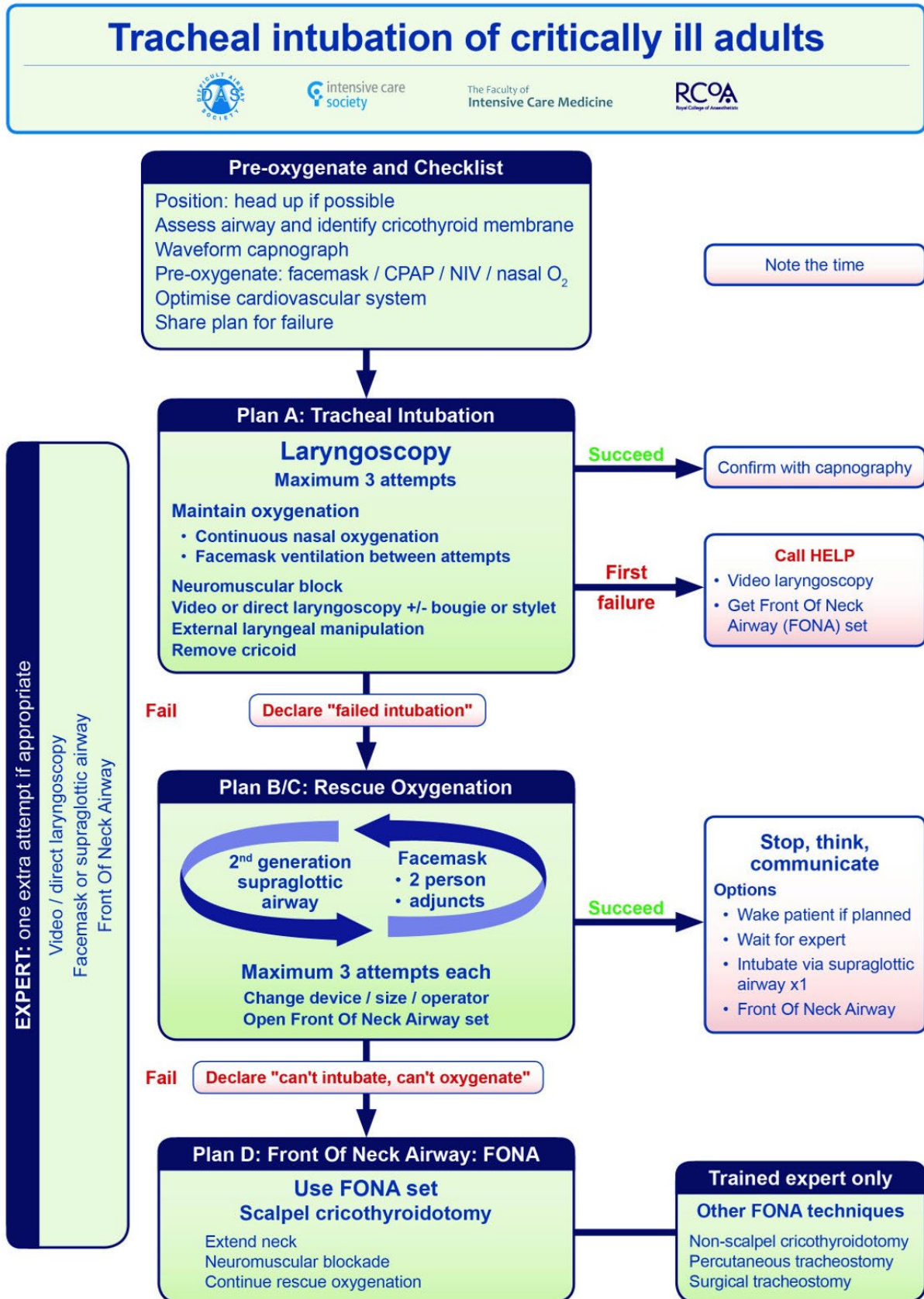
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## Appendix 1: An example of an Emergency Anaesthesia (RSI) Checklist

PRE RSI CHECKLIST		
SET UP	Predicted airway difficulty? Position optimal? C-Spine control? Cricoid required? Roles allocated? Nasal Oxygenation? Oxygen Supply Suction? Pre-oxygenation with full assembly? IV/IO access x 2?	Yes/No [Plan] Yes/No Yes/No Yes/No Yes/No [State Roles] Yes/No 2 Full Cylinders / Pipeline Yes Yes Yes/No
MONITORING	ECG Saturations BP value & interval ETCO2 connected	Rate/Rhythm % [x/y] mmHg, 3min cycle Yes, [x] kPa
AIRWAY KIT	Laryngoscope Bougie ETT Syringe	1st [Type/Blade], 2nd [Type/Blade] Yes [Size] 1st [Size], 2nd [Size] Yes
DRUGS	Induction Paralysis Maintenance	[Drug], [Dose], [mls] [Drug], [Dose], [mls] [Drug] by [Route/Method]
DRILLS	Airway Plan B/C Airway Plan D Blood required? Thoracostomies required?	Will be [method] Will be [method] by [individual] Yes/No Yes/No
END OF CHECKLIST		

## Appendix 2: Failed Intubation Algorithms



This flowchart forms part of the DAS, ICS, FICM, RCoA Guideline for tracheal intubation in critically ill adults and should be used in conjunction with the text.



## Can't Intubate, Can't Oxygenate (CICO) in critically ill adults



The Faculty of  
Intensive Care Medicine



### CALL FOR HELP

Declare "Can't Intubate, Can't Oxygenate"

### Plan D: Front Of Neck Airway: FONA

Extend neck  
Ensure neuromuscular blockade  
Continue rescue oxygenation  
Exclude oxygen failure and blocked circuit

### Scalpel cricothyroidotomy

**Equipment:** 1. Scalpel (wide blade e.g. number 10 or 20)  
2. Bougie ( $\leq 14$  French gauge)  
3. Tube (cuffed 5.0-6.0mm ID)

#### Laryngeal handshake to identify cricothyroid membrane

#### Palpable cricothyroid membrane

Transverse stab incision through cricothyroid membrane  
Turn blade through 90° (sharp edge towards the feet)  
Slide Coudé tip of bougie along blade into trachea  
Railroad lubricated cuffed tube into trachea  
Inflate cuff, ventilate and confirm position with capnography  
Secure tube

#### Impalpable cricothyroid membrane

Make a large midline vertical incision  
Blunt dissection with fingers to separate tissues  
Identify and stabilise the larynx  
Proceed with technique for palpable cricothyroid membrane as above

#### Trained expert only

#### Other FONA techniques

Non-scalpel cricothyroidotomy  
Percutaneous tracheostomy  
Surgical tracheostomy

#### Post-FONA care and follow up

- Tracheal suction
- Recruitment manoeuvre (if haemodynamically stable)
- Chest X-ray
- Monitor for complications
- Surgical review of FONA site
- Agree airway plan with senior clinicians
- Document and complete airway alert

Appendix 3: An example of a Post RSI Checklist

POST RSI CHECKLIST	
ETCO2 trace & Target?	[Good] waveform, [X] kPa
Oxygen Saturations?	Sats are [X]
Breath Sounds?	[Bilateral] check
ETT Length & Secured?	Secured, length is [X]cm
Thoracostomy(s) Required?	Yes/No [Plan]
Access adequate & secured?	Yes/No [Plan]
Blood required?	Yes/No [Plan]
Vasopressor needed?	Yes/No [Plan]
Ongoing anaesthesia plan?	[Plan]
Temperature probe reading?	[X] degrees
Splinting or other procedure required before moving?	Yes/No [Plan]
END OF CHECKLIST	

# SOUTH WALES TRAUMA NETWORK (SWTN) CLINICAL GUIDELINE (CG)

## EMERGENCY SURGICAL AIRWAY (ADULT MAJOR TRAUMA PATIENTS)

<b>Reference Number</b>	SWTN CG02
<b>Application</b>	All Health Board providers
<b>Version</b>	1
<b>Replaces</b>	N/A
<b>Issue date</b>	January 2020
<b>Review date</b>	January 2023
<b>Related guidelines/policies</b>	SWTN CG01, SWTN CG18
<b>Author(s)</b>	Dr C Davies
<b>Internal reviewer(s)</b>	Dr S Gill, Dr A Jones, Dr D Gill
<b>Network Governance Subcommittee review</b>	January 2020
<b>Sign off</b>	Network Board

### Aims and Scope

The aim of this document is to:

- Provide guidance for the safe and effective provision of an emergency surgical airway in adult major trauma patients across the South Wales Trauma Network (SWTN) including **Front Of Neck Access** (FONA) techniques.
- Encourage standardisation of in-hospital adult FONA techniques across the SWTN.

For paediatrics guidelines see SWTN CG18.



## Indications

**The indication to perform emergency FONA is a “can’t intubate, can’t oxygenate” (CICO) scenario**

Failure to intubate and failure to oxygenate the patient is a rare event, occurring most frequently in major trauma patients. If a “rescue” device (such as supraglottic airway) fails to oxygenate the patient, then a cricothyroidotomy may be required. This occurs when both plans A, B and C have failed.

The two techniques are known collectively as Front Of Neck Access (FONA):

- Surgical cricothyroidotomy (preferred technique).
- Needle cricothyroidotomy.

## Human Factors

Human factors issues relating to FONA cases can be more challenging than doing the procedure itself, in particular task fixation with intubation attempts or supraglottic airway placement. When required emergently, FONA must be performed rapidly (within 30 seconds). All practitioners carrying out RSI must be fully rehearsed with the FONA techniques (below). A specific person should be nominated to perform FONA as required prior to commencing RSI.

## High Risk Airway – Low Threshold FONA

All patients should have an airway assessment made prior to undergoing RSI. Airways in trauma patients are very often more difficult than non-trauma patients if only due to the use of C-spine immobilisation.

Where there is significant concern about an individual patient’s airway and predicted difficulty of intubation this should be clearly stated, FONA equipment prepared and anatomy verified prior to RSI. On rare occasions there may be a need to undertake FONA as the primary airway (e.g. massive maxillofacial injury/severe swelling post burns).

**If patient’s lungs are being ventilated via Facemask or supraglottic airway, before undertaking FONA CONFIRM:**

- Oxygen tubing connected?
- Cylinder has O2 in it?
- Cylinder turned on?
- Think – is oxygenation stable and survivable?
- Think – will FONA be easy/difficult?

A stable SpO2 of 85% with no ventilation difficulty or impending airway problem is a situation which may allow more experienced help to be mobilised from the hospital.

Ease/difficulty of FONA needs to be assessed prior to RSI (e.g. presence of a fat/short/goitre/traumatised or immobile neck).

## Surgical cricothyroidotomy

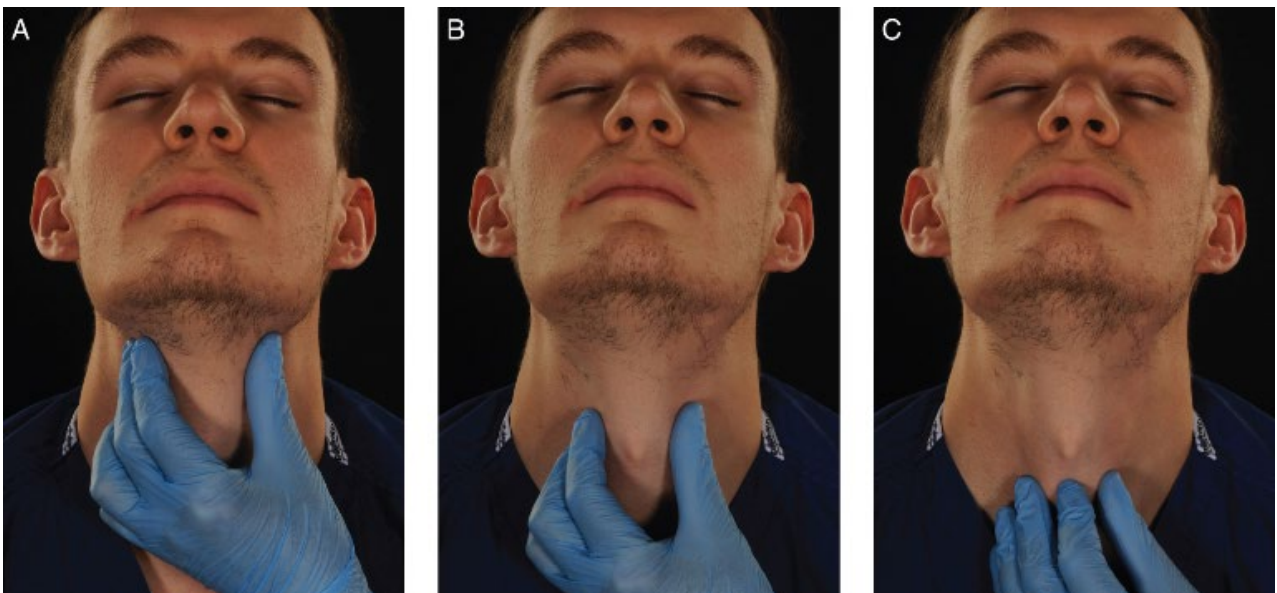
Equipment required includes a scalpel (ideally a rounded 20 blade), gauze, forceps, bougie, a size 6 cuffed ETT, and a tube tie.

All hospital areas managing major trauma patients must have standardised equipment for undertaking a surgical cricothyroidotomy, ideally stored as a pack.

Specific indications include airway trauma, difficult anatomy, burns to face/neck precluding jaw movement, possible airway burns and angioedema.

### The laryngeal handshake:

The '**laryngeal handshake**' technique has been recommended by the Difficult Airway Society 2015 guidelines as it aids the operator's recognition of the three dimensional anatomy of the laryngeal structures.

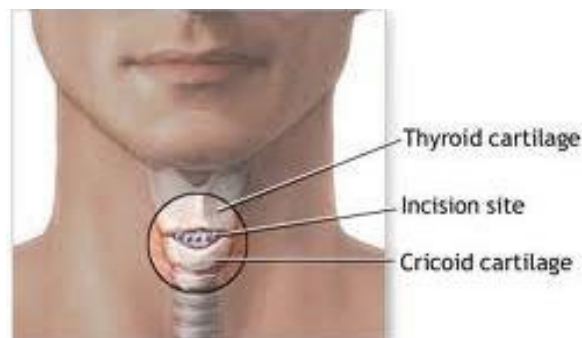


- (A) The index finger and thumb grasp the top of the larynx (the greater cornu of the hyoid bone) and roll it from side to side. The bony and cartilaginous cage of the larynx is a cone, which connects to the trachea.
- (B) The fingers and thumb slide down over the thyroid laminae.
- (C) Middle finger and thumb rest on the cricoid cartilage, with the index finger palpating the cricothyroid membrane (CTM).

## FONA technique:

The preferred FONA technique is a **surgical cricothyroidotomy** using a **scalpel-forceps-bougie** technique.

- The CTM lies between the thyroid cartilage and cricoid cartilage.
- It can usually be identified by use of the laryngeal handshake and slight extension of the neck (if c-spine uninjured).
- Continue to attempt oxygenation using a BVM (with NPAs & OPA) or supraglottic airway from above.



- Non-dominant hand should be used to stabilise the CTM.
- Use dominant hand to hold the scalpel and make a horizontal incision through the CTM.
- A vertical midline incision can be made in the first instance if the anatomy of the CTM is indistinct (e.g. due to trauma, burns or high BMI), followed by a horizontal incision through the identified CTM.
- The scalpel should be left in situ and the incision opened using forceps.
- The scalpel should then be removed and a bougie passed through the stoma into the trachea with the forceps still in place. Alternatively, the scalpel can be rotated 90 degrees and bougie passed through the stoma (i.e. no forceps required).
- Detection of clicks (as bougie slides over tracheal rings) may help confirm correct placement.
- Care should be exercised to not damage the carina with the bougie.
- The size 6 cuffed ETT is then “rail-roaded” over the bougie past the skin.
- The forceps should be removed as the ETT is advanced into the trachea.
- The bougie is removed, ETT inflated, and the position confirmed.
- Initial ventilation should be gentle until ETCO<sub>2</sub> trace is obtained to guard against excessive surgical emphysema in the event of misplaced tube.
- The tube must be secured with a ribbon tie.

The surgical technique has the advantage of securing the airway definitively, with the ability to ventilate and oxygenate the patient adequately. However it is more invasive than a needle cricothyroidotomy. FONA is associated with several complications (e.g. posterior tracheal wall damage, haemorrhage, false passage, surgical emphysema etc).

## Illustration of steps to perform surgical cricothyroidotomy:



**Oxygenate from above** via  
BVM&OPA/NPA or supraglottic airway  
(not shown subsequently below)



**Stabilise CTM** with Non-dominant hand  
**Horizontal incision through CTM**  
**Vertical midline incision first** (if needed) followed by horizontal incision.  
Blunt dissect (if needed)



Leave **scalpel in situ**  
**Open incision** with small mosquito forceps  
(rotation of the scalpel 90 degrees removes the need for forceps)



**Forceps in situ** (rotated clockwise)  
**scalpel removed**  
**Bougie passed** into trachea



Railroad Size **6 Cuffed ETT over bougie**  
**Remove forceps** as ETT enters stoma



**Avoid ETT over-insertion**  
into right main bronchus



**Bougie out**  
**Inflate ETT cuff**

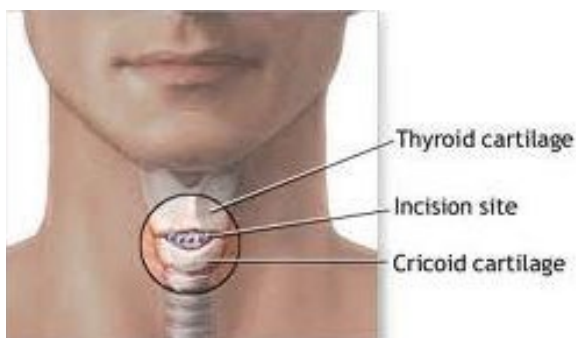


**Confirm** position with  
**ETCO2** and  
**Auscultation**  
  
**Secure** with ribbon tie (note depth in cm)

## Needle cricothyroidotomy

This technique has the advantage of being simple, and may allow oxygenation to “buy time” before a more definitive airway intervention is achieved. It is useful in children under 10 years (in whom a surgical cricothyroidotomy may not be possible). However it does not provide long term ventilation of CO<sub>2</sub> from the patient and does not protect the airway against aspiration. Furthermore the cannula can easily become blocked, kinked or may dislodge.

- Consider extending the neck to improve access (C-spine control is not a consideration in the emergency ‘Can’t Intubation, Can’t Ventilate’ situation)
- Attach a 10ml syringe to the rear of the cannula and needle (ideally an insyte cannula).
- Stabilise the larynx with the non-dominant hand and identify the cricothyroid membrane.



- Insert the needle and cannula through the cricothyroid membrane at an angle of 45 degrees towards the feet in the midline.



- Aspirate as you advance and confirm cannula and needle are inside the trachea by withdrawing air into the syringe



- Advance the cannula into the trachea and remove the needle.
- Check the cannula remains in the trachea by aspirating air with the syringe.

- Hold the cannula securely in place and connect the oxygenation system up to the cannula and oxygen source. It is preferable to use a Leroy Rapid O2 device or a purpose made pressure jet insufflation device for this.
- Set the oxygen flow rate at l/min = child's age in years. If this is insufficient, cautiously increase the flow rate in increments of 1 litre to achieve chest expansion using an inflation time of 1 second. (Occlude for 1 second). Maintain upper airway patency and allow 4 seconds for expiration (release side port for 4 secs). Expiration occurs via patient's upper airway, not the cannula.
- Arrange more definitive airway management and call the on-call consultant ENT surgeon.

## Governance

- o All units providing remote anaesthesia (sedation or anaesthesia away from the main theatre suite and/or anaesthetic department) should have in place local arrangements for its overarching governance.
- o Any critical or untoward incidents related to emergency anaesthesia in major trauma patients should follow local and network reporting procedures for investigation and sharing of lessons learnt.

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# SOUTH WALES TRAUMA NETWORK (SWTN) CLINICAL GUIDELINE (CG)

## INTERVENTIONAL RADIOLOGY (ADULT MAJOR TRAUMA PATIENTS)

<b>Reference Number</b>	SWTN CG09
<b>Application</b>	All Health Board providers
<b>Version</b>	1
<b>Replaces</b>	N/A
<b>Issue date</b>	January 2020
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<b>Related guidelines/policies</b>	Multiple
<b>Author(s)</b>	Mr L Davies
<b>Internal reviewer(s)</b>	Dr A Gordon, Dr D Gill
<b>Network Governance Subcommittee review</b>	January 2020
<b>Sign off</b>	Network Board

### Aims and Objectives

The aim of this document is to describe the key interventions in the management of pelvic trauma in hypovolaemic shock.

#### The objectives are to:

- Describe the identification of pelvic trauma.
- Outline the radiological assessment standards of pelvic injuries. To include quality indicators.
- Describe the management of pelvic injuries in the resuscitation phase.
- Outline the use of pelvic binders.
- Outline the use of urinary catheters.

For paediatrics guidelines see SWTN CG18.



## Introduction

Interventional radiology (IR) in major trauma is a valuable tool in the management of a patient's individual treatment plan. The technique may be used in lieu of more aggressive surgical interventions to achieve the same or better result without the additional surgical insult that operative intervention requires. However, this needs to be balanced against the additional time required to gain control and to achieve the desired end result and must take into account the patient's cardiovascular state at the time of presentation, the availability of the IR service both geographically and temporally. Patients must be assessed prior to the use of IR as their primary intervention by the trauma team and the use of IR agreed by the TTL and senior surgical decision makers on the team prior to its use. In situations of doubt time should not be lost and a decision to undertake surgical haemorrhage control should be undertaken initially.

IR may be used as an adjunct to surgery following initial surgical intervention and this should be a decision made by the surgical team involved in conjunction with the IR radiologists.

## Patient Categorisation

The use of IR for major trauma patients across the South Wales Trauma Network will be guided by this document and patients fall into a number of categories dependant on the source of the patient referral and their current stability for transfer or not:

- Patients brought directly to MTC without any prior assessment in hospital (EMRTS/WAST patients brought to MTC on basis of the trauma triage tool).
- Patients currently at a TU/other hospital H assessed as requiring IR for major trauma who are stable enough for transfer.
- Patients currently at a TU/other hospital assessed as requiring IR for major trauma who are not-stable enough for transfer.

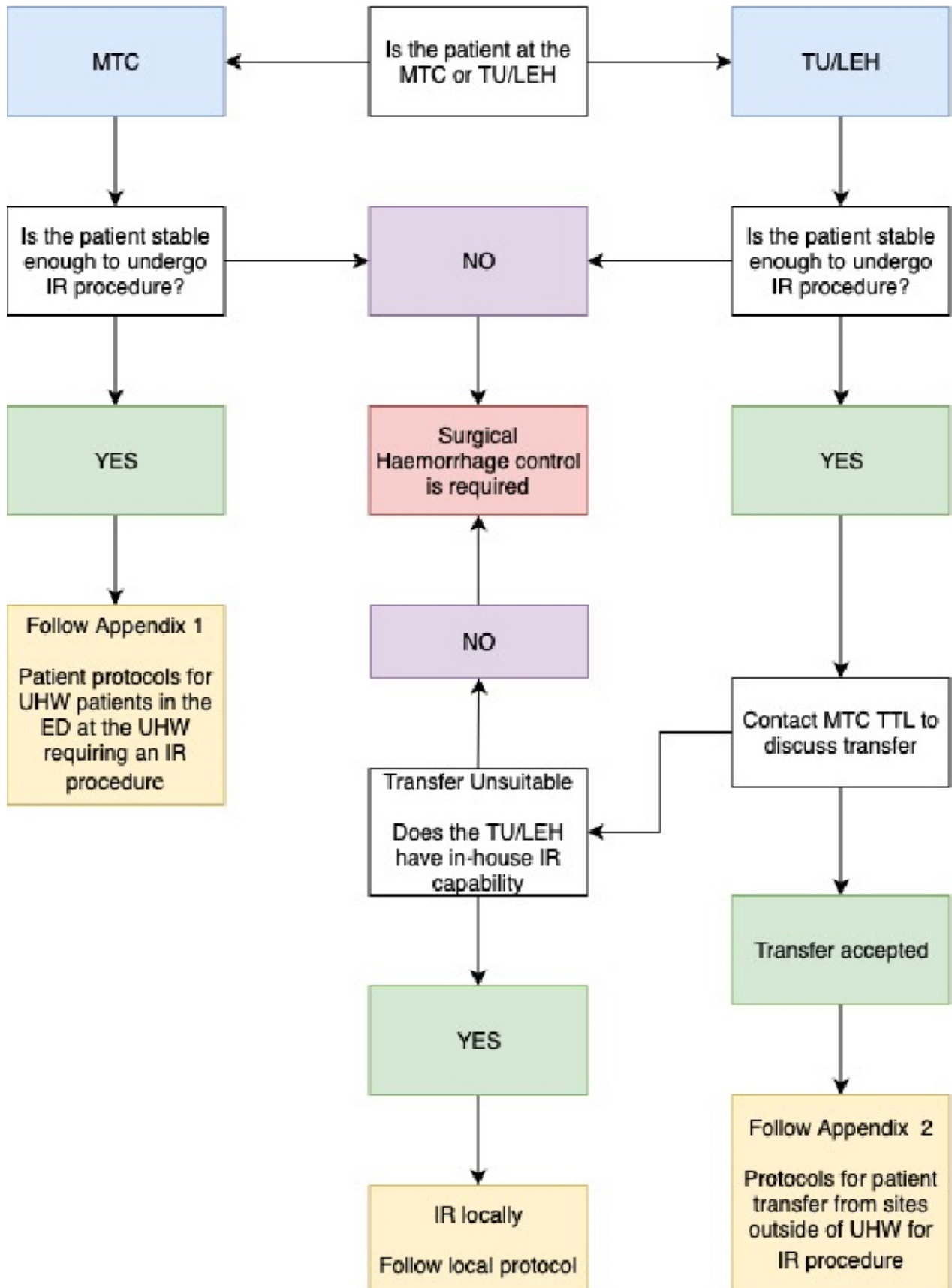
The flowchart below provides a guide for the safe management of major trauma patients who are potentially suitable to undergo IR as a part of their treatment plan.

The appendices contain the detailed protocols for organising interventional radiology for major trauma patients.

Patients under the care of the Major Trauma Service at the MTC, who at the time of requiring IR have become in-patients on the wards or ITU of UHW will follow the appropriate in patient protocol for UHW.



## Major Trauma IR Decision Flowchart



## Appendix 1

### Patient protocols for UHW patients in the Emergency Department (ED) at the University Of Wales Hospital (UHW) requiring an IR procedure

This protocol applies only to those patients who are in ED at the University Of Wales Hospital (UHW). Patients who are occupying a UHW bed are covered by the document “Protocols for UHW patients requiring an IR procedure”. All other patients being considered for an IR procedure, including C&VUHB patients from other sites in the organisation (e.g. Llandough Hospital), are covered by the accompanying “Protocols for patient transfer from sites outside of UHW for IR procedure” document:

- Clinician identifies a patient in ED at UHW whom they believe may benefit from an IR procedure.
- If appropriate the patient will be admitted to the ward and attendance for IR procedure arranged from there. If so process follows “Protocols for UHW patients requiring an IR procedure” document.
- It is appreciated that in some clinical circumstances it may not be appropriate for the patient to be admitted to the ward prior to attending the IR suite (e.g. on going bleeding). In the first instance in these circumstances the IR on call should be contacted by the Consultant the patient is to be admitted under. The process then follows the “Protocols for UHW patients requiring an IR procedure” document. It is the responsibility of the admitting consultant/team to arrange an appropriate bed for the patient to be admitted to after the IR procedure and communicate details to IR.
- In patients needing an IR procedure ASAP it may be appropriate for the consultant in ED looking after the patient to contact the IR on call directly. This would allow mobilisation of the team whilst referral to an UHW consultant whom the patient is to be admitted under is made. By the time the team has been assembled and the patient transferred to IR for the procedure it is expected that they will be under the care of a named consultant and his team.
- Consultant responsible for the patient/ED consultant contacts IR Radiologist within the department during normal working hours or the IR On-Call outside of normal working hours (contact details of IR on call held by switchboard at UHW). Patient clinical history reviewed and a decision made as to whether the patient would benefit from an IR procedure.
- IR confirms with Consultant/clinical team responsible for patient that:
  - o Appropriate blood results are available.
  - o The consent process has been started.
  - o Fasting time if procedure requires sedation.
  - o Whether the patient requires extra support whilst in IR (e.g. anaesthetic team).
    - All patients requiring clear cut anaesthetic input (e.g. EVAR) need to go through the CEPOD team (i.e. team contacted and the patient added via theatre man system by the surgical or medical speciality responsible for the patient).
    - If the patient may need anaesthetic support (decision not made yet or potential change in clinical status) then the CEPOD team should be contacted by the patient’s surgical/medical team so that they are aware and potential options can be discussed.
  - o In the case of the above then timing of the case will depend on categorisation of the case and availability of the anaesthetist/ODP etc. as informed by discussion with the CEPOD team.
  - o That the ward the patient is being brought from will take the patient back post procedure.
  - o He has contact details for members of the clinical team.

- IR on call contacts IR radiographer and IR nurses on call to inform them of case and ask them to attend. IR nursing/radiography staff contact ward ref: further arrangements for transfer to the radiology department. IR nurse/radiographer confirms with nursing staff on ward that they will accept return of patient post procedure. IR nurse/radiographer contacts porters to arrange transfer of patient to IR suite
- IR on call completes consent process on patient arrival in radiology dept. (if appropriate). Nursing staff undertake standard IR check in process (ZAPP protocol will apply OOH).
- IR team undertakes procedure.
- Patient transferred to ward or other site (e.g. ITU) that has been arranged by the clinical team the patient is under.
- If, post IR procedure, an appropriate destination bed, either ward or other location (e.g. ITU, HDU, PACU etc.) is not available then other options should be considered. If patients have been transferred to radiology from ED resus it may be appropriate for them to return there until a ward bed becomes available. This option should be explored with the ED consultant.

A process map has been developed to manage in conjunction with Patient access the process of ensuring that patients have a bed post procedure and where there is a risk that this is not possible internal escalation to the senior manager on call and the executive on call.

**What is clear is:**

- o The patients can NOT remain in radiology until a bed is available.
- o Nursing care of the patients cannot remain the responsibility of the IR nurses on call when they are transferred to another location.

Both of the above would lead to the IR service being suspended for an indeterminate amount of time. They would also raise patient safety issues as it would lead to confusion as to which doctors, radiologists or ward, were responsible for the pts clinical care.

## Appendix 2

### Protocols for patient transfer from sites outside of the University Hospital of Wales (UHW) for IR procedure.

- This protocol applies to any patient who is considered for an IR procedure and is not an inpatient in the University Hospital of Wales. This includes C&VUH patients from other sites in the organisation (e.g. Llandough Hospital).
- Clinician at outside site identifies patient whom they believe would benefit from IR procedure. This may include discussion with a local on call radiologist.
- Consultant responsible for the patient contacts IR Radiologist at UHW (normal working hours) or the IR on call (OOH) (contact details of IR on call held by switchboard at UHW). Patient clinical history reviewed (including transfer and review of imaging if appropriate). Decision made as to whether the patient could be a candidate for an IR procedure that would justify transfer to UHW.
- If the patient is to be transferred to UHW they will need to be admitted under the care of an appropriate team. The patient is NOT being transferred to UHW for an IR procedure. They are being transferred for management of their clinical condition at a site that has access to IR. Therefore, at this point, the case should be discussed between the referring team/consultant and the UHW TTL for the MTC or the MT team/consultant to determine whether a transfer of the patient for a possible IR intervention is the appropriate course of action. The overall responsibility for the care and management of the patient will lie with the accepting UHW consultant and their team. Accordingly the final decision as to whether a patient transfer is appropriate lies with the accepting consultant. It should be ascertained at this time whether anaesthetic support will definitely, or maybe, needed so that the CEPOD team at UHW can be informed. This can be done by either the UHW admitting team or the on call IR after discussion. The final decision about anaesthetic involvement will be made once the patient arrives at UHW (see below).
- It is the responsibility of the patient's local team to arrange this transfer of clinical care to the team at UHW. Once arranged the local team will contact the IR on call to provide details of which ward and under whose care the patient is being admitted under at UHW. It is the responsibility of the patient's local team to arrange the ambulance transfer to UHW. Consider contacting EMRTS to undertake the transfer. A discussion is had with the local consultant as to whether it is appropriate to keep the patients bed at the local hospital to facilitate repatriation. Whilst this may not be appropriate in all cases those in whom it maybe (e.g. nephrostomies) should be identified. This is unlikely to be relevant for major trauma patients transferred to the MTC.
- On arrival at UHW the patient is received at the ED and reassessed by the MT team via a Trauma Call and reviewed by a member of the clinical team whom they have been admitted under. A discussion is had based on this review with the IR Consultant Radiologist and a decision made as to whether an IR procedure is appropriate at this time. It is anticipated that there may sometimes be delays in transfers. Some conditions, may have stabilised during transfer and an IR procedure would only be appropriate when active bleeding is occurring. Other patients may have deteriorated since the original referral such that other intervention, e.g. surgery, may be the best option for the patient as opposed to IR.

- IR confirms with Consultant/clinical team responsible for patient that:
  - Appropriate blood results are available.
  - The consent process has been started.
  - Fasting time if procedure requires sedation.
  - Whether the patient requires extra support whilst in IR (e.g. anaesthetic team).
    - All patients requiring clear cut anaesthetic input (e.g. EVAR) need to go through the CEPOD team (i.e. team contacted and the patient added via theatre man system by the surgical or medical speciality responsible for the patient.
    - If the patient may need anaesthetic support (decision not made yet or potential change in clinical status) then the CEPOD team should be contacted by the patient's surgical/medical team so that they are aware and potential options can be discussed.
  - In the case of the above then timing of the case will depend on categorisation of the case and availability of the anaesthetist/ODP etc. as informed by discussion with the CEPOD team.
  - That the ward the patient is being brought from will take the patient back post procedure.
  - He has contact details for members of the clinical team.
- IR on call contacts IR radiographer and IR nurses on call to inform them of case and ask them to attend. IR nursing/radiography staff contact ward ref: further arrangements for transfer to the radiology department. IR nurse/radiographer confirms with nursing staff on ward that they will accept return of patient post procedure. IR nurse/radiographer contacts porters to arrange transfer of patient to IR suite
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- IR team undertakes procedure.
- Patient transferred to ward or other site (e.g. ITU) that has been arranged by the clinical team the patient is under.
- If, post IR procedure, an appropriate destination bed, either ward or other location (e.g. ITU, HDU, PACU etc.) is not available then other options should be considered. If patients have been transferred to radiology from ED resus it may be appropriate for them to return there until a ward bed becomes available. This option should be explored with the ED consultant.

A process map has been developed to manage in conjunction with Patient access the process of ensuring that patients have a bed post procedure and where there is a risk that this is not possible internal escalation to the senior manager on call and the executive on call.

**What is clear is:**

- The patients can NOT remain in radiology until a bed is available.
- Nursing care of the patients cannot remain the responsibility of the IR nurses on call when they are transferred to another location.
- The decision as to if and when repatriation of the patient to the referring hospital occurs ultimately lies with the clinical team though interventional radiology will be available to offer advice and inform this decision as appropriate.

# SOUTH WALES TRAUMA NETWORK (SWTN) CLINICAL GUIDELINE (CG)

## OPEN FRACTURES (ADULT TRAUMA PATIENTS)

<b>Reference Number</b>	SWTN CG011
<b>Application</b>	All Health Board providers
<b>Version</b>	1
<b>Replaces</b>	N/A
<b>Issue date</b>	January 2020
<b>Review date</b>	January 2023
<b>Related guidelines/policies</b>	SWTN CG012, SWTN CG013
<b>Author(s)</b>	Mr L Davies
<b>Internal reviewer(s)</b>	Prof I Pallister, Dr D Gill
<b>Network Governance Subcommittee review</b>	January 2020
<b>Sign off</b>	Network Board

### Aims and Scope

**The aim of this guideline is to describe:**

- The initial management of open fractures.
- Indications for early debridement.
- Disposition.

For paediatrics guidelines see SWTN CG18.

## Introduction

Open fractures are a significant source of morbidity following major trauma and early appropriate management must be initiated to prevent failings in care and improve outcomes.

The management of isolated open fractures and those in the context of multisystem trauma are managed in accordance with BOAST 4 guidelines, 2017. The guidelines should be followed for any patients with a confirmed or suspected fracture with a wound over the fracture site. A template proforma is included as an annex to this guideline.

### Management consists of the following:

- Early involvement of local orthopaedic team. Plastic surgery should also be involved if available on site (see disposition sections below).
- Examination of the injured limb should include assessment and documentation of vascular and neurological status. This should be repeated systematically, particularly after reduction manoeuvres or application of splints. Open fracture patients are at high risk of compartment syndrome (see CG013).
- IV prophylactic antibiotics should be administered as soon as possible, ideally within 1 hour of hour. Antibiotic choice should follow local antimicrobial policy including an option for patients with a penicillin allergy.
- Photographs of open fracture wounds should be taken when they are first exposed for clinical care, before debridement and at other key stages of management. These should be kept in the patient's records.
- Prior to formal debridement the wound should be handled only to remove gross contamination and to allow photography, then dressed with a saline-soaked gauze and covered with an occlusive film. 'Mini-washouts' outside the operating theatre environment are not indicated.
- The limb should be re-aligned and splinted using a back slab, with an x-ray performed once limb splinted.
- Management of concurrent suspected compartment syndrome or vascular injury should be managed in accordance with respective network guidelines and are time-critical emergencies.
- In patients where an initial "Trauma CT" is indicated there should be protocols to maximise the useful information and minimise delay. The initial sequence should include a head to toes scanogram. This should be used with clinical correlation to direct further specific limb sequences during that initial CT examination. Angiography in any extremity CT related to open fractures may also be required.
- The formation of the management plan for fixation and coverage of open fractures and surgery for initial debridement should be undertaken concurrently by consultants in orthopaedic and plastic surgery (a combined orthoplastic approach).
- Debridement should be performed using fasciotomy lines for wound extension where possible:
  - o Immediately for highly contaminated wounds (agricultural, aquatic, sewage) or when there is an associated vascular compromise (compartment syndrome or arterial disruption producing ischaemia).
  - o Within 12 hours of injury for other solitary high energy open fractures.
  - o Within 24 hours of injury for all other low energy open fractures.
- Once debridement and temporary stabilisation is complete any further procedures carried out at that same sitting should be regarded as clean surgery; i.e. there should be fresh instruments and a re-prep and drape of the limb before proceeding.
- Definitive soft tissue closure or coverage should be achieved within 72 hours of injury if it cannot be performed at the time of debridement.



- Definitive internal stabilisation should only be carried out when it can be immediately followed with definitive soft tissue cover
- When a decision whether to perform limb salvage or delayed primary amputation is indicated, this should be based on a multidisciplinary assessment involving an orthopaedic surgeon, a plastic surgeon, a rehabilitation specialist, the patient and their family or carers wherever possible.
- When indicated, a delayed primary amputation should be performed within 72 hours of injury.
- Each hospital within trauma network should submit appropriate data to the TARN, monitor its performance against national standards and audit its outcomes, in relation to open fractures.
- Appendix 1 provides a form that should be adopted for local use and standardisation of documentation.
- All patients should receive information regarding expected functional recovery and rehabilitation, including advice about return to normal activities such as work and driving.
- Pre-hospital management of open fractures will be guided by each organisations guidelines.

## Disposition

BOAST 4 guidelines state that patients with open fractures of long bones, hind foot or midfoot should be taken directly or transferred to a specialist centre that can provide orthoplastic care. These patients will benefit from a combined orthoplastic care (debridement and soft tissue closure/coverage).

Patients with hand, wrist, forefoot or digit injuries may be managed locally following similar principles.

The South Wales Trauma Network has agreed the following for patients with open fractures and associated injuries:

## Pathway 1

Polytrauma patients with concurrent Orthoplastic requirements (Triage tool 'positive' for MTC):

1. Welsh Ambulance Service (WAST)/Emergency Medical Retrieval Transfer Service (EMRTS) to contact trauma desk.
2. Two scenarios may occur:
  - a) Discuss with Trauma Team Leader (TTL) 24/7 at MTC and direct transfer to MTC (with 24/7 EMRTS most will come direct to MTC) – follow MTC automatic acceptance policy, all patients to go to Emergency Department (ED) for assessment first.
  - b) Transfer to nearest TU ED or nearest ED (if airway or catastrophic haemorrhage cannot be managed) for stabilisation and ongoing urgent secondary transfer to MTC.  
There will be a 5 day (Mon-Fri) 12hr plastic surgical presence at the MTC.
3. Following initial reception, resuscitation and prioritisation of interventions there are three possibilities for combined Orthoplastic approach at the MTC:
  - i) Emergency Surgery – in hours (08.00-20:00) or in cases of gross contamination (e.g. agricultural, marine), compartment syndrome or arterial injury urgent transfer to theatre.
  - ii) Where there is acute compartment syndrome, vascular injury or severe contamination of the wound, and out of hour's debridement is required, discuss with the on-call Plastic surgeon in Morriston, and augment by sharing a photograph of the injury, thus enabling an individualised decision regarding patient management. Trauma desk may be used to facilitate this process.
  - iii) Staged management – out of hours, no contamination. Debridement and temporary stabilisation as a combined Orthoplastic approach as soon as possible (in practice - first morning case CEPOD/ Trauma/ MTC theatre as appropriate).



## Pathway 2

Patients with isolated crush injury/ mangled limb/ partial or complete amputation (above wrist or ankle)/ major degloving (Triage tool 'negative' for MTC):

1. Welsh Ambulance Service (WAST)/Emergency Medical Retrieval Transfer Service (EMRTS) to contact trauma desk.
2. Two scenarios may occur:
  - o Discuss with on call Plastics team and inform ED in Morriston prior to direct transfer to Morriston Hospital.
  - o Discuss with on call Plastics team and secondary transfer from MTC to Morriston Hospital only after appropriate imaging and exclusion of injuries requiring ongoing MTC management.

## Pathway 3

Isolated open limb fractures will be taken by WAST to the nearest Trauma Unit and if assessed as having no concurrent injuries requiring MTC care will be discussed with the orthopaedic service at Morriston Hospital and as appropriate transfer arranged. This includes patients with isolated open fractures at the MTC.

This includes isolated tendon and nerve injuries.

EMRTS will follow their Standard Operating Procedure with respect to patient disposition.

## Pathway 4

Patients requiring free tissue transfer for soft tissue reconstruction (Triage tool 'positive' for MTC)

Two scenarios may occur:

- Patient is stable for transfer– secondary transfer to Morriston Hospital within 48hrs of injury.
- Patient is too unstable for transfer to Morriston Hospital - surgery to be undertaken in MTC within 72hrs of injury aligns with BOAST-4 standards.

## References

British Orthopaedic Association and Association of Plastic, Reconstructive and Aesthetic Surgeons Audit Standards for Trauma (BOAST) 4 – Open Fractures, 2017.


NICE Guidelines (NG37). Fractures (complex): assessment and management, 2017.

Appendix 1 – Open fracture proforma (for local adaptation)

Emergency Department

Trauma Care Pathway 01

OPEN FRACTURES of the LOWER LIMB



GIG

CYMRU

NHS

WALES

Bwrdd Iechyd Prifysgol  
Abertawe Bro Morgannwg  
University Health Board

Patient Number

Name

Address

Address

DOB

One form should be completed by the ED Doctor for each open lower limb fracture and given to the admitting T&O SpR / Consultant.

INJURY	Right	Left
Upper Leg		
Lower Leg		

ED Doctor

Name:

Grade:

1. Primary Survey completed

Y / N

2. Direct pressure/pneumatic tourniquet for major haemorrhage control

Y / N

3. Detailed assessment of fractured limb

Y / N

4. Analgesia

Y / N

5. IMMEDIATE referral to T&O AND B&P

Y / N

6. Photograph Wound

Y / N

7. Remove only gross external contamination  
Do NOT irrigate or explore

Y / N

8. Cover in saline soaked gauze & clear film dressing

Y / N

9. Plaster back-slab, reassess, then X-ray

Y / N

10. Administer Initial Antibiotics

Y / N

Either Co-amoxiclav 1.2g IV (Adult dose)

Or Cefuroxime 1.5g IV (Adult dose)

Or ONLY if penicillin allergy:  
Clindamycin 600mg IV (Adult dose)

N.B. Doses are adult only and must be adjusted for Paediatric patients

11. Reassess Fractured Limb every 15mins

Y / N

12. Tetanus Prophylaxis if required

Y / N

Assessment 1 time:

Findings:	Normal	Reduced	Absent
Sensation			
Movement			
Pulses			
Heavy Contamination		Y / N	
Marine	Agricultural	Sewage	

Vascular Injury, Compartment Syndrome or Heavy Contamination with marine, agricultural or sewage material is a SURGICAL EMERGENCY

Assessment 2 time:

Findings:	Normal	Reduced	Absent
Sensation			
Movement			
Pulses			

Assessment 3 time:

Findings:	Normal	Reduced	Absent
Sensation			
Movement			
Pulses			

ED Doctor

Signature:

Date:

Time:

T&O SpR / Consultant

Signature:

Date:

Time:

0/5

342/520

# SOUTH WALES TRAUMA NETWORK

Serving the population of South Wales, West Wales & South Powys

## PAEDIATRIC MAJOR TRAUMA GUIDELINES

**Produced by South Wales Trauma Network Paediatric Working Group**

**Working Group Lead:** Dr Nikola Creasey

**Date Published:** January 2020

**Review date:** January 2023

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## South Wales Trauma Network

'Serving the Population of South Wales,  
West Wales and South Powys'

### Our mission statement:

'Saving Lives, Improving Outcomes, Making a Difference'

### Pre-hospital care

Treat me quickly and effectively



### Acute emergency care and surgery

Recognise and treat my injuries quickly and **effectively**



Manage my pain **appropriately**

Explain to my family and me

**what is happening at each step**



### Ongoing care and reconstruction

Give me and my family easy to understand information to make sense of what happened to me, my injuries and make choices about my care  
Provide welfare support and advice to my family

### Rehabilitation and social care

Explain to me **how my care is going to** change when I leave the Major Trauma Centre

Give me the best possible chance to **achieve my full potential** after I recover from my injuries



Be honest with me whether I will **recover to my full potential**



GIG  
CYMRU  
NHS  
WALES

Rhwydwaith Thrawma  
De Cymru  
South Wales  
Trauma Network

# INTRODUCTION

## Mission statement

‘Saving lives, Improving Outcomes, Making a Difference’

## Network principles

- It should be as easy as possible to transfer a patient to the Major Trauma Centre
- The major trauma centre will operate an automatic acceptance policy
- A trauma desk will be in place to reduce the number of phone calls needed to be made by the referrer
- A hyper acute transfer policy is in place – transfer should be arranged immediately

**For full details on automatic acceptance to the MTC see separate automatic acceptance policy**

Major Trauma triage protocols are in place so that most children will be transferred directly into Major Trauma Centre. The Major Trauma Centre (MTC) has the facilities to provide resuscitation, emergency surgery and interventional radiology with consultant-led trauma teams, massive transfusion protocols, and immediate access to operating theatres and intensive care. However, patients with longer transfer times may be taken to the nearest Trauma Unit, and many children present with their parents to their nearest Emergency Department.

**These guidelines are intended to be used as a working document to guide the initial management of Paediatric Major Trauma patients from presentation at any emergency department until transfer to the Major Trauma Centre.**

# PAEDIATRIC TRAUMA TEAM ACTIVATION CRITERIA

For patients **15 years and under** who have sustained a traumatic injury the Paediatric Trauma Team should be activated for any of the following criteria OR for **any clinical concern**:

## Abnormal Physiology

- › Airway/Breathing compromise
- › Circulation - Low systolic BP or no radial pulse or CRT > 2s
- › Disability - GCS motor score < 4

## Anatomic deficit

Penetrating injury if shocked or haemorrhage control  
Significant chest wall trauma (e.g. deformity or flail)  
Two or more proximal long bone fractures (femur, tibia, humeral shaft)  
Amputation above wrist or ankle  
Crushed/degloved/mangled/pulseless limb  
Suspected major pelvic fracture  
Open or depressed skull fracture  
Base of skull fracture  
Spinal trauma suggested by new abnormal neurology  
Major Burns

## Mechanism of injury

### Falls

- › 10 feet or 2 x height of child

### High mechanism Road Traffic Collision

Significant cabin intrusion  
Ejection from vehicle  
Death in same passenger compartment  
Available information consistent with high risk of injury  
Motor Vehicle VS pedestrian or cyclist > 20 mph  
Motorcycle crash > 20 mph

### Large animal incident

Fall, trampled, collision

# PAEDIATRIC MAJOR TRAUMA TEAM CONSTITUENTS AND RESPONSIBILITY

Paediatric Major Trauma Team activated by calling switchboard (2222)

All team members must attend Paediatric resuscitation bay immediately

All team members to report to scribe and document name and position.

Wear role sticker or tabard and name label

Trauma Team Leader will brief team and allocate roles (suggestions below)

Team member	Role within trauma team
ED Consultant (or ST3+ in Trauma Units)	Trauma Team Leader
ED doctor	Primary survey (B, C and E assessment)
Senior Anaesthetist (trainees must call for senior support)	Airway doctor (A and D assessment). Secure airway. Escort ventilated patient on transfers
Paediatric doctor	IV access, major haemorrhage*, history taking, safeguarding
Scribe	Doorkeeper, documentation, support TTL
ODP (or ED nurse)	Airway assistant
ED nurse	Monitoring, procedures, drugs second checker
NIC	Supervision, runner, overview of rest of ED, allocate someone to look after family
PICU nurse (MTC) or Paediatric nurse (TU's)	Drugs
Orthopaedic registrar	Secondary survey/assessment when team ready. Assist requesting scans
Surgical Registrar	Assessment and surgical procedures/management
PICU doctor (or adult ITU in TU)	Critical care and decision support. Second airway doctor

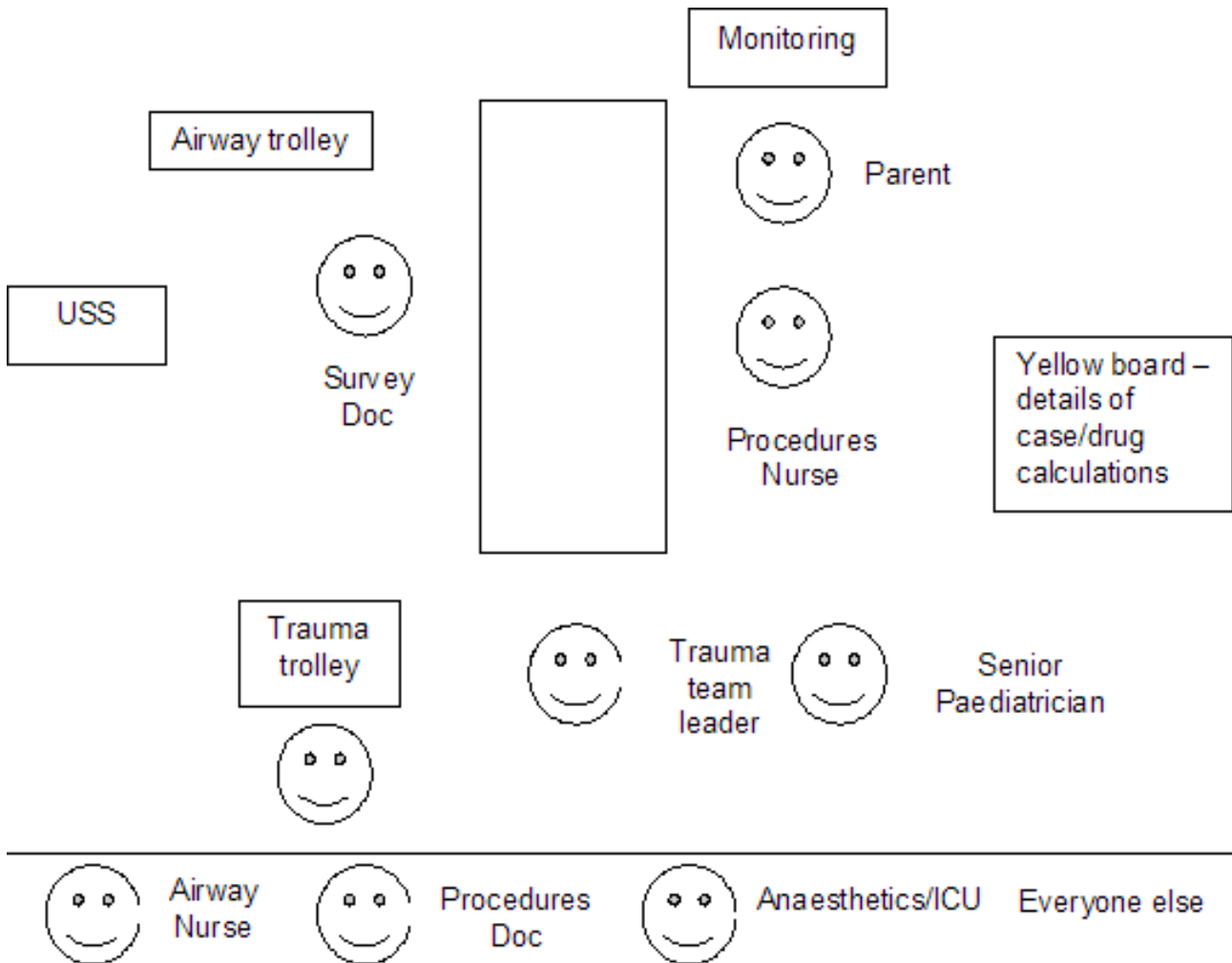
\*If major haemorrhage protocol activated most appropriate doctor and nurse should be allocated to manage this

**Constituents may vary and it is recommended that each individual centre produces its own Trauma Team SOP**



## TRAUMA TEAM POSITIONING

In Paediatric trauma, if the child is conscious and not requiring life saving treatment, then the following positioning of the trauma team is suggested. Individuals can come forward to assess the child as needed.



- If the child is unconscious and/or requires immediate life saving interventions the standard positioning of the trauma team should be used.
- In both circumstances parents or guardians should be given the option of being with the child during reception and resuscitation, accompanied by a dedicated member of staff to liaise with them during this process.

# TRAUMA TEAM LEADER CHECKLIST

- ☐ Activate Paediatric Trauma Team
- ☐ ED Consultant on route or present?
- ☐ Write details of pre alert on white board
- ☐ Complete WETFLAG
- ☐ Ensure WATCH drug sheet completed and printed
- ☐ Pre alert radiologist and radiographers
- ☐ Do you need to activate major haemorrhage protocol? Prime Rapid infuser?
- ☐ Calculate blood products bolus volumes
- ☐ What drugs do you need? (TXA, hypertonic saline, antibiotics for open fracture, analgesia etc)

## BEFORE ARRIVAL

- ☐ Confirm patient ETA and clinical details
- ☐ Introductions and assign roles
- ☐ Ensure team members are signed in and wear role stickers with names written
- ☐ Team members prepare equipment for roles
- ☐ Mission rehearsal – Plan A will be..... Plan B will be.....
- ☐ Anticipate and plan for likely end destination i.e. CT/theatre/PICU
- ☐ Ensure emergency theatre free if pre-hospital information indicates child is shocked
- ☐ If airway not secure based on pre-hospital information call consultant anaesthetist/paediatric anaesthetists as appropriate
- ☐ Call general surgery and T&O consultant if pre-hospital information indicates child is shocked
- ☐ Personal Protective Equipment for all team members
- ☐ Lead aprons for core team (if available)

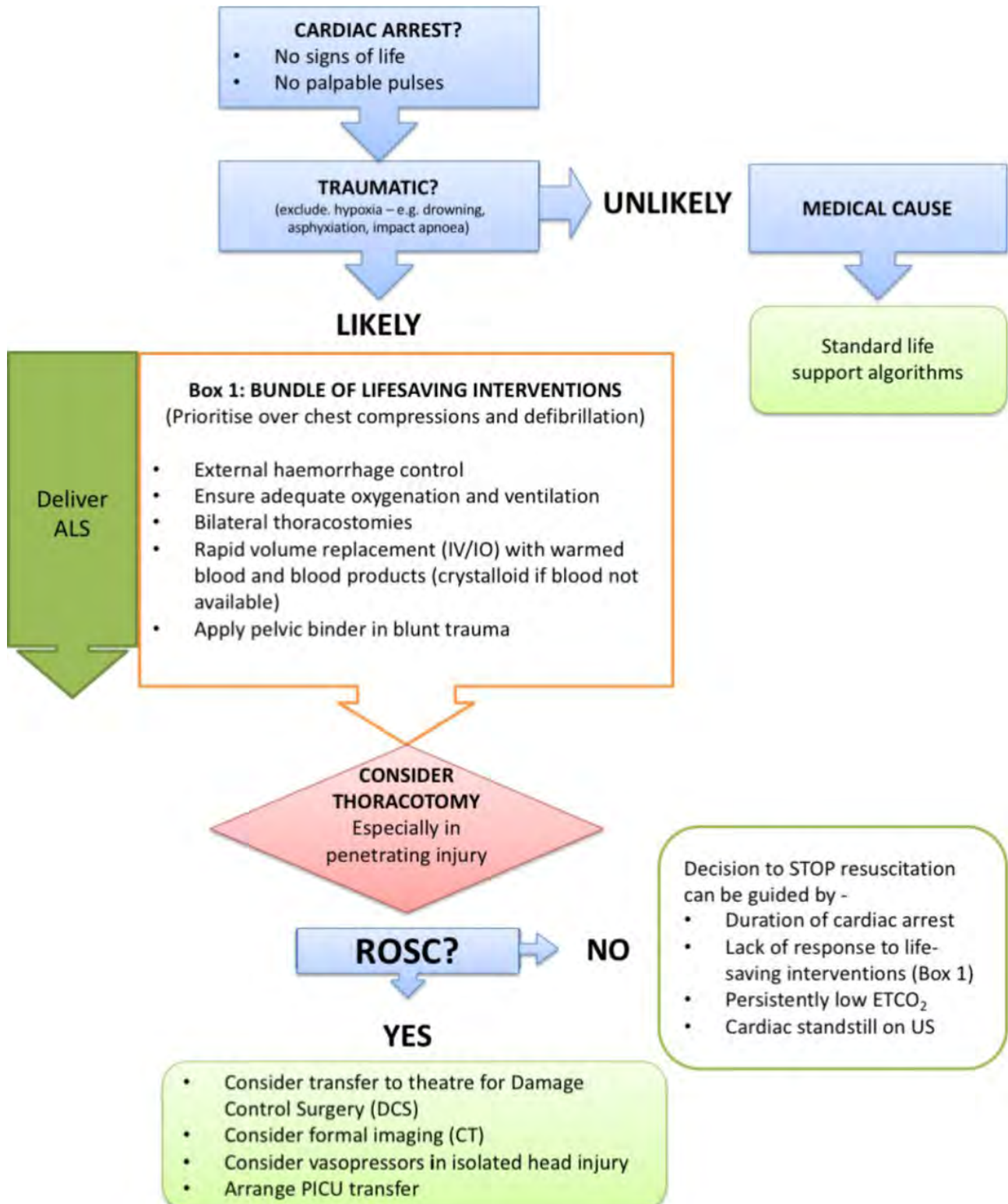
## TEAM BRIEFING

- ☐ Start the clock
- ☐ TTL rapid assessment of patient and intervene if necessary
  - Is there catastrophic haemorrhage?
  - Does the patient have a pulse?
  - Is the airway obstructed?
- ☐ ATMIST handover – all listen
- ☐ Transfer patient onto trolley (on to trauma mat if available)
- ☐ Monitoring, primary survey, IV access, CXR – simultaneously
- ☐ Bloods to lab including 2 x crossmatch, FBC, LFTs, U&E, Coags, Amylase, gas
- ☐ Tranexamic Acid? – bolus and infusion
- ☐ Major Haemorrhage Protocol required? If not stand down
- ☐ General Surgery and orthopaedics to assess/perform secondary survey when appropriate
- ☐ Request CT as soon as criteria identified
- ☐ Prepare for transfer early
- ☐ Aim to be in CT scanner within maximum 30 minutes of arrival

## ON PATIENT ARRIVAL

# MANAGEMENT OF CHILDREN IN TRAUMATIC CARDIAC ARREST

Paediatric Traumatic Cardiac Arrest Algorithm (Vassallo J, Nutbeam T, Rickard AC et al. Emerg Med J 2018;35:669–674.)



# PAEDIATRIC TRAUMATIC CARDIAC ARREST MANAGEMENT PRINCIPLES

## Aims:

- Standardise and optimize approach to Paediatric Traumatic Cardiac Arrest
- Reversal of hypoxia and hypotension by aggressive management of pneumothoraces, haemorrhage control and evacuation of tamponade are paramount to increase chances of survival

## Airway:

- All patients in traumatic cardiac arrest can be intubated without anaesthetic drugs.
- Waveform capnography should be used to confirm tube position and will also aid assessment of effectiveness of resuscitation

## Breathing:

- Bilateral open thoracostomies should be performed. If needle thoracocentesis is performed initially then this alone should not be considered adequate for pleural decompression

## Circulation:

- Obvious external haemorrhage should be arrested with an appropriate combination of compression, elevation and tourniquet use.
- Long bone fractures should be splinted
- A pelvic binder should be applied
- Rapid volume replacement should be initiated with warmed blood/blood products (or initial crystalloid if not available).
- A clamshell thoracotomy should be considered at the Trauma Team Leader's discretion with the aim of occluding the descending aorta to stem blood flow and distal haemorrhage, evacuate tamponade, address intrathoracic haemorrhage and provide internal cardiac massage.

## Drug therapy:

- There is no evidence that intravenous adrenaline improves survival in traumatic cardiac arrest and it can therefore be withheld in favour of other potentially life saving interventions.

## Cessation of resuscitation:

- In the event of a lack of response to life-saving interventions outlined, it is appropriate to stop resuscitation
- This can be guided by, but not limited to
  - o Duration of cardiac arrest
  - o Persistent low End Tidal CO<sub>2</sub>
  - o Cardiac standstill on ultrasound

## HOT Principles of Traumatic Cardiac Arrest Management

H - Hypovolaemia	O - Oxygenation	T – Tension/Tamponade
STOP BLEEDING IV ACCESS BLOOD	SECURE AIRWAY VENTILATION OXYGENATION	THORACOSTOMIES OPEN CHEST

# RESUSCITATIVE THORACOTOMY GUIDELINE

## Introduction

Cardiac arrest secondary to major trauma is associated with poor overall outcomes. Management should be focussed on the principles of restoration of circulating volume rather than along the general cardiac arrest guidelines because the cause of the arrest is not of primary cardiac origin. Restoration of blood volume restores the ability of the heart to function in providing an adequate cardiac output. CPR and Advanced Cardiac Life Support will not restore cardiac function unless adequate volume has been restored to the circulation first.

Cardiothoracic trauma is one of the leading causes of trauma deaths worldwide and may be a component in up to half of polytrauma cases. Most of these injuries DO NOT require thoracotomy in their management but are instead managed conservatively. However, a small minority of cases do require thoracotomy and, of these, some will require this to be performed outside of the cardiothoracic operating theatre in the Emergency Department (ED) or in the pre-hospital environment as part of their initial resuscitation. This is a resuscitative thoracotomy. Survival rates following resuscitative thoracotomy (RT) are low in the blunt trauma group, in the region of 1-2%, however, in penetrating trauma, if there are recent signs of life before the intervention then survival is higher at 9-12%.

**An RT should be carried out by a skilled clinician who has had specific training and experience. Trauma team leaders are encouraged to gain formal training in this procedure. Aim should be to open the pericardium within 2 minutes of making the decision to proceed. If an RT in the ED is anticipated the clinician(s) who will be performing it need to be defined before patient arrives in the ED.**

This guideline describes the indications and contraindications for the procedure, its main aims, the procedure and post procedure care and disposition.

## Indications – penetrating trauma

In cardiac arrest with organised electrical activity on the ECG AND/OR cardiac movement on FAST scan cardiac windows.

### OR

In an agonal state (dilated pupils, Cheyne-Stoke breathing, barely palpable central pulse).

### AND

Recent signs of life (presence of respiratory effort/pulse, limb movements, sustained ETCO<sub>2</sub> if intubated, pupillary response to light).\*

Penetrating wound that involves the chest OR abdomen/pelvis.

A penetrating wound that could involve the heart usually means one of the following four examination findings:

Wound to the front of the chest between the nipples  
Wound to the back of the chest between the shoulder blades  
Wound to the central upper abdomen (epigastrium)  
Wound to the neck

\*Some authors recommend 10-15 minutes as a window in which the procedure should be performed following loss of vital signs. In reality obtaining exact timings is difficult. Witnessed arrest in front of the pre-hospital providers may provide a useful start point.

## Indications – blunt trauma

The focus of resuscitation here should follow the principles outlined in relation to traumatic cardiac arrest. The priority should be to secure the airway, place bilateral thoracostomies and adequate volume resuscitation with blood products. The role of RT does exist in patients in traumatic cardiac arrest for blunt trauma, but its indications are more limited. Isolated blunt trauma to the chest including the presence of pericardial tamponade on ultrasound carries the highest probability of survival. Proximal control of haemorrhage has a limited role in isolation. RT should generally be avoided in patients with multiple blunt injuries (including those of the head).

**In summary you need a good reason not to do a Resuscitative Thoracotomy in penetrating trauma and a good reason to do it in blunt trauma.**

## Specific Contraindications

Isolated blunt abdominal trauma; penetrating abdominal trauma without recent signs of life or current cardiac activity (FAST cardiac movement or ECG activity); non-traumatic cardiac arrest; severe head injury; severe multi-system injury; inadequately trained team; inadequate or insufficient equipment.

## Aims of resuscitative thoracotomy

To resuscitate the patient in extremis secondary to major trauma by: -

- Release of cardiac tamponade
- Control of cardiothoracic haemorrhage
- Perform open CPR
- Cross clamping of descending aorta

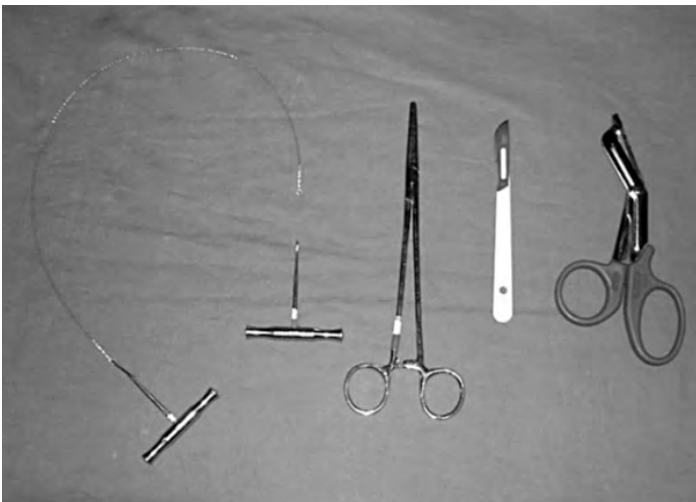
## Actions on resuscitative thoracotomy

In cases where resuscitative thoracotomy may be required, the following actions should be taken:

1. Call Trauma Team – if not already in attendance (Pre-alert ED if not already done)
2. Immediately call (pre-alert if possible):
  - a. Consultant Cardiac surgeon & Cardiothoracic surgery StR on-call – In most hospitals Cardiac Surgeons will not be available and these duties will fall to the General Surgical team.
  - b. Major trauma ED consultant on-call.
  - c. Anaesthesia consultant on-call.
  - d. Resuscitative General Surgery consultant on-call.
3. An Emergency Thoracotomy in the ED to be performed only if patient in cardiac arrest or extremis as outlined by the above indications. Decision will need to be made by the trauma team leader and most senior surgeon present.

## Procedure

The decision to perform a RT should be made within 10 -15 seconds of arrival and establishing the patient has no vital signs (or that vital signs are about to be lost). The diagnosis is clinical and confirmation with ultrasound (if skilled) and does not require the application of monitoring initially. Delays arise from not making a timely decision to proceed with the procedure.



EDs should have a thoracotomy pack in their resuscitation rooms including chlorhexidine, gauze, large scalpel, Spencer Well's forceps, tuff cut scissors and a Gigli saw:

Gloves must be worn.

Do not be concerned that IV access/ advanced airway management if these have not yet been achieved. The initial aim is to relieve the primary cause of the patient's cardiac arrest and these procedures can be completed after surgery (or simultaneously if resources allow).

## Vascular Access

IO access should be used first then as time allows other IV access dependent on volume of blood loss and availability.

## Common Reasons for Failure

1. Anterior location of thoracostomies preventing adequate access into the chest cavity.
2. Failure to open the pericardium and identify wounds.
3. Single handed, poor quality cardiac massage.
4. Failure to rapidly manually compress the descending aorta on opening the chest.

## Key Points to Success

1. Aim to achieve rapid access into the chest (<1 min from initial skin incision to entering the pericardial sac).
2. Extend the thoracostomy wounds to the posterior axillary line.
3. Two handed cardiac massage.
4. Continuous aortic occlusion against the spinal column.
5. Extend the opening of the pericardium as far cranially as possible.

## References and Further Reading

Wise D, Davies G, Coats T et al. Emergency Thoracotomy: How to do it. EMJ 2005; 22: 22-24.

Aylwyn C, Brohi K, Davies G et al. Prehospital and in-hospital thoracotomy: indications and complications. Ann R Coll Surg Engl 2008; 90: 54-57.

Hunt PA, Greaves I, Owen WA. Emergency thoracotomy in thoracic trauma – a review. Injury 2006; 37: 1-19.



# MAJOR HAEMORRHAGE

## Immediate temporary control of bleeding

Immediate control of obvious bleeding improves survival. This may include:

- Applying direct pressure and/or compression bandages
- For bleeding from a limb – elevation and tourniquet use
- For neck, axilla or groin bleeding – direct pressure with haemostatic gauze, clip any exposed bleeding vessels. Contact surgeons urgently.
- Application of pelvic binders to stabilise fracture and tamponade bleeding vessels (See Pelvic Binders)

## Tranexamic Acid

Tranexamic acid is of proven benefit for clot stabilisation in trauma and should be administered at the earliest opportunity.

Initial bolus of 15mg/kg (max 1g)

Followed by infusion of 2mg/kg/hr for 8 hours or until bleeding stopped

## Damage Control Resuscitation

Coagulopathy in trauma is common and is associated with increased overall mortality.

Transfusion protocols therefore aim to replace blood with the nearest equivalent to whole blood.

General principles include:

- Using equivalent volumes of packed red cells and FFP (5ml/kg boluses)
- Appropriate use of platelets (Approx 10ml/kg after every 4th bolus of PRBC/FFP) and fibrinogen
- Use of haematology advice and point of care testing (ROTEM) where available
- Use of warmed blood products
- Targeting resuscitation to achieve adequate level of perfusion (palpable pulse)
- Keep calcium levels  $> 1.0\text{mmol/L}$
- Treat hyperkalaemia aggressively

**Each hospital should have their own Major Haemorrhage protocols in place.**

### Note:

For Paediatric patients with vascular injuries or cardiothoracic injuries a joint approach to management will occur between the General Paediatric Surgeons, the cardiothoracic surgeons and the vascular surgeons at the Major Trauma Centre.

## Use of Combat Application Tourniquet (CAT)



### Indication

Haemorrhage from limbs which is uncontrolled by direct pressure, elevation and haemostatic bandages

### Application of tourniquet

1. The CAT is placed around the bleeding limb, approximately 2-4 inches above the bleeding point.
2. The Velcro strap is tightened and adhered to itself.
3. The windlass is tightened until bleeding is stopped.
4. The windlass is tucked under the windlass clip and held in place by the windlass strap.
5. The tourniquet is only removed within theatre by the surgical team.

In younger children where there are concerns about small limb circumference, a bandage can be placed around the limb, or rolled gauze can be placed between the tourniquet and the limb to essentially increase the circumference of the extremity and allow adequate haemorrhage control.

## USING THE BELMONT FMS 2000 RAPID TRANSFUSION SYSTEM IN CHILDREN

The ability to deliver air free warmed boluses of blood products is an important practical issue. The Belmont transfuser can safely deliver blood products at 37 degrees to the patient. However the minimum cannula size required to deliver adequate flow rates is 18G (green). The set up described below has been used successfully by the military. The arrangement described will provide an accurate method of administering specific volumes of blood product. Blood products will be warmed and speed of administration controlled by hand. However it is essential that teams are trained its safe use before the event.

1. Equipment required – belmont giving set, 60ml luer lock syringe, 3-way tap & kidney dish.



2. Place giving set into belmont transfuser, switch the device on and follow instructions on the screen until device is primed. Do not prime patient line at this stage.

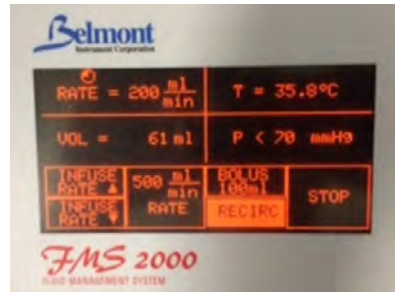


3. Connect 3-way tap to the patient end and turn tap to leave distal end open. Now prime the patient line with blood product.



4. Press infuse – this will take you to the main screen.

5. Immediately press stop then recirc – this will recirculate fluid already in the device and warm it up.



6. Turn the 3-way tap so that the distal end is closed and attach a 60ml syringe as shown.



7. Dial up bolus 100ml (minimum volume of bolus) & set rate at 500ml/min (warning: the syringe will fill quickly)



8. Fill syringe with 50mls of fluid then press stop



9. Press recirc.
10. Remove syringe and deliver the calculate volume of blood product to the patient via iv/io access. It is vital to record volumes given using the trauma document.
11. Repeat from step 6 onwards if further boluses are required.

# RSI FOR CHILDREN WITH MAJOR TRAUMA IN THE EMERGENCY DEPARTMENT

This guideline aims to standardise the drugs used to induce emergency anaesthesia in children with Major Trauma within the Emergency Department.

The following drugs should be prepared:

Induction of anaesthesia – Ketamine 1-2mg/kg (IV)

Analgesia – Fentanyl 1-3micrograms/kg (IV)

Muscle Relaxant – Rocuronium 1mg/kg (IV)

At the anaesthetists discretion Suxamethonium 1-2mg/kg (IV/IO) or 4mg/kg (IM) may be used

**If any concerns contact a Paediatric or senior anaesthetist.**

RAPID SEQUENCE INDUCTION			
STABLE PATIENT		UNSTABLE PATIENT	
Fentanyl	3mcg/kg	Fentanyl*	1mcg/kg
Ketamine	2mg/kg	Ketamine	1mg/kg
Rocuronium	1mg/kg	Rocuronium	1mg/kg

Beware of ketamine preparations. **If using Esketamine give 1mg/kg in stable patients and 0.5mg/kg in unstable patients.**

\*Fentanyl could be omitted in the unstable patient at the discretion of the anaesthetist

Inability to intubate and ventilate using adjuncts/manoeuvres requires emergency surgical/needle cricothyroidotomy. See ‘Cannot intubate and cannot ventilate’ guidance

### Ongoing sedation

Morphine infusion 20-80mcg/kg/hr

Midazolam infusion 30-120mcg/kg/hr

### Ongoing Muscle Relaxant

Rocuronium boluses 1mg/kg



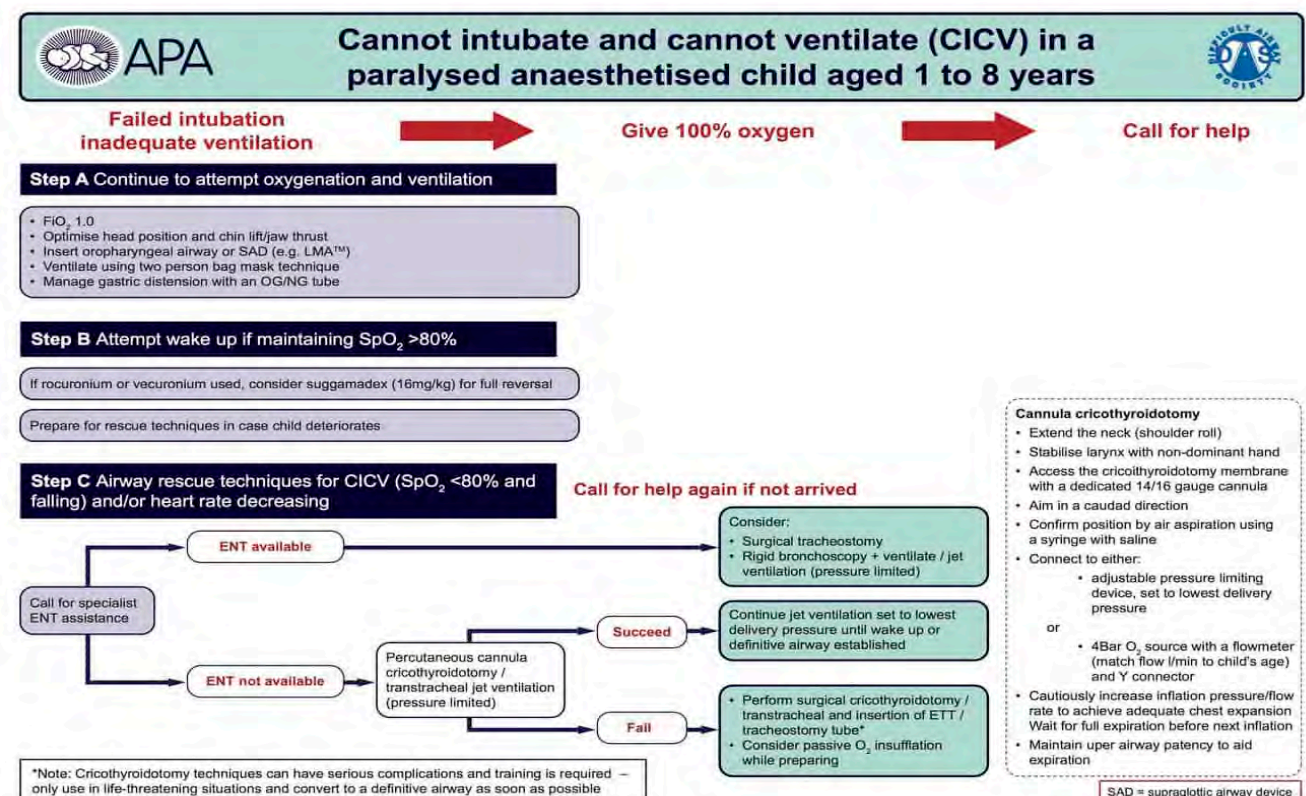
### Example Pre-Intubation Checklist for use in the Emergency Department (hospitals to ensure in place)

EMERGENCY INDUCTION CHECKLIST			
Prepare Patient	Prepare Equipment	Prepare Team	Prepare for difficulty
<input type="checkbox"/> Is preoxygenation optimal?  <input type="checkbox"/> Is the patient's position optimal?  <input type="checkbox"/> Can the patient's condition be optimised any further before intubation?  <input type="checkbox"/> How will anaesthesia be maintained after induction?	<input type="checkbox"/> What monitoring is applied? <input type="checkbox"/> ECG <input type="checkbox"/> Blood pressure <input type="checkbox"/> Sats probe <input type="checkbox"/> Capnography  <input type="checkbox"/> What equipment is checked and available? <input type="checkbox"/> Self-inflating bag <input type="checkbox"/> Suction <input type="checkbox"/> 2 ET tubes <input type="checkbox"/> 2 laryngoscopes <input type="checkbox"/> Bougie  <input type="checkbox"/> Do you have all the drugs required, including vasopressors?	<input type="checkbox"/> Who is ...? <input type="checkbox"/> Team leader <input type="checkbox"/> First Intubator <input type="checkbox"/> Second Intubator <input type="checkbox"/> Cricoid Pressure <input type="checkbox"/> Intubator's Assistant <input type="checkbox"/> Drugs <input type="checkbox"/> MILS (if indicated)  <input type="checkbox"/> How do we contact further help if required?	<input type="checkbox"/> If the airway is difficult, could we wake the patient up?  <input type="checkbox"/> If the intubation is difficult, how will you maintain oxygenation? (Plans A,B,C,D)  <input type="checkbox"/> Where is the relevant equipment, including alternative airway?  <input type="checkbox"/> Are any specific complications anticipated?

This Checklist is not intended to be a comprehensive guide to preparation for induction

RTIC Society

### Cannot intubate and cannot ventilate (CICV) in a paralysed anaesthetised child aged 1 to 8 years (Reproduced from Difficult Airway Society)



# SURGICAL AIRWAY

## Indications

A surgical airway is necessary in an emergency 'cannot intubate, cannot ventilate' situation, in order to obtain a definitive airway.

In children under 5 years, a surgical cricothyroidotomy may be technically difficult as the cricothyroid membrane is not easily palpable. An emergency tracheostomy should be considered instead of a surgical cricothyroidotomy and is recommended for all children under 1 year of age. An emergency tracheostomy should be performed by an ENT specialist IF possible. Between the ages of 1-5 years either an emergency tracheostomy or a surgical cricothyroidotomy may be performed, the latter only where the cricothyroid membrane can be easily identified.

Needle cricothyroidotomy has a very low success rate even in adults and it is therefore recommended that needle techniques should not be recommended as first line in children under 5 years.

## Surgical Cricothyroidotomy

### Equipment

- Scalpel with number 10 blade
- Forceps or tracheal dilators
- Bougie
- Cuffed endotracheal tube 0.5mm smaller than age appropriate
- Tube tie



### Procedure

- Place the patient in a supine position and extend the neck enough to improve access.
- Locate the cricothyroid membrane, beneath the thyroid cartilage and above the cricoid cartilage.
- Clean the skin and consider local anaesthetic if patient is conscious
- Place your non-dominant hand on the neck to stabilise the cricothyroid membrane and protect the lateral vascular structures from injury
- Make a vertical incision in the skin then a horizontal incision into the cricothyroid membrane using a 'stab' or 'rocking' technique

6. Leaving the blade in position, push the tips of small forceps or a tracheal dilator into the airway incision and open to dilate the membrane.
7. Insert a bougie into the hole held open by the forceps or dilators.
8. Insert an appropriately sized endotracheal tube over the bougie. Be aware that the tube insertion point is just below the cords, therefore advance the tube only as far as you would though the cords in a normal intubation to prevent right main bronchus intubation.
9. Inflate the endotracheal tube cuff confirm tube position with end tidal carbon dioxide monitoring, chest observation and auscultation.
10. Fix the tube with a tie or Elastoplast.

## Surgical tracheostomy

### Equipment

- a. Scalpel with number 10 blade
- b. Forceps or tracheal dilators
- c. Bougie
- d. Cuffed endotracheal tube 0.5mm smaller than age appropriate
- e. Tube tie

### Procedure

1. Extend the child's neck by placing a towel under their shoulder blades. C-spine control is not a consideration in the 'can't oxygenate, can't intubate' situation.
2. Palpate the trachea (the laryngeal cartilages are difficult to palpate in smaller children).
3. Place your left thumb and index finger firmly on either side of the trachea to stabilise it, and to protect the lateral vascular structures from injury.
4. Make a low, vertical, midline incision in the skin, above the suprasternal notch, maintaining pressure and stabilizing the trachea with your left thumb and index finger. Pressure and remaining in the midline will minimize bleeding and damage to lateral vascular structures.
5. Make a vertical incision through the tracheal rings, being careful not to damage the cricoid cartilage or innominate artery (which may cross the trachea inferiorly).
6. Leaving the blade in position the tips of small forceps or a tracheal dilator are pushed into the airway incision on either side of the blade and opened. Dilate the membrane in a vertical manner.
7. The scalpel blade is removed and a lubricated intubating bougie is placed into the hole held open by the forceps or dilators.
8. A lubricated cuffed normal endotracheal tube is inserted over the bougie. Be aware that the tube insertion point is just below the cords, therefore advance the tube only as far as you would though the cords in a normal intubation (this prevents right main stem bronchus intubation).
9. The endotracheal tube cuff is inflated and tube position confirmed with end tidal carbon dioxide monitoring, chest observation and auscultation.
10. The tube is then fixed in position with a tie or elastoplast.



## Needle cricothyroidotomy

Insertion of a wide bore, non-kinking cannula through the cricothyroid membrane to deliver oxygen can be lifesaving for children in whom you 'cannot oxygenate and cannot intubate'. It may provide oxygenation whilst a more definitive airway is organised. However, be aware that reported failure rates are high and complications of this procedure can reduce the chance of a surgical airway being successfully placed.

### Equipment

- a. Stiff cannula (14G in adults, 18G in children, 20G in neonates)
- b. 10ml syringe
- c. Oxygenation system – either Manujet or 3 way tap and oxygen tubing.

### Procedure

1. Consider extending the neck to improve access (C-spine control is not a consideration in the emergency 'Can't Intubation, Can't Ventilate' situation)
2. Attach a 10ml syringe to the rear of the cannula and needle.
3. Stabilise the larynx with the non-dominant hand and identify the cricothyroid membrane.
4. Insert the needle and cannula through the cricothyroid membrane at an angle of 45 degrees towards the feet in the midline.
5. Aspirate as you advance and confirm cannula and needle are inside the trachea by withdrawing air into the syringe
6. Advance the cannula into the trachea and remove the needle.
7. Check the cannula remains in the trachea by aspirating air with the syringe.
8. Hold the cannula securely in place and connect the oxygenation system up to the cannula and oxygen source.
9. Set the oxygen flow rate at  $l/min = \text{child's age in years}$ . If this is insufficient, cautiously increase the flow rate in increments of 1 litre to achieve chest expansion using an inflation time of 1 second. (Occlude for 1 second)
10. Maintain upper airway patency and allow 4 seconds for expiration (release side port for 4 secs). Expiration occurs via patient's upper airway, not the cannula.
11. Arrange more definitive airway management and call the on-call consultant ENT surgeon.

### Immediate complications of surgical airway techniques

- Blood aspiration
- Creation of a false passage
- Haemorrhage
- Haematoma
- Oesophageal perforation
- Subcutaneous emphysema
- Mediastinal emphysema
- Thyroid injury

# FINGER THORACOSTOMY & CHEST DRAIN INSERTION

Consider finger thoracostomy (steps 1-10) as a temporising measure.

## Indication:

Pneumothorax (simple & tension), Haemothorax

## Procedure:

1. Check equipment and its function.
  - Local anaesthetic, needle, syringe.
  - Skin cleansing solution.
  - Artery forceps
  - Surgical drape
  - Scalpel
  - Chest Drain (See box for sizing)
  - Suture
  - Dressings
  - Underwater drainage system – filled with sterile water.
2. Obtain verbal consent if possible.
3. Sterile gloves + PPE
4. Confirm correct side and with pts arm fully abducted - identify 4th or 5th intercostal space or higher, 1cm ant to mid axillary line.
5. Clean area and isolate with drapes if time allows.
6. Infiltrate appropriate dose LA down to pleura if time allows.
7. Attach artery forcep to distal hole of drain.
8. Make incision along line of rib.
9. Blunt dissect to pleura and pierce using forceps.
10. Take care not to cause iatrogenic injury as distance from skin to heart and lung short and pleura fibrous and tough to breach.
11. Insert finger into track and sweep.
12. Direct tube through incision – fogging, blood or condensation confirm placement.
13. Attach to underwater drain.
14. Anchor drain with sutures and dressing.
15. Reassess patient to ensure no further deterioration.
16. CXR to confirm placement if CT not imminent.
17. Give prophylactic antibiotics at time of insertion and for 24 hrs afterward to reduce incidence of empyema for all chest drains inserted and pre-hospital thoracostomies, as guided by local antimicrobial policies.



### Paediatric chest drain size guide ~ 4 x ETT size.

Newborn 8-12 FG  
 Infant 12-16 FG  
 Child 16-24 FG  
 Adolescent 20-32 FG  
 Adult 28-32 FG

[https://www.rch.org.au/clinicalguide/guideline\\_index/Chest\\_Drain\\_Intercostal\\_Catheter\\_Insertion/](https://www.rch.org.au/clinicalguide/guideline_index/Chest_Drain_Intercostal_Catheter_Insertion/)

## Suspicion of Pneumo/Haemothorax

(Consider finger thoracostomy as temperising measure)

### Personnel

Procedure Doctor

Assistant

### Check equipment & personnel.

- Local anaesthetic, needle, syringe.
- Skin cleansing solution.
- Artery forceps
- Surgical drape
- Scalpel
- Chest Drain (28-32G adult, XX paed)
- Suture
- Dressings
- Underwater drainage system – filled with sterile water

### PPE

Confirm side.

Site: With pts arm fully abducted - identify 5th intercostal space or higher,  
1cm anterior to mid axillary line

Clean area and isolate with drapes if time allows.

Infiltrate appropriate dose LA down to pleura.

Attach artery forcep to distal hole of drain.

Make 3-5cm incision along line of rib.

Blunt dissect to pleura and pierce using forceps.

Insert finger into track and sweep.

Direct tube through incision – fogging, blood or condensation confirm placement.

Attach to underwater drain.

Anchor drain with sutures and dressing.

Reassess patient.

CXR if CT not imminent.

Give prophylactic antibiotics.

# PAEDIATRIC ABDOMINAL TRAUMA GUIDELINES

## Background

5 – 10% of children with blunt torso trauma will suffer intra-abdominal injury (IAI).  
Children are more susceptible than adults to IAI

- Smaller torso – smaller area to dissipate force.
- Relatively larger viscera – liver and spleen extend below costal margin.
- Less overlying fat and muscle to cushion intra-abdominal organs.
- Risk taking behaviour

Solid organs (liver, spleen, kidneys) are most commonly injured, followed by hollow viscus injury and vascular injury.

## Initial Disposition

If multi-system trauma is suspected it is preferable to manage these children in a paediatric major trauma centre from the outset.

However, if the child is haemodynamically unstable they should be assessed and have initial management instigated in a trauma unit.

If a trauma unit “pitstop” is necessary advice should be sought early from the paediatric major trauma/surgical team and retrieval team (EMRTS or WATCH).

## Initial Management

Initial management should be undertaken by the paediatric trauma team.

ABCDE Primary Survey Assessment as per APLS/ATLS guidelines

Signs which significantly increase the risk of IAI:

- Ecchymoses of umbilical or flank region
- Handlebar injuries
- Seat belt sign
- Abrasions to the abdomen or lower thorax
- Tyre track marks on the abdomen
- Abdominal distension
- Abdominal tenderness
- Signs of peritoneal irritation
- Prolonged absence of bowel sounds (>4 hours)
- Tenderness of lower ribs

Serial examinations are required – IAI may not be apparent on initial assessment, signs may develop later.

If the patient is vomiting, a nasogastric or orogastric tube should be inserted if no other contraindications

**Pelvic Injuries**

- If there is a pelvic binder in situ do not remove it until pelvic injury has been excluded
- Do not examine the pelvis for mechanical instability
- Do not log roll the patient until the pelvis is clear.

**Perineal Injuries**

- If there is external evidence of injury to the genito-urinary tract do not attempt catheterisation without appropriate imaging (retrograde urethrogram).
- If there is no evidence of injury and no haematuria/blood at meatus then 1 cautious attempt at catheterisation may be made by an experienced practitioner.

**Management of Haemodynamically Unstable Children**

- Activate MAJOR HAEMORRHAGE PROTOCOL
- 2 large bore IV access
- Bloods for gas, FBC, coagulation, crossmatch, U&Es, LFTs, Amylase
- Initial bolus of warmed blood (or warmed crystalloid if blood not readily available) and assess response
- Give transfusion products (Packed Red Cells, FFP, Platelets and Cryoprecipitate) titrated to clinical need
- Calcium supplementation should be considered if giving >20ml/kg PRCs
- If multiple boluses of blood products are needed aim to transfuse RBC and FFP in a 1:1 ratio
- Tranexamic Acid should be given as early as possible in the resuscitation
  - o 15mg/kg IV over 10 minutes followed by the infusion 2mg/kg/hr

Children with abdominal injury who remain haemodynamically unstable after 40ml/kg of blood, where there is an inability to keep up with the rate of bleeding require emergency laparotomy. If not already present, the surgical team should be called after 20ml/kg of blood has been given.

Children who transiently respond to blood product resuscitation should be stabilised and transferred for contrast enhanced CT of the abdomen and pelvis (+/- other imaging as per radiology guidelines). FAST scan/ultrasound has no role in paediatric trauma.

## Management of Haemodynamically Stable Children

If there are signs of IAI:

- Contrast enhanced CT abdomen and pelvis (+/- other imaging as per radiology guidelines).

If there are no signs of IAI, the child is GCS 15, and has no distracting injuries, but a concerning mechanism of injury:

- Active observation with serial abdominal examinations.
- Urine dip – to look for gross haematuria or significant microscopic haematuria.

## Indications For Laparotomy

- Evidence of IAI and haemodynamic instability despite adequate resuscitation
- Hollow viscus injury on imaging
- Evisceration
- Retained weapon
- Gunshot wound to abdomen

Other injuries may require laparotomy, and decisions should be made on a case by case basis. In a Trauma Unit these should all be discussed with the paediatric TTL in UHW via the regional trauma desk.

The majority of solid organ injuries without haemodynamic instability are managed CONSERVATIVELY with active observation.

## References

- NICE guideline [NG39]
- The Royal College of Radiologists. Paediatric trauma protocols. London: The Royal College of Radiologists, 2014.

T	R	A	U	M	A	T	I	C
<b>DAMAGE CONTROL SURGERY – SURGICAL PAUSE FORM</b>								
<b>At Time Out:</b>		Resuscitation Team Leader:						
Lead Anaesthetist:				Lead Surgeon:				
Injuries:			Surgical Plan:			Patient Temp: °C		
						ABG Results:		
Refer to TRAUMATIC Principles						pH		
Yes / No - MHP activated?						Lactate		
Yes / No - Blood products available?						Base Excess		
Yes / No - Belmont / Cell Salvage required?						Hb		
Yes / No - Patient warming in place?						Calcium		
Yes / No - Tranexamic acid bolus and infusion administered?						Glucose		
<b>Time 0</b>		<b>Time: _____:_____ START THE CLOCK</b>						
<b>30 Minutes</b>		<b>Time: _____:_____</b>						
Surgical Plan:				Patient Temp: °C		pH		
						Lactate		
						Base Excess		
Yes / No - Transfusion ratio 1:1:1 or targeted to clotting results?						Hb		
Yes / No - Blood products available?						Calcium		
Yes / No - To continue DCS?						Glucose		
<b>60 Minutes</b>		<b>Time: _____:_____</b>						
Surgical Plan:				Patient Temp: °C		pH		
						Lactate		
						Base Excess		
Yes / No - Transfusion ratio 1:1:1 or targeted to clotting results?						Hb		
Yes / No - Blood products available?						Calcium		
Yes / No - To continue DCS?						Glucose		
<b>90 Minutes</b>		<b>Time: _____:_____</b>						
Surgical Plan:				Patient Temp: °C		pH		
						Lactate		
						Base Excess		
Yes / No - Transfusion ratio 1:1:1 or targeted to clotting results?						Hb		
Yes / No - Blood products available?						Calcium		
Yes / No - To continue DCS?						Glucose		
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# MANAGEMENT OF VASCULAR INJURY (PAEDIATRIC TRAUMA PATIENTS)

## Introduction

Vascular injury in major trauma accounts for less than 10% of injuries seen at Major Trauma Centres (MTCs) and are most commonly associated with blunt rather than penetrating trauma. However, they remain a major cause of significant morbidity and mortality and are associated with delayed diagnosis in blunt trauma cases and as such amputation rates following blunt vascular injury are higher.

Major uncontrolled bleeding is the major cause of preventable death in major trauma. A high degree of suspicion of vascular injury in major trauma should be maintained by major trauma clinicians in order to prevent inadvertent missed injuries and preventable morbidity. Where there is any suspicion of vascular injury that suspicion should be specifically excluded by appropriate investigation. These guidelines are intended to act as a reference guide for actions suggested in these circumstances and represent a guide only and should be taken in the context of the clinical scenario present in the patient and the experience available within the treating team.

## Clinical Features

Clinical features suggesting potential vascular injury:

- History suggestive of potential vascular injury - Mechanism of injury e.g. penetrating limb injury, fracture dislocations associated with vascular injury, significant on scene bleeding.
- Examination findings suggestive of vascular injury:
  - o Hard signs:
    - Active pulsatile bleeding.
    - Shock with ongoing bleeding.
    - Absent distal pulses.
    - Signs and symptoms of acute ischaemia.
    - Expanding haematoma.
    - Thrill or Bruit.
  - o Soft signs:
    - History of severe bleeding.
    - Diminished distal pulse.
    - Injury of anatomically related structure.
    - Multiple fractures and extensive soft tissue injury.
    - Injury in anatomical area of major blood vessel.
- Extensive soft tissue swelling that makes evaluation difficult but any diminished or reduced distal pulse is due to arterial occlusion until proven otherwise.
- A concern raised of significant vascular injury from the mechanism, assessment or investigations should prompt contact with the on call vascular consultant.



## Actions on Suspicion of Vascular Injury

In cases where vascular injury is suspected, the following actions should be taken:

- Call Trauma Team – if not already in attendance.
- Immediately call (pre-alert if possible):
  - Consultant vascular surgeon on-call.
  - Consultant TTL leader (MTC) and ED on call consultant (TU/other hospitals)
  - Anaesthesia consultant on-call.
  - Resuscitative/General surgery consultant on-call.
- **For TUs/others hospitals, if no vascular surgery is available on site within 30 minutes of the decision being made, the patient should be immediately transferred to the MTC (via the MTC Trauma Team Leader).** Involve EMRTS early to undertake the transfer.
- Patients may require further vascular imaging following surgical resuscitation as appropriate. This should be conducted as soon as possible following surgery (i.e. before transfer from theatre to ITU to prevent delays in diagnosis).
- Management principles:
  - Patients with an abnormal vascular physical examination or an Ankle Brachial Pressure Index < 0.9 require arterial imaging.
  - Patients with hard signs of arterial injury will require the on call vascular surgeon to be contacted as soon as possible, further imaging may not be required to confirm management.
  - Patients with hard signs of arterial injury (pulsatile bleeding, bruit thrill, expanding haematoma) should be surgically explored and repaired, restoration of perfusion to an extremity with an arterial injury must be performed in less than six hours and fasciotomies should be performed liberally if there is any significant concern that compartment syndrome may occur (prolonged ischaemia or significant soft tissue injury).
  - CT angiography is used as the primary diagnostic study in major trauma patients with a suspected vascular injury
  - Patients whose mechanism of injury or pre-hospital history includes hard signs of vascular injury should be discussed early with the on call vascular consultant as soon as possible so that plans to access theatres may get underway in readiness for the patient's arrival.
  - Patients presenting with life threatening haemorrhage will be treated in the first instance by the resuscitative General surgeon on-call by rapid control of haemorrhage (including tourniquets, laparotomy, packing, direct pressure and arterial clamps as appropriate) until such a time as the on-call vascular surgeon arrives to assist with their management.
  - Post traumatic coagulopathy is common and should be assessed and managed as per SWTN CG07. Close liaison with the haematologist with the use of massive transfusion protocol should occur.
  - Patients with pelvic ring disruption in haemorrhagic shock require immediate pelvic stabilisation.
  - Patients bleeding from the pelvis despite stabilisation require early pre-peritoneal packing (see SWTN CG09).
  - Ongoing abdominal, pelvic or thoracic bleeding that CT assessment suggests is treatable endovascularly, should receive this intervention rapidly (see SWTN CG17).
- Following assessment and/or surgery patients who are located at the TU/other hospital should be considered for their suitability for transfer to the MTC as appropriate. Consideration should be made for the early involvement of EMRTS to make arrangements for this transfer.

### Reference

SWTN CG013 Vascular injuries (Adult Trauma patients)

# GUIDELINE FOR MANAGEMENT OF SEVERE TRAUMATIC BRAIN INJURY (STBI) IN CHILDREN

## Introduction

Head injury is defined as any trauma to the head other than superficial injuries to the face. It is the commonest cause of death and disability in young people often following falls, non-accidental injury (common in children under 2years) or road traffic accidents. 95% of people who have sustained a head injury present with a normal or minimally impaired conscious level, Glasgow Coma Score (GCS)  $\geq 12$ .

**The majority of fatal outcomes are in the moderate (GCS 9-12) or severe (GCS  $\leq 8$ ) head injury groups, post resuscitation, which account for 5% of attenders.**

The **primary brain injury** may result from a combination of the following:

- Skull fractures (NB. open fractures increase the risk of infection).
- Injury to neural tissue -
  - Focal cerebral contusions and lacerations (direct impact).
  - Diffuse axonal injury (shearing injury).
- Injury to intracranial blood vessels -
  - Extradural haematoma (esp. middle meningeal artery).
  - Subdural haematoma (esp. dural bridging veins).
  - Intracerebral and subarachnoid haemorrhage.

## Aim

The main aim of managing children with severe TBI is to **prevent secondary damage/ injury** by the prevention of hypoxia, hypotension and raised intracranial pressure (ICP).

## Priorities:

- Stabilise any large scalp lacerations that may be source of major haemorrhage.
- Secure and manage the patient's Airway, Breathing and Circulation before attending other injuries.
- **NB. If a child presents with extensive injuries and is best served by immediate transfer to a major trauma centre (MTC), this should be done after achieving a secure airway at the local unit.**
- When STBI is suspected, safe and rapid CT head should be completed by the local Trauma unit within 30 minutes to identify injuries.
- Give tranexamic acid within 3 hours of injury if GCS  $< 12$  or if confirmed TBI on scan
- If CT imaging identifies a time critical lesion which requires neurosurgical intervention, then the patient needs urgent transfer (within 60minutes of CT scan) and discussion with the paediatric Trauma Team lead at the MTC. If the patient initially presents to the MTC the neurosurgical registrar and consultant on call should be informed.

## Key principles of management

### Ensure during initial resuscitation and ongoing management:

1. Avoid hypoxia ( $\text{PaO}_2 \geq 13\text{kPa}$ , saturation  $\geq 98\%$ ).
2. Avoid hypotension (aim for Systolic BP  $>95\text{th}$  centile for age).
3. Aim to keep  $\text{PaCO}_2$  between 4.5 – 5 kPa.\*
4. Maintain core temp between  $36^\circ - 37^\circ\text{C}$ .
5. Keep cervical spine immobilised, with  $30^\circ$  head-up tilt.
6. Avoid hypoglycaemia (blood sugar  $>3\text{mmol/l}$ ).
7. Ensure adequate analgesia and sedation.

\*can be lowered in severe refractory intracranial hypertension, under consultant guidance.

## Major Haemorrhage

- Large scalp lacerations can be a source of major external haemorrhage and should be managed as the immediate priority. Management includes direct external pressure, specialised haemostatic dressings or where possible sutures to stabilise the bleeding. Tranexamic acid (15mg/kg) should also be given as soon as possible.

**In patients with isolated TBI, tranexamic acid treatment given within 3 hours of injury reduces risk of death. If patient has a GCS  $< 12$  or a confirmed TBI on CT scan, and is within 3 hours of injury, a tranexamic acid bolus then infusion should be administered (CRASH-3. The Lancet 2019).**

## Airway and C-spine

- All children with a GCS of 8 or less must be intubated orally and ventilated for airway protection. Nasal intubation should be avoided in view of possible basal skull fractures.
- Spinal immobilization before, during and after intubation is essential. Intubation therefore requires a minimum of 4 appropriately skilled people; in-line immobilization, cricoid pressure, experienced intubator and assistant.
- Ketamine and rocuronium can be used as the initial induction agents unless contraindicated, as they offer some neuroprotection and avoid the risk of sudden hypotension.
- Log roll should be used for all turns and moves to protect the spine.
- Ongoing C-spine immobilization using blocks and tape should be sufficient. A vacuum mattress is preferred to scoop stretcher for transport, to CT scanner and to the MTC, if available. The use of hard spinal extrication boards should be avoided.

## Ventilation and Analgesia

- All patients should have continuous oxygen saturation and end-tidal carbon dioxide monitoring.
- Patients should be ventilated to an end tidal CO<sub>2</sub> level that correlates to a blood CO<sub>2</sub> level (PaCO<sub>2</sub>) of 4.5 – 5kPa (unless stated by a consultant). Blood gas sampling for analysis is preferably arterial however venous and capillary are acceptable.
- Oxygen should be provided to maintain saturations  $\geq 98\%$  or PaO<sub>2</sub>  $\geq 13\text{kPa}$ .
- Patients should be ventilated with a positive end expiratory pressure (PEEP) of at least 5cmH<sub>2</sub>O. The peak inspiratory pressure (PIP) should be titrated to achieve a tidal volume of 8-10ml/kg and titrate according to PaCO<sub>2</sub> (this should be discussed with paediatric intensive care consultant).
- Sedation be maintained with morphine & midazolam infusions. Muscle relaxation should be maintained with rocuronium boluses or infusion.  
Doses and ranges can be found on PCCU website - <https://pccu.cavguides.com> or the WATCH drug sheet <https://www.watch.nhs.uk/drug-sheet/>
- Propofol infusions may also be used as a short-term anaesthetic in children who are haemodynamically stable however, it is contraindicated for long term sedation.

## Circulation

- Every patient should have a minimum of 2 secure, large bore peripheral cannulae or intraosseous needles.
- Blood should be taken for; cross match, blood sugar, urea and electrolytes, full blood count, blood gas and coagulation.
- Resuscitation with blood products should be used in patients with significant blood loss or who are in haemorrhagic shock (initiate major haemorrhage protocol).
- Hypotension should be treated vigorously to avoid hypoperfusion of the brain and secondary ischaemic injury. The use of early inotropic support should also be considered in isolated brain injury (see below).

### Systolic BP $\geq$ 95th centile for age

<1 year	>80mmHg
1-5 years	>90mmHg
5-14 years	>100mmHg
>14 years	>110mmHg

- Maintain systolic blood pressure  $\geq$  95th centile for age, to ensure adequate perfusion pressure.
- **Do not delay CT or time critical transfer for insertion of central and arterial access.**
- If child remains haemodynamically unstable despite early resuscitation, it is vital to reassess for any sites of blood loss; chest injury, abdominal & pelvic injury, femoral fractures and external haemorrhage. Large head lacerations should also be managed as a priority.
- Uncontrolled blood loss should be discussed with the Trauma team lead at the MTC, as the child may require urgent surgical intervention prior to transfer, or direct transfer to the MTC to manage bleeding.
- Children with an isolated TBI, who are cardiovascularly stable, may require additional vasoactive drug support to maintain their target blood pressure. If the patient only has peripheral access adrenaline or dopamine can be used, if they have additional central access noradrenaline can be used to maintain target blood pressure.
- All patients should have a urinary catheter placed to prevent urinary retention, unless urethral injury is suspected.

## Imaging

- Before a child is sent for a scan, he or she must be resuscitated, stabilised and supervised at all times by an appropriately trained intensivist/anaesthetist with appropriate monitoring. This should include ECG, pulse oximetry, non-invasive blood pressure and end tidal CO<sub>2</sub>.
- **CT brain & cervical spine (or trauma CT sequence if indicated) should be achieved within 30 minutes of presentation.**
- CT must be reported as soon as possible for life threatening features with a written report available within 1 hour. Ensure the scans are also transferred to the Major Trauma Centre. In the MTC a 'hot' report for life threatening features should be made available within 5 minutes, with a formal report within 1 hour.
- If a time critical neurosurgical lesion is identified, then the patient requires rapid safe transfer arranged **by the local team** to the nearest Major Trauma centre. Consider EMRTS.
- Lack of availability of a CT scanner constitutes a neurosurgical emergency and should mandate immediate transfer arranged **by the local team** to the nearest Major Trauma centre. Consider EMRTS.
- It is the responsibility for the **primary hospital** to arrange safe and appropriate transfer of any patient. There should therefore be a clear contingency plan in place in all hospitals who may receive such patients to rapidly mobilise a transfer team if EMRTS not available

### Regardless of imaging, other reasons for discussing a patient's care plan with neurosurgeons include:

- Persisting coma (GCS  $\leq$  8).
- Unexplained confusion lasting for more than 4 hours.
- Deteriorating conscious level (especially motor response changes).
- Focal neurological signs.
- Seizure without full recovery.
- Definite or suspected penetrating injury.
- A cerebrospinal fluid leak.

## Neuroprotective measures

- Ensure good oxygenation (PaO<sub>2</sub>  $\geq$  13kPa and saturations  $\geq$  98%).
- Maintain **PaCO<sub>2</sub> between 4.5 - 5 kPa**, ideally on arterial blood gas however capillary and venous gases are acceptable. Lower targets may sometimes be applied for short periods in severe refractory intracranial hypertension, but only under consultant guidance.
- Head of the bed is elevated to 30° and head in the midline, to optimise venous return.
- Ensure normoglycaemia, blood sugar is  $>3\text{mmol/l}$  (give 2-5ml/kg bolus of 10% dextrose to correct hypoglycaemia).
- Maintain systolic blood pressure  $\geq$  95th centile (see circulation section for age appropriate targets).
- Maintain core temperature between 36° - 37°C. Treat pyrexia with antipyretics or active cooling. If hypothermic, allow patient to re-warm passively. Do not aggressively treat hypothermia.
- Continue adequate analgesia and sedation. During transport muscle relaxation must be maintained.
- Load with Keppra 20mg/kg (if not available then Phenytoin 20mg/kg intravenously over 20 minutes), to avoid any risk of convulsion or seizure activity. This should be done with appropriate monitoring for rhythm irregularities and hypotension.
- Maintenance fluids should be given at 2/3 maintenance. For children  $>10\text{kg}$  use 0.9% saline as maintenance choice. Children who weigh  $<10\text{kg}$  use 0.9% saline with 5% dextrose.

- Serum sodium should be maintained between 140-150 mmol/l during active ICP management. Boluses of 3ml/kg of 3% hypertonic saline is a safe and effective management for patients with raised intracranial pressure. Continued hyponatraemia should be discussed with the PICU consultant as a 3% saline infusion maybe required.

### Signs of Raised Intracranial Pressure (ICP)

- Poorly reactive or fixed dilated pupils.
- Abnormal posture:
  - Decorticate (flexed arms, extended legs).
  - Decerebrate (extended arms and legs).
- Abnormal oculoccephalic reflexes (avoid in patients with neck injuries):
  - Eyes not moving away from direction of head movement.
  - Sunsetting in infants, when head is flexed eyes do not gaze upwards.
- **Cushing's Triad: bradycardia, hypotension and abnormal breathing patterns\* are a late sign of raised ICP.**

\* Abnormal breathing pattern include: hyperventilation, Cheyne-Stokes, aponeas.

### Management of Raised Intracranial Pressure (ICP)

- Management is based on the signs described above and should not be undertaken solely to treat evidence of cerebral oedema on CT brain scan.
- Ensure all neuro-protective steps are optimized (see above).
- Initiate manual hyperventilation by placing the patient on a manual bagging circuit with 100% oxygen. Aim to reduce the end tidal CO<sub>2</sub> level to correlate with a PaCO<sub>2</sub> of 4 – 4.5kPa.
- Give osmotic therapy to reduce cerebral oedema:
  - 3% hypertonic saline 3ml/kg followed by a continuous infusion of 0.1 – 1ml/kg/hr of the same solution as a sliding scale. Note rapid changes in serum sodium should be avoided (<10mmol/l/day).
  - Mannitol can be used as an alternative (250-500mg/kg; i.e. 1.25 -5ml/kg of 20% solution intravenously over 30 minutes. Give 2 hourly as required, provided serum osmolality is not greater than 325 mOsm/l.

### Ongoing Care

Vigilance is needed to recognise any significant deterioration in the child's condition:

- Development of agitated or abnormal behaviour.
- A sustained (>30minutes) drop of 1 point in the GCS (especially in the motor score).
- Any drop of 2 points in the GCS.
- Severe/ increasing headache/vomiting.
- New neurological signs.

**Any of these signs should prompt urgent reappraisal by the supervising team and a repeat CT brain should be considered to rule out any space occupying lesion.**

**Update the regional Major trauma centre TTL and be mindful that time is of the essence and every effort must be made not to introduce unnecessary delays.**





## Severe traumatic Brain Injury in Children Pathway



**RECOGNITION:** Any child <16yrs with evidence or suspicion of significant head trauma AND decreased consciousness (GCS<8) +/- abnormal neurology.

**AIMS:** Early Diagnosis (CT head & neck within 30mins of arrival).

Minimise Secondary Brain Injury (prevent hypoxia, hypotension, hypoglycaemia, infection & raised ICP).

Time critical transfer (Aim to arrive at Primary MTC within 4 hours of presentation).

For drug dosing – [www.watch.nhs.uk/drug-sheet](http://www.watch.nhs.uk/drug-sheet)

**<C>** Stabilise any source of major external haemorrhage (direct pressure, haemostatic dressings & Tranexamic acid 15mg/kg).  
All patients GCS < 12 or proven TBI on scan – give TXA bolus and infusion (CRASH 3)

**A** Maintain airway with C-spine control (MILS, jaw thrust +/- Guedel airway)  
Indications for intubation:

- GCS<8.
- Signs of raised intracranial pressure (ICP).
- Unprotected airway secondary to trauma – avoid nasal intubation.

**B** High flow oxygen 15l/min via face mask.  
If Ventilated: PEEP 5cmH<sub>2</sub>O, titrate PIP to achieve tidal volume 6-10ml/kg.  
Ensure ETCO<sub>2</sub> 4.5 – 5kPa, Saturations ≥98% or PaO<sub>2</sub> ≥13kPa.

**C** Treat hypotension and hypovolaemia vigorously. SBP ≥ 95<sup>th</sup> centile for age.

Age	SBP
<1 year	>80mmHg
1-5 years	>90mmHg
5-14 years	>100mmHg
>14 years	>110mmHg

Maintain systolic blood pressure

- Minimum of 2 IV/IO access sites.
- Bloods – 2x Cross match, blood sugar, U&Es, FBC, blood gas, Coagulation.
- Initiate major haemorrhage protocol for significant blood loss.
- Treat with 10ml/kg 0.9% saline boluses.
- Continued hypotension – reassess for other sites of blood loss, consider spinal shock.
- Peripheral dopamine or central noradrenaline can be used to maintain SBP (use Watch calculator from website link above).
- Insertion of arterial and central lines should **Not** delay CT or transfer.

**D** Assess & document (prior to RSI):  
Focal neurology, Pupil size & reactivity, GCS  
Abnormal posturing, Seizure activity.  
Seizure prophylaxis: Load Keppra (20mg/kg) or Phenytoin (20mg/kg).

**E** Maintain normothermia 36 – 37°C  
Manage hypoglycaemia with 2ml/kg 10% dextrose boluses (SG<3mmol/l).

### COMMUNICATION

On recognition contact:  
– Paediatric Trauma Team Leader at UHW.  
– On-call neurosurgical registrar/consultant.  
– ~~WATCH~~ Transport Team (if cardiovascularly unstable &/or NAHI).  
Ensure images are transferred urgently to PMTC at UHW.

### RAPID SEQUENCE INDUCTION

Use local RSI checklist.  
Suggested induction:  
– Ketamine 1-2mg/mg +/- Fentanyl 1-3micrograms/kg.  
– Rocuronium 1-2 mg/kg.

### MAINTENANCE

Morphine, midazolam & rocuronium infusions (may consider Propofol infusion).

Monitor for hypotension.

### MANAGE ICP

– Analgesia and sedation.  
– Muscle relaxants.  
Ventilate ETCO<sub>2</sub> 4.0 – 4.5 kPa.  
– Head 30° in midline.

### CRITICAL ICP:

**TBP, ↓HR, dilated pupil**

– Bolus 3ml/kg 3% hypertonic saline.  
– Infusion 0.1 – 1ml/kg/hr 3% hypertonic saline. Avoid Na changes (>10mmol/l/day).  
– Maintain serum sodium between 140-150mmol/l.

### TRANSFER

– Senior clinician and assistant (nurse/ODP) appropriately trained to safely transfer children.

– Use transfer checklist.

– Call early for transport

Written 18/09/2019 – Dr C Dordum, with thanks to Yorkshire and Humber, Peninsula, Wessex and North West MTC.  
Checked 18/10/19 – Dr N. Cressy, Mr P. Leach, Dr H. ~~Cook~~, Dr A. ~~Widdowson~~, Dr M. ~~Widdowson~~

# MANAGEMENT OF SUSPECTED SPINAL INJURIES

## Cervical Spine

Traumatic injuries of the cervical spine (C-spine) are uncommon in children. However, it is safer to assume there is a cervical spine injury until examination and/or radiological investigation demonstrate otherwise. It is often challenging to assess and immobilize children when a C-spine injury is suspected.

- Frequent reassurance is required to help keep the child still and reduce their anxiety levels.
- If the child is anxious or uncooperative and a thorough examination is not possible, try and maintain in line C-spine immobilisation.
- Early provision of simple analgesia (paracetamol / ibuprofen) and early review by a senior clinician who is experienced in the management of paediatric C-spine assessment may avoid prolonged periods of immobilisation.

## Indications for cervical spine immobilisation: -

1. All patients with altered level of consciousness post trauma
2. Patients in whom the mechanism of the injury could have resulted in injury to the spine:
  - Severe force (e.g., motor vehicle crash or fall)
  - Diving-related injuries
  - Acceleration-Deceleration injuries
  - Sports injuries (particularly hockey, football and horseback riding)
3. All patients with signs and symptoms consistent with spinal cord injury:
  - History of transient paraesthesia, dysaesthesia, shooting pains or subjective extremity paralysis
  - Complaints of neck pain or discomfort, or presence of muscle spasm
  - Limited range of motion or tenderness over the spine
  - Presence of sensory-motor deficits

Note: Cervical spine in an unconscious patient can only be confidently cleared after the patient regains consciousness. In doubtful situations it is mandatory to continue with cervical spine immobilisation, expert consultation is available preferably after negative radiology and normal clinical examination. If a child has had a negative MRI, then there is no injury.

## Immobilisation Technique

- Vacu-Mattress with torso and extremity restraints
- Blocks or sandbags with tape (rigid collars are no longer recommended in paediatric trauma)
- Where above not available manual in-line stabilisation (MILS) must be used



## Assessment of Cervical Spine

If abnormal new motor neurology-contact MTC TTL immediately

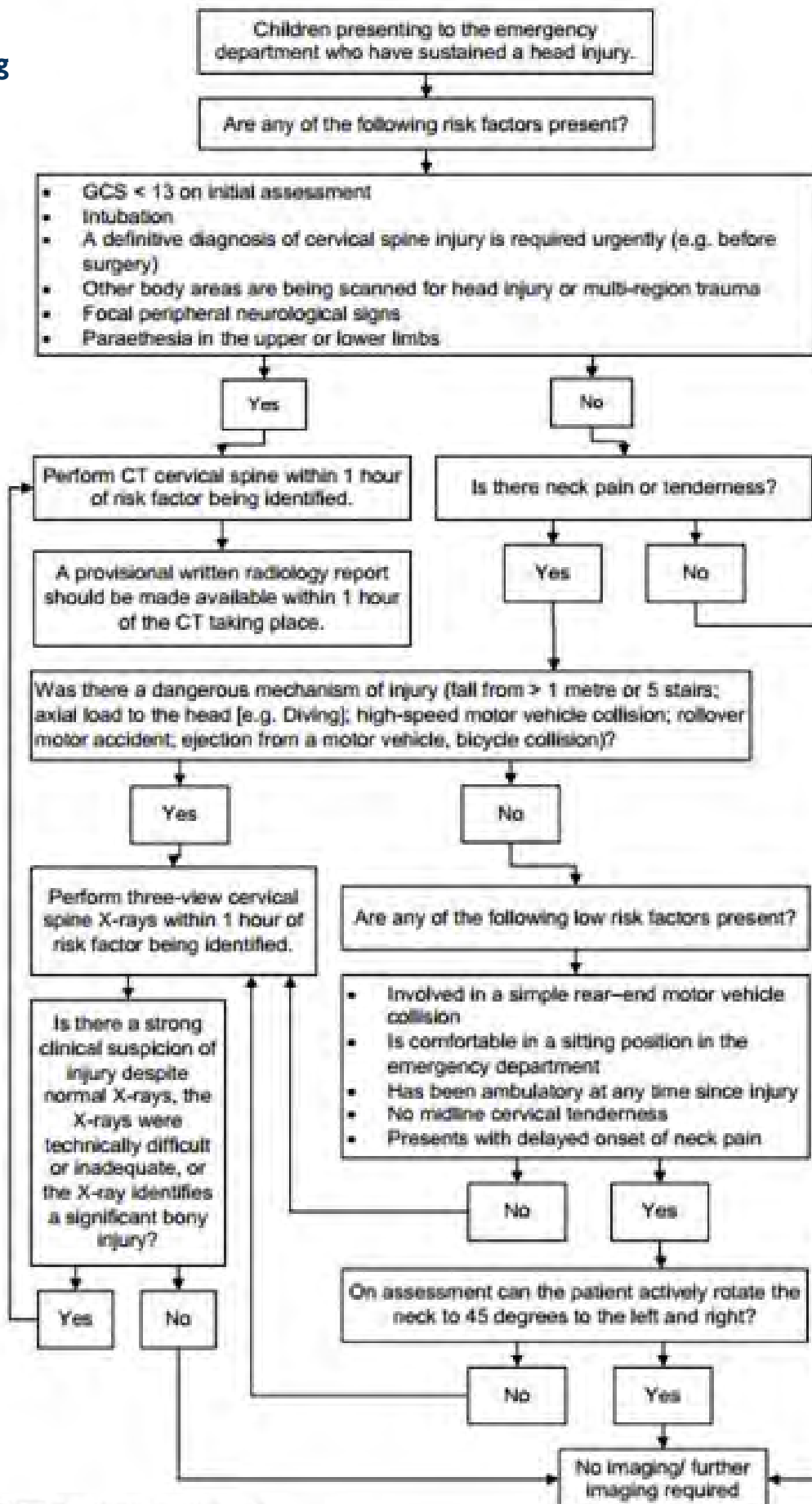
To be able to adequately assess the patient, they must be:

- Conscious
- Co-operative
- Not be affected by alcohol or recreational drugs
- Be developmentally able to engage in the assessment process

C-spine assessment, clearance and x-ray interpretation should be conducted in consultation with a senior clinician.

- Prior to palpation ask if the patient has any neck pain, weakness, paralysis or paraesthesia-if any present contact spinal team
- If patients have a high mechanism of injury, obtain a c-spine x-ray prior to examination.
  - Fall from height > 1 m or 5 stairs
  - Axial load to the head
  - High speed motor vehicle collision
  - Rollover motor accident
  - Accident involving motorised recreational vehicles
  - Bicycle collision
- To examine, maintaining in-line immobilisation, gently palpate the posterior midline of the neck-feeling from the nuchal ridge to the 1st thoracic vertebrae. Repeat process lateral to the midline
- If there is no midline tenderness assess for active range of movement by asking the patient to slowly rotate to 45 degrees and lift head off the bed. Stopping if there is any pain or abnormal sensations in the arms
- If patient is able to move neck without any pain-c-spine can be cleared
- If midline pain – three view cervical spine x-rays
- If normal x-rays and pain resolved- clear the c-spine
- If x-rays abnormal or ongoing pain – discuss with Trauma and Orthopaedic SpR on call (further imaging, CT, MRI, Erect x-rays)

**If patient is unable to be assessed immobilisation should be maintained and this should be clearly documented before transfer elsewhere.**

**Algorithm 4: Selection of children for imaging of the cervical spine****Imaging**

## Children < 10 years old

- Use anterior/posterior and lateral radiographs without an odontoid view
- Use CT imaging to clarify abnormalities and uncertainties

## Reassessment

Patient with normal x-rays should be re-assessed for:

- Posterior midline tenderness
- Range of motion of cervical spine
  - Flexion/extension
  - Lateral Flexion (left and right)
  - Lateral rotation (left and right)

**If no tenderness and normal x-rays can be cleared**

**Ongoing MIDLINE pain and normal x-rays, discuss with Trauma and Orthopaedic SpR on call (further imaging, CT, MRI, erect XRs)**

## Thoracic or Lumbar Spine injury

If injury occurs it will usually be at multiple levels – caution advised.

Commonly neurological injury will occur without significant skeletal injury due to increased mobility. Assess for sensory level. This is a difficult assessment in children and so repeat examination may be necessary.

If there is any suspicion of spinal injury, spinal protective measures must be maintained until cleared by clinician and/or imaging.

## Management of spinal cord injuries in the acute phase

### Airway management

- In cervical or high thoracic injuries anticipate autonomic instability. Tracheal stimulation can cause profound bradycardia and hypotension.
- In this situation, where haemorrhage can be excluded as a cause of hypotension, it is appropriate to have a lower threshold for the administration of vasoactive drugs to increase systemic vascular resistance.

### Oxygenation

- The spinal cord is neurological tissue and as a result may suffer secondary injury in the same manner as the brain.
- Titrate oxygen flow to maintain saturations of at least 94%.

### Ventilation

- The patient should be asked if their breathing feels normal or whether they feel short of breath.
- Observe for diaphragmatic breathing as this may indicate a high cervical lesion.
- There should be a low threshold for intubation if the patient has a high cervical injury or there are concomitant major injuries (e.g. chest). This is because respiratory difficulties can become a major issue.

### Hypotension

- Hypotension may require correction.
- In isolated spinal cord injuries blood pressure can be elevated using fluid boluses or by using intravenous catecholamines. Catecholamines can be administered using carefully titrated boluses or by using an infusion.
- In polytrauma patients, causes of hypotension should be sought in the usual manner and treatment should occur through standard procedures.
- If other causes for the patient's hypotension have been excluded, then inotropic/vasopressor support should be initiated.

### Temperature control

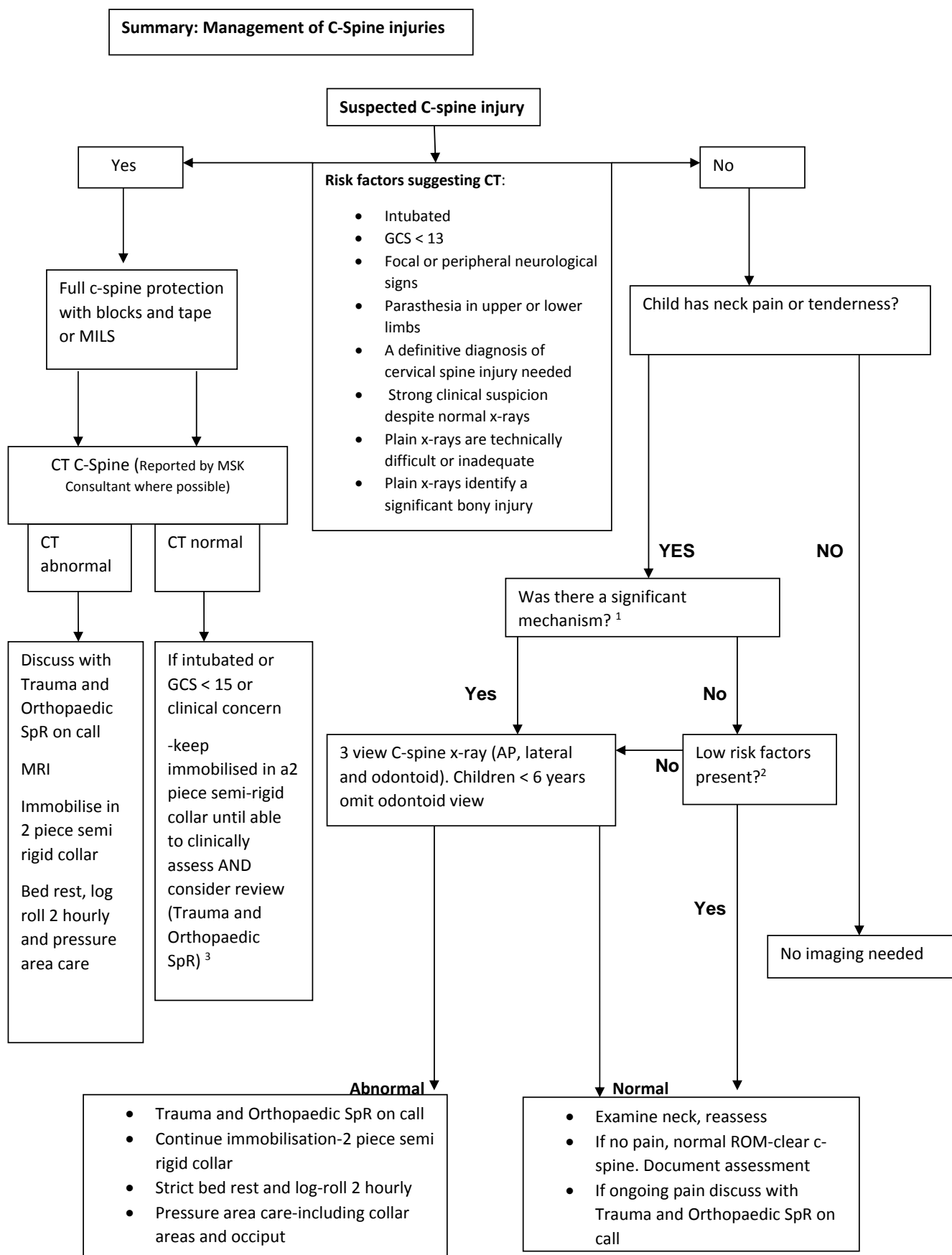
- Spinal injury patients may become cold through vasodilation and loss of normal thermoregulation reflexes.
- Patients should be kept normothermic.

## Neurological examination & documentation

A thorough exam should be performed, including assessment of limb movements and a sensory, prior to any anaesthesia or sedation. Other measures include urinary catheterisation and keeping the patient NBM (NG/OG tube insertion).

## Definitive spinal cord injury management

- All spinal cord injuries with neurological deficit should be discussed with the network spinal service within 4 hours of diagnosis. This will be via the MTC TTL (see below) and is a **quality indicator**.
- Cases discussed with the spinal cord injury centre will receive advice on disposition and further care.



**1. If dangerous mechanism get x-ray BEFORE assessing range of movement**

- Fall from height > 1 m or 5 stairs
- Axial load to the head
- High speed motor vehicle collision
- Rollover motor accident
- Accident involving motorised recreational vehicles
- Bicycle collision

**2. Low risk factors present:**

- Involved in a simple rear end collision
- Has been ambulatory
- Is comfortable in the sitting position
- Has no midline c-spine tenderness
- Has a delayed onset of neck pain

**3. Continue immobilisation until child is awake and can be assessed clinically.  
If child is intubated then collar to remain on during extubation process  
unless risk to airway control.**

# PAEDIATRIC PELVIC INJURY

## GUIDANCE – In the Emergency Department

### Background

Trauma is well recognised as the primary cause of mortality and morbidity in children, with an estimated pelvic fracture incidence of 1/100,000. These injuries are a surrogate marker for severe trauma; and a high index of suspicion should be maintained for associated injuries.<sup>1</sup>

Clinicians be aware of the possibility of non-accidental injury or an underlying pathological process.

These guidelines have been designed to aid with the management of pelvic fractures in children under the age of 16.

### Injury Assessment

Use an ABCDE approach.<sup>2</sup>

All suspected pelvic fractures or children with blunt trauma and a significantly low systolic BP for their age, should have a pelvic binder applied as part of their initial resuscitation. DO NOT wait until the AP pelvis radiograph has been taken. Apply over the tip of the greater trochanters. In small children where a pelvic binder may not be available in the correct size, a sheet or towel can be utilised.

Ensure early senior support – ED Consultant, Urgent T&O Review and Pelvic Team referral

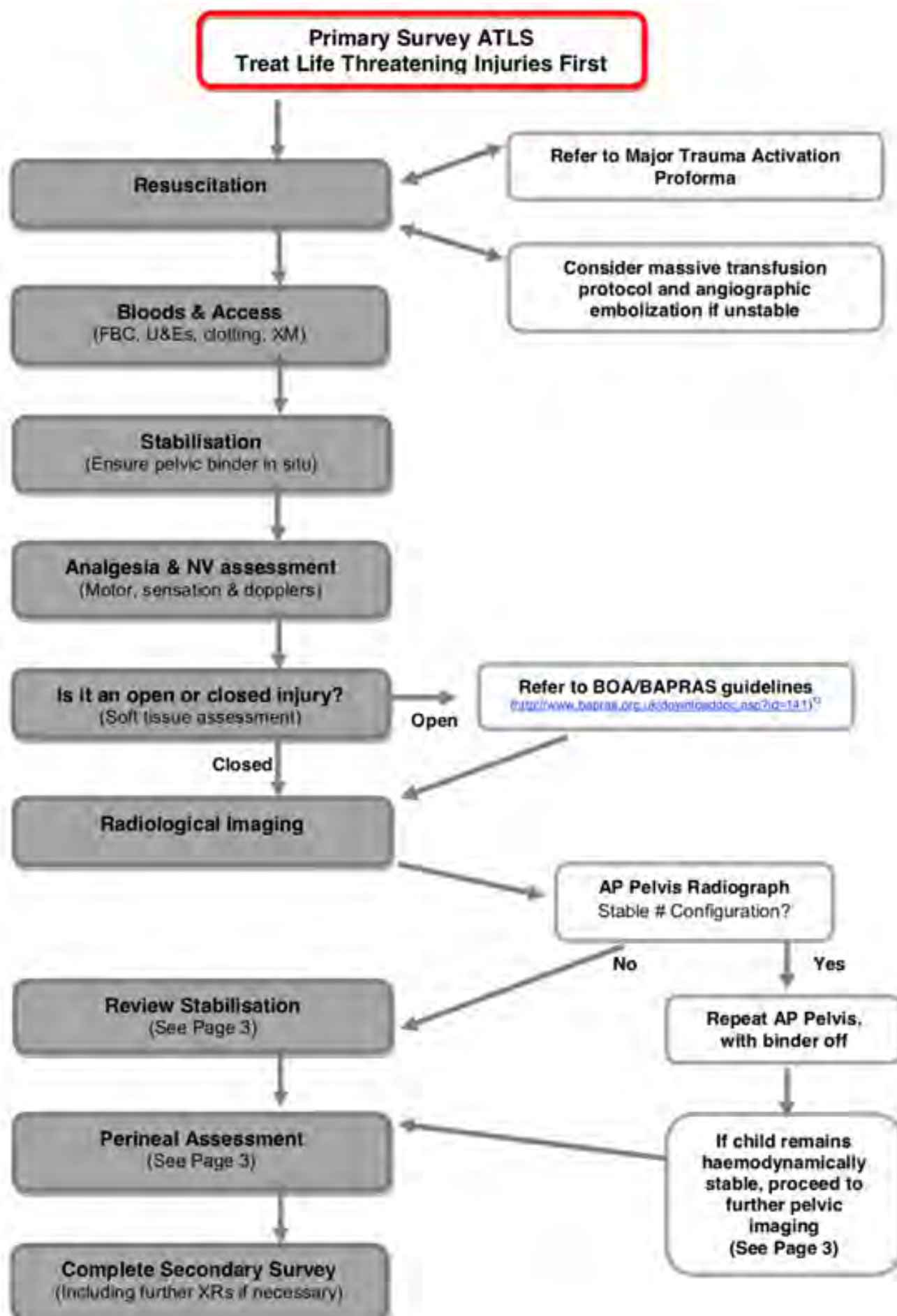
### Assessment, Imaging & Treatment

As outlined in the following flow chart

### Ongoing management

If a patient with a significant pelvic fracture presents to a Trauma Unit, they must be transferred to the Major Trauma Centre for definitive management.

In the MTC, patients will be admitted to Owl ward or high dependency area, pending definitive management.





## GUIDANCE – Further Information Supporting the Algorithm

### Radiological imaging:

Perform AP pelvis radiograph with binder in situ. If stable fracture configuration, repeat with binder off and proceed with the following:

- Acetabular # - Judet views
- Pelvic ring # - Inlet/outlet views
- Senior discussion regarding CT imaging

### Perineal Assessment:

IMPORTANT: In order to minimise distress to the child, to be completed once by a senior team member.

- Rectal/vaginal/perineal examination – bleeding or palpable bony spikes
- Genito-urinary injury – consider even with innocuous appearing fracture. If urethral injury is suspected, catheterisation is contraindicated.

### Open Fractures:

Open fractures – as per BOA/BAPRAS guidelines:

- Haemorrhage Control
- Tranexamic acid
- Minimal wound handling, saline soaked dressings
- Antibiotics (as per HB protocol)
- Anti-tetanus
- Photographic record of wounds (medical photography or departmental camera)
- Early plastics involvement

### Pelvic binder:

The following is the Standard Operating Procedure:

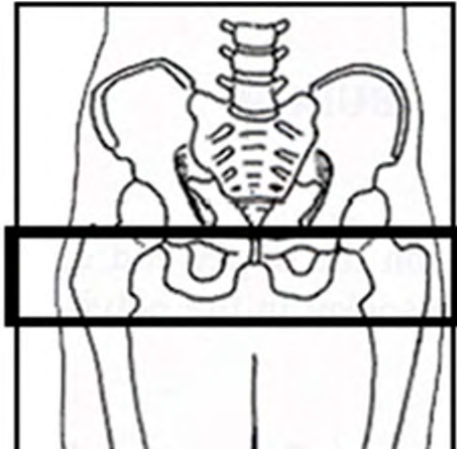
- Apply pelvic binder with history of blunt trauma and hypotensive
- Pelvic binder can be applied even if lateral compression injury is suspected.
- The binder should be placed around **the trochanters**, not the iliac crests (see diagram).
- If Binder applied pre-hospital leave it. Check position.
- If hypotensive, begin fluid resuscitation
- **Do NOT** examine the pelvis for mechanical stability.
- **Do NOT** logroll the patient until the pelvis is cleared.
- Obtain an early pelvic x-ray (or immediate CT) to clear the pelvis.
- If this x-ray is normal, the pelvis is cleared: remove binder and then repeat x-ray. An AP compression (open book) injury can be perfectly reduced by the binder so that the plain x-ray or CT scan appears normal. A check x-ray after removal of the binder will identify this problem.

**If there is haemodynamic instability, replace the binder.**

### Application of the SAM Splint:

This is a two-person technique and should be performed by people trained in the application of the splint. Aim for splint to skin to prevent need to remove splint to remove clothes at later date.

1. Ensure legs internally rotated.
2. Unroll splint and place underneath the patient's feet/knees
3. Slide towards the patient's head and if necessary, elevate buttocks to facilitate correct placement.
4. The splint should be at the level of the **greater trochanters** and no higher.
5. One person holds the orange handle and the other tightens the splint until a click is heard.
6. The splint is fastened using the Velcro.
7. Bind ankles and knees.



If pelvic splint in small enough size is not available consider use of a folded sheet tied tightly at level of greater trochanters with internal rotation of femurs.

### If a pelvic fracture is present:

You can leave binder in place for up to 24 hours unless patient has severe neurological deficit (e.g. paraplegia).

### Log Roll

- If unilateral pelvic injury: log-roll to opposite side
- If bilateral pelvic injury: avoid log-roll if at all possible.

## Urinary Catheterisation

- Female patient: catheterise if able. See catheterisation guidance below.
- Male patient: refer to catheterisation guidance below.

### Catheterisation +/- contrast cystogram / urethrogram after pelvic fracture

- In the absence of any concerning features, in particular blood at the meatus, or any history of haematuria since the accident, a single, gentle attempt at passing a urinary catheter may be undertaken. Sterile technique must be used and the procedure performed by a clinician experienced in inserting paediatric catheters.
  - o If clear urine drains, secure catheter and no further action required
  - o If there is any element of blood staining in the fluid draining from the catheter, then a contrast study (retrograde cystogram) is mandated
- If there is any blood at the meatus prior to catheterisation, or any history of haematuria since accident, then a retrograde urethrogram is indicated before attempts at catheterisation. Suggest call urology for advice
  - o Urethrogram **positive**: take Consultant Urologist advice. If suprapubic catheter is needed then discuss with the Trauma and Orthopaedic surgeons as this will have major implications for any internal fixation.
  - o Urethrogram **negative**: catheterise. If haematuria present, perform a retrograde cystogram.

## GUIDANCE – BEYOND THE EMERGENCY DEPARTMENT

### Mechanism

Pelvic fractures in **NON-AMBULANT CHILDREN** – necessity to exclude non-accidental injury.<sup>3</sup>

If you have any concerns in any patient, please discuss with the Paediatric Medical Team in order to escalate appropriately.

### Classification of pelvic fractures

Multiple classifications are available; most commonly used is Young-Burgess<sup>5</sup>:

- Anterior Posterior Compression or 'Open Book' (APC I, II, III)
- Lateral Compression (LC I, II, III)
- Vertical Shear (VS)

Or alternatively used is Tile<sup>6</sup>:

- TYPE A: Minor undisplaced ring # / avulsion #
- TYPE B: Vertically stable, rotationally unstable
- TYPE C: Vertically and rotationally unstable

It should be noted that children whose triiradiate cartilage remains open will have a different fracture pattern to those in whom it has closed. This is because the iliac wing is less strong than the pelvic ligaments; thus pubic rami and iliac wing fractures are more common.<sup>5</sup>

### Management

The Orthopaedic Principles of Management are:

- Improve pain, function and mobility.
- Early detection of associated injuries or complications.
- To prevent limb length discrepancies.
- To prevent growth disturbances of the acetabulum; resulting in dysplasia/hip subluxation and incongruity.<sup>7</sup>

In conjunction with initial resuscitation, the early management of pelvic fractures is guided by the Young- Burgess classification:

- APC: Pelvic binder or sheeting applied in the ED
- LC: Rarely requires emergency stabilisation.
- VS: Skin or skeletal traction with additional pelvic binder.

Of note, there are no contraindications to applying a pelvic binder/sheet in a suspected LC pattern injury, however other sources of major haemorrhage should be sought. Once the diagnosis has been made, and the child is haemodynamically stable, this should be removed.

Management of pelvic fractures may be conservative or surgical according to the individual child and the severity of their injuries. The breadth of surgical options are beyond the scope of this guideline. However, a pre and post-surgical checklist is available for the management of these patients.

### In Summary:

- Remember that pelvic injuries are a marker of high energy trauma; with which there should be a high suspicion of other associated injuries.
- Ensure early consultation with the Pelvic Team, in conjunction with image transfer to facilitate second opinion.
- Completion of the Pelvic Checklist as an aide memoir.

### Abbreviations Used:

ED: Emergency Department

T&O: Trauma and Orthopaedics

FBC: Full blood count

U&Es: Urea and electrolytes

G&H: Group and hold

XM: Cross Match

ATLS: Advanced Trauma Life Support

MTC: Major Trauma Centre

#: Fracture

CT: Computed Tomography

USS: Ultrasound Scan

C-Spine: Cervical Spine

BOA: British Orthopaedic Association

BAPRAS: British Association of Plastic Reconstructive and Aesthetic Surgeons

NSAIDS: Non Steroidal Anti-Inflammatories

### References

1. Ibrahim, M., Leonard, M., McKenna, P., Boran, S., McCormack, D. Paediatric Pelvic Fractures and Associated Injuries. *J Bone Joint Surg Br.* 94-B: (SUPP 6) 6 (2012).
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# FEMORAL SHAFT FRACTURES IN CHILDREN

## Introduction

Femoral shaft fractures are among the most common diaphyseal fractures in children with annual incidence of 19 fractures per 100,000 children<sup>1</sup>. Of all femur fractures in children, 56-70% are located in the femoral shaft<sup>2</sup>. The strong blood supply of the femoral shaft allows for rapid healing and generally favourable outcome if treated correctly. Observational studies identify bimodal age distribution with peaks in the toddler age group and again in the adolescent age group<sup>2</sup>.

## Anatomy

The paediatric femur can be divided anatomically into the proximal femur (made up of the femoral head, femoral neck, greater and lesser trochanter), the femoral shaft, and the distal femur (made up of the medial and lateral epicondyles, the medial and lateral condyles, and the trochlea). The femoral shaft can be further subdivided into the proximal third (subtrochanteric), middle third (midshaft), or distal third (supracondylar, intercondylar, condylar).

Unlike the proximal femur, the femoral shaft has a strong vascular supply which supports rapid healing following injury. This strong vascular supply also accounts for the significant blood loss that can accompany a femoral shaft fracture in an adult. Unlike adult femoral shaft fractures, observational studies in children have not found significant hemodynamic compromise associated with isolated paediatric femur fractures<sup>3</sup>.



## Mechanism of injury

**Infants/Toddlers** - falls and non accidental injury (NAI) are among the leading causes of femoral shaft fracture in this age group. Femoral fractures have traditionally been identified as red flags for child abuse among young children (age <4 years). Evidence suggests that certain subgroups, most notably non-mobile infants and those ages < 1 years are at the highest risk.

**Children and adolescents** — In the toddler and school-age children, falls remain the leading cause of femoral shaft fractures. In adolescents motor vehicle/pedestrian collisions, and sports-related injuries account for the majority of femoral shaft fractures.

## Clinical Assessment

There will be localized tenderness and swelling over the affected femoral shaft. Obvious deformity, shortening, and/or crepitus on palpation are usually present. The skin needs to be carefully inspected for signs of an open fracture. **As with all fractures, a careful neurovascular exam distal to the site of the fracture before and after splinting is necessary to ensure that the displaced fracture has not damaged nerves or arteries.** Thigh compartment syndrome as a result of a femoral shaft fracture is rare, but carries significant morbidity<sup>4</sup>. Findings include tense thigh swelling and increasing pain, especially with passive movement of distal joints.

Standard anterior posterior (AP) and lateral plain radiographs of the entire affected femur, from hip joint to knee joint, are necessary to identify the fracture and provide pertinent information required for proper treatment.

## Initial Treatment in ED

**Stabilisation** - Patients with high energy trauma (eg, high speed motor vehicle collision) associated with femoral shaft fractures should be rigorously evaluated according to the standard <C>ABCDE trauma protocol.

For children with an isolated femoral shaft fracture and no other serious injury, initial therapy consists of pain management and immobilization.

**Analgesia** - Oral analgesia (Paracetamol and Ibuprofen) administered alongside parenteral or intranasal opioid analgesia (e.g. intravenous morphine or intranasal fentanyl) is most appropriate for initial pain control in children with femur fractures. Analgesia should be given as soon as possible. Once diagnosis is confirmed consider using a Fascia Iliaca Block for extended analgesia (see appendix 2)

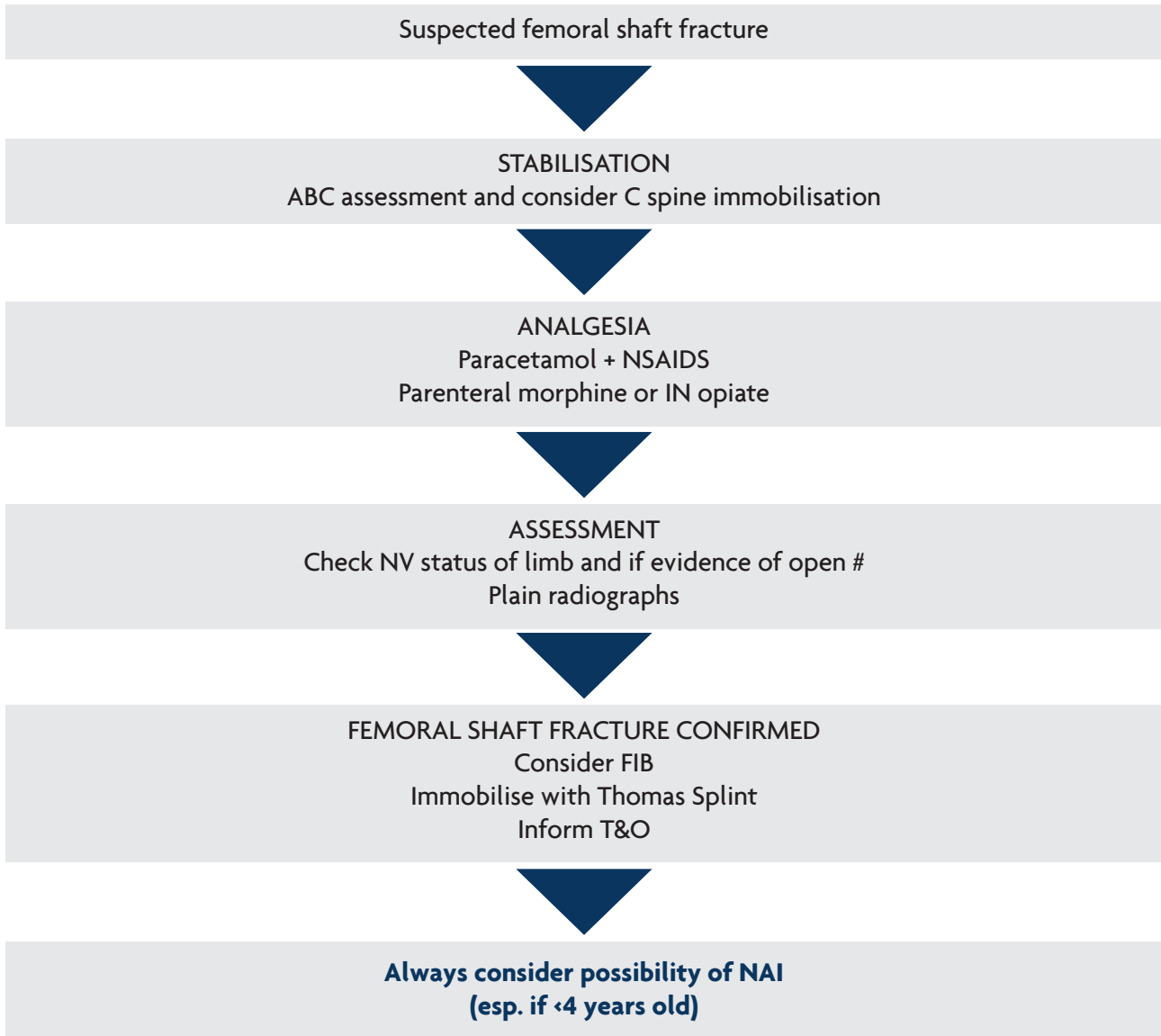
**Immobilisation** - Once distal neurovascular function has been tested and evaluation for open wounds of the skin is complete, all femur fractures should be immobilised for comfort. Typically this will be with a Thomas splint or skin traction. However children may also be brought to the ED in a Kendrick Traction Device. If appropriately placed and pressure areas padded with wool, leave in place.

**Child protection** - Diagnosis of a femoral shaft fracture in a child, especially a non-ambulatory infant, with a questionable mechanism of injury should prompt involvement of an experienced child protection team.

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## Appendix 1 - Summary of recommendations





## Appendix 2 - Fascia Iliaca Block

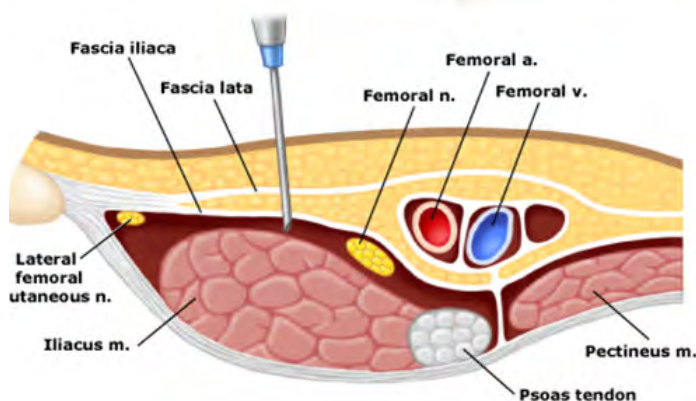
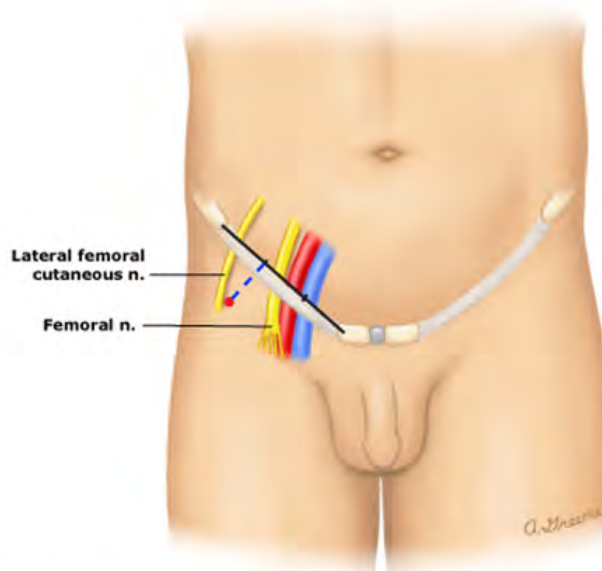
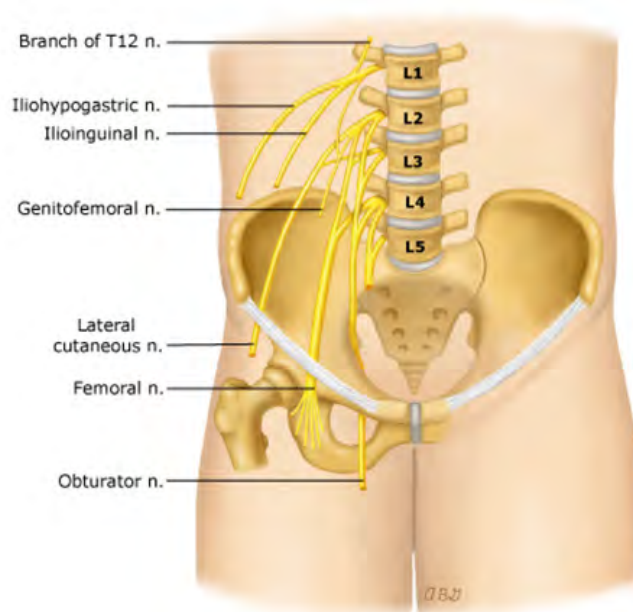
The fascia iliaca block is an alternative to the femoral nerve block and may more reliably block the lateral femoral cutaneous nerve than the femoral block. It blocks the sensory innervation of the lateral thigh.

This block does not depend on deposition of local anaesthetic (LA) near an individual nerve; instead, it works by spread of the LA in a fascial plane. It can be done using ultrasound guidance or with an anatomic approach.

Contraindications are LA hypersensitivity, infection over proposed site, coagulopathy, warfarin with INR >1.5, platelets <100 and previous femoral bypass.

### Technique

- Before starting informed consent, O<sub>2</sub> saturation monitoring and IV access are required.
- With the patient in the supine position a line between the ASIS and pubic tubercle is drawn and trisected.
- At the border between the lateral and middle thirds, a perpendicular line 2 cm in length is drawn caudally.
- 1-2ml of 1% lignocaine infiltrated to skin at this point.
- A blunt needle is inserted and directed cephalad at a 45-degree angle. Two distinct “pops” should be felt as the needle passes through the fascia lata, and then the fascia iliaca.
- After negative aspiration, 30 mL of LA mixture (see appendix 3 for dosing), is injected in 5-mL increments with gentle aspiration between injections.
- Following procedure observations are required at 5 min intervals for 15 min to monitor for LA toxicity (see appendix 4).



Appendix 3 - Levobupivacaine dosing

FIB is a volume block therefore the calculated dose of levobupivacaine should be diluted to 30ml volume with normal saline. **NB** if using more than 1-2mls of lignocaine at the skin, then be aware of maximum LA doses.

**Levobupivacaine maximum dose is 2mg/kg.**  
**1ml of 0.25% levobupivacaine contains 2.5mg.**  
The following is a dosing table based on weight:

Weight (kg) (round down)	Volume of 0.25%	Volume of 0.9% Saline	Total volume given
10	8ml	22ml	30ml
15	12ml	18ml	30ml
20	16ml	14ml	30ml
25	20ml	10ml	30ml
30	24ml	6ml	30ml
35	28ml	2ml	30ml
40	32ml	0	32ml
45	36ml	0	36ml
≥50	40ml	0	40ml

# AAGBI Safety Guideline

## Management of Severe Local Anaesthetic Toxicity

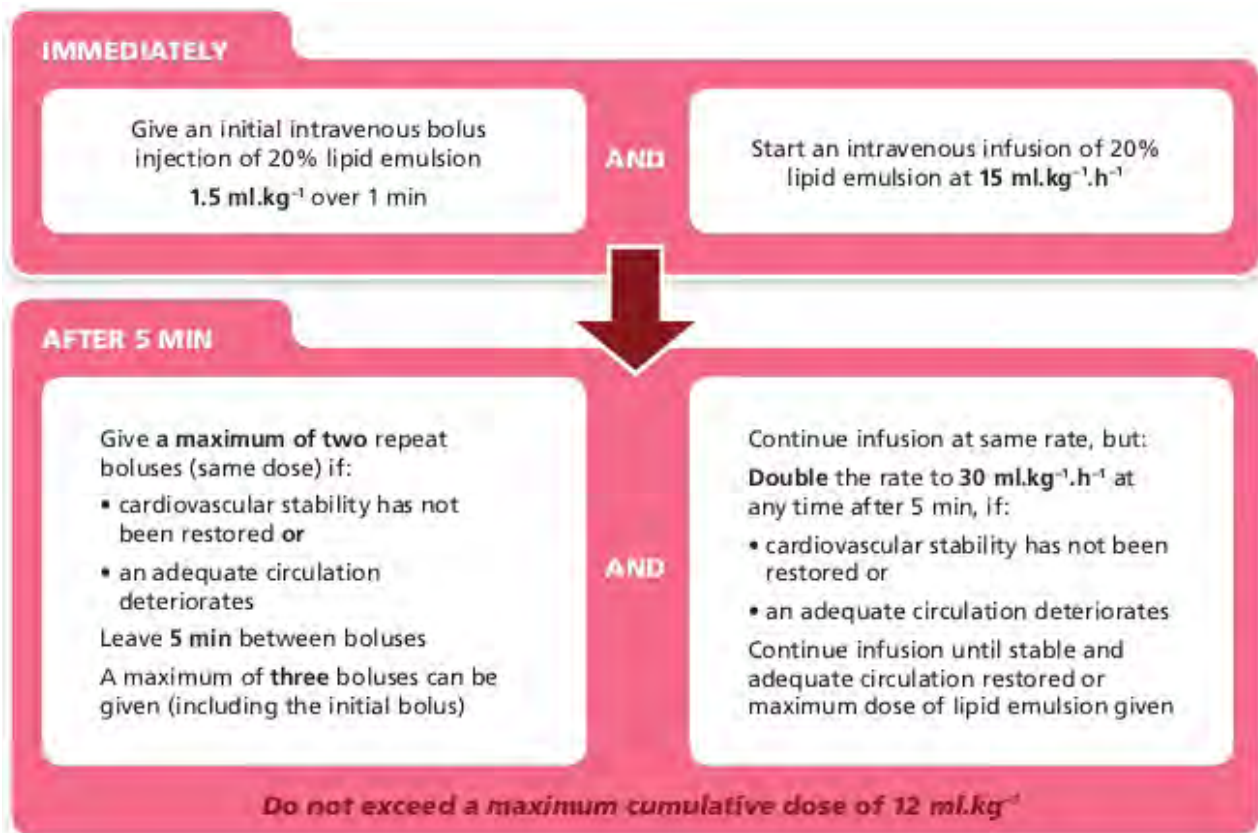


<h3>1</h3> <h4>Recognition</h4>	<p><b>Signs of severe toxicity:</b></p> <ul style="list-style-type: none"> <li>• Sudden alteration in mental status, severe agitation or loss of consciousness, with or without tonic-clonic convulsions</li> <li>• Cardiovascular collapse: sinus bradycardia, conduction blocks, asystole and ventricular tachyarrhythmias may all occur</li> <li>• Local anaesthetic (LA) toxicity may occur some time after an initial injection</li> </ul>		
<h3>2</h3> <h4>Immediate management</h4>	<ul style="list-style-type: none"> <li>• Stop injecting the LA</li> <li>• Call for help</li> <li>• Maintain the airway and, if necessary, secure it with a tracheal tube</li> <li>• Give 100% oxygen and ensure adequate lung ventilation (hyperventilation may help by increasing plasma pH in the presence of metabolic acidosis)</li> <li>• Confirm or establish intravenous access</li> <li>• Control seizures: give a benzodiazepine, thiopental or propofol in small incremental doses</li> <li>• Assess cardiovascular status throughout</li> <li>• Consider drawing blood for analysis, but do not delay definitive treatment to do this</li> </ul>		
<h3>3</h3> <h4>Treatment</h4>	<table border="1"> <tr> <td> <p><b>IN CIRCULATORY ARREST</b></p> <ul style="list-style-type: none"> <li>• Start cardiopulmonary resuscitation (CPR) using standard protocols</li> <li>• Manage arrhythmias using the same protocols, recognising that arrhythmias may be very refractory to treatment</li> <li>• Consider the use of cardiopulmonary bypass if available</li> </ul> <p><b>GIVE INTRAVENOUS LIPID EMULSION</b> (following the regimen overleaf)</p> <ul style="list-style-type: none"> <li>• Continue CPR throughout treatment with lipid emulsion</li> <li>• Recovery from LA-induced cardiac arrest may take &gt;1 h</li> <li>• Propofol is not a suitable substitute for lipid emulsion</li> <li>• Lidocaine should not be used as an anti-arrhythmic therapy</li> </ul> </td><td> <p><b>WITHOUT CIRCULATORY ARREST</b> Use conventional therapies to treat:</p> <ul style="list-style-type: none"> <li>• hypotension,</li> <li>• bradycardia,</li> <li>• tachyarrhythmia</li> </ul> <p><b>CONSIDER INTRAVENOUS LIPID EMULSION</b> (following the regimen overleaf)</p> <ul style="list-style-type: none"> <li>• Propofol is not a suitable substitute for lipid emulsion</li> <li>• Lidocaine should not be used as an anti-arrhythmic therapy</li> </ul> </td></tr> </table>	<p><b>IN CIRCULATORY ARREST</b></p> <ul style="list-style-type: none"> <li>• Start cardiopulmonary resuscitation (CPR) using standard protocols</li> <li>• Manage arrhythmias using the same protocols, recognising that arrhythmias may be very refractory to treatment</li> <li>• Consider the use of cardiopulmonary bypass if available</li> </ul> <p><b>GIVE INTRAVENOUS LIPID EMULSION</b> (following the regimen overleaf)</p> <ul style="list-style-type: none"> <li>• Continue CPR throughout treatment with lipid emulsion</li> <li>• Recovery from LA-induced cardiac arrest may take &gt;1 h</li> <li>• Propofol is not a suitable substitute for lipid emulsion</li> <li>• Lidocaine should not be used as an anti-arrhythmic therapy</li> </ul>	<p><b>WITHOUT CIRCULATORY ARREST</b> Use conventional therapies to treat:</p> <ul style="list-style-type: none"> <li>• hypotension,</li> <li>• bradycardia,</li> <li>• tachyarrhythmia</li> </ul> <p><b>CONSIDER INTRAVENOUS LIPID EMULSION</b> (following the regimen overleaf)</p> <ul style="list-style-type: none"> <li>• Propofol is not a suitable substitute for lipid emulsion</li> <li>• Lidocaine should not be used as an anti-arrhythmic therapy</li> </ul>
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<h3>4</h3> <h4>Follow-up</h4>	<ul style="list-style-type: none"> <li>• Arrange safe transfer to a clinical area with appropriate equipment and suitable staff until sustained recovery is achieved</li> <li>• Exclude pancreatitis by regular clinical review, including daily amylase or lipase assays for two days</li> <li>• Report cases as follows:             <ul style="list-style-type: none"> <li>in the United Kingdom to the National Patient Safety Agency (via <a href="http://www.npsa.nhs.uk">www.npsa.nhs.uk</a>)</li> <li>in the Republic of Ireland to the Irish Medicines Board (via <a href="http://www.imb.ie">www.imb.ie</a>)</li> </ul> </li> </ul> <p>If Lipid has been given, please also report its use to the international registry at <a href="http://www.lipidregistry.org">www.lipidregistry.org</a>. Details may also be posted at <a href="http://www.lipidrescue.org">www.lipidrescue.org</a></p>		

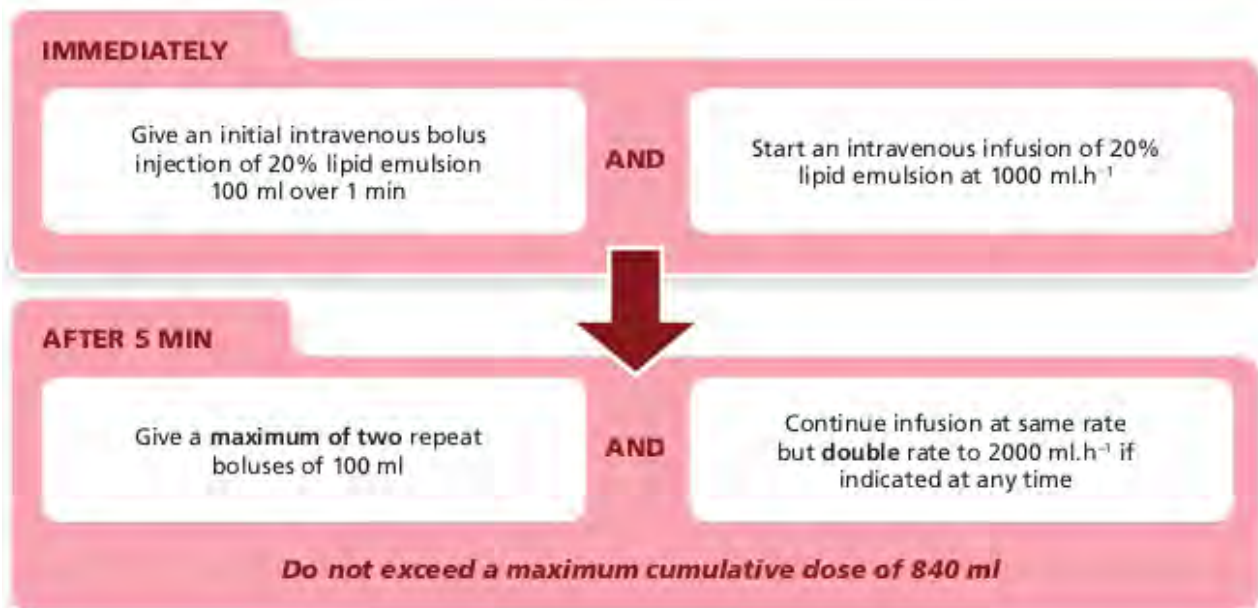
Our nearest bag of Lipid Emulsion is kept.....

This guideline is not a standard of medical care. The ultimate judgement with regard to a particular clinical procedure or treatment plan must be made by the clinician in the light of the clinical data presented and the diagnostic and treatment options available.





**An approximate dose regimen for a 70-kg patient would be as follows:**



This AAGBI Safety Guideline was produced by a Working Party that comprised: Grant Cave, Will Harrop-Griffiths (Chair), Martyn Harvey, Tim Meek, John Picard, Tim Short and Guy Weinberg.

**This Safety Guideline is endorsed by the Australian and New Zealand College of Anaesthetists (ANZCA).**

# OPEN LONG BONE FRACTURES

## OVERVIEW

This clinical guideline is intended to ensure the safe, effective and timely treatment of open long bone fractures in children. Long bones are defined as the humerus, radius, ulna, femur, tibia and fibula. An open fracture is a fractured long bone with an associated traumatic wound or break in the skin which allows bacteria to reach the deeper tissues. This may only be a small (<1cm) puncture wound. This guidance has been adapted from the BOA/BAPRAS guidelines, BOAST 4: The management of severe open lower limb fractures.

This can be accessed online on the BOA website at:  
<https://www.boa.ac.uk/wp-content/uploads/2014/12/BOAST-4.pdf>

## CLINICAL GUIDELINES

These are split into 3 parallel streams each running simultaneously



### Investigation

1. ABC Approach, identify and treat life threatening injuries first.  
Open long bone fractures occur following high energy mechanisms of injury and other serious injuries may be present.
2. Assess limb neurovascular status, wound and compartments.  
Assess the limb's perfusion by palpating distal pulses and for capillary refill. Perform an accurate examination of the motor and sensory function. Assess for symptoms and signs of compartment syndrome. Expose the extent of the wound.
3. Assess the Tetanus immunisation status of the child
4. Re-Assess the limb's neurovascular status following straightening and splinting.
5. Arrange appropriate x-rays. These should include AP and lateral views of the full extent of the fractured bone, including the joint above and below.

### Management

1. Initial Analgesia. Simple analgesia should be given immediately. Consider the use of Entonox or intra-nasal opiates.
2. Obtain IV access. Ensure adequate analgesia and sedation, if required.
3. Give IV Antibiotics.  
This must be done in the Emergency Department as early administration of antibiotics reduces infection rate in open fractures, guided by local antimicrobial guidelines.
4. Remove gross contamination from the wound, then take a photograph of the wound using the department's camera and place in patients notes. Apply a saline soaked dressing then straighten and splint the limb.

## Communication

Senior medical review immediately.

1. Senior medical staff should be alerted of the presence of a patient with an open fracture (in the department or on route) immediately.
2. Inform T & O Registrar who should review immediately.
3. Patient should be discussed with on call consultant orthopaedic surgeon (either locally or at MTC) and plastic surgeon (Morrison)
4. A consultant led combined Ortho/Plastics plan for debridement and fixation should be made.

## RELATED DOCUMENTS

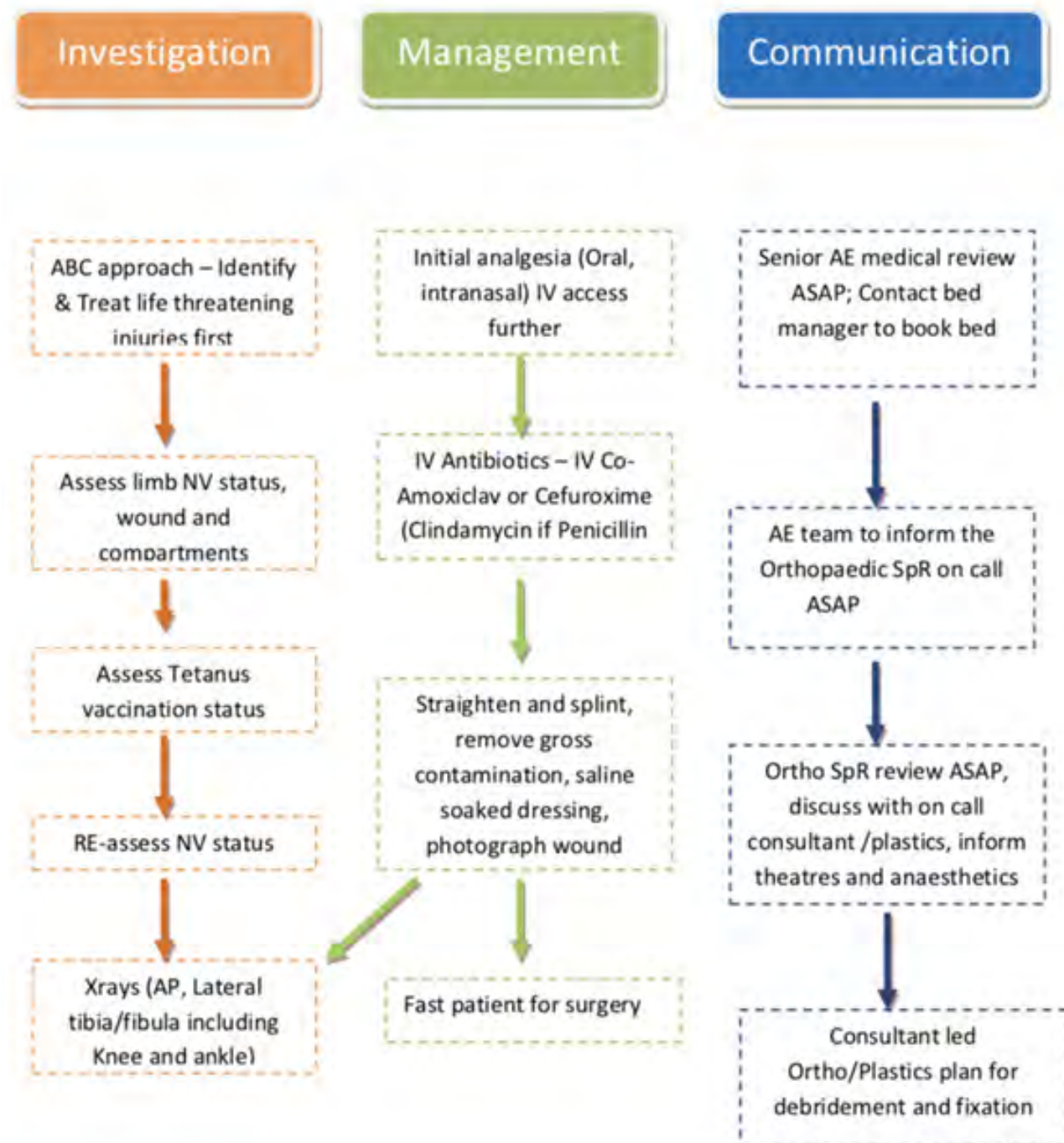
<http://www.boa.ac.uk/publications/boa-standards-for-trauma-boasts/>

## ABBREVIATIONS

BAPRAS, British Association of Plastic, Reconstructive and Aesthetic Surgeons  
BOA, British Orthopaedic Association

BOAST, British Orthopaedic Association Standards for Trauma

## Open Long Bone Fracture – Algorithm



# PAEDIATRIC COMPARTMENT SYNDROME

## GUIDANCE

All patients with a significant limb injury should be assessed specifically for compartment syndrome (CS). It should also be considered in all patients who have undergone any prolonged surgical procedure which may result in hypoperfusion of a limb.

The diagnosis of compartment syndrome remains a clinical diagnosis. There is no definitive investigation to exclude compartment syndrome.

Classical symptoms of compartment syndrome include:

Pain (out of proportion to the injury sustained)

Paraesthesia

**Consistent signs of compartment syndrome in children include:**  
**Increasing analgesic requirements**  
**Anxiety / agitation**

Additional signs may include

- Pain on passive stretch of muscles in compartment
- Neurological changes
- Delayed capillary refill
- Tense (wood firm) compartments
- Diminished/absent pulses – late signs

In obtunded patients, or where the clinical picture is unclear compartment pressures may be measured (either a single or continuous measurement).

Absolute compartment pressures should not be used in the paediatric population as a cut-off for surgery

If the difference between mean arterial pressure and compartment pressure is 30mmHg or less compartment syndrome is likely, and the affected compartments should either be released or continuously monitored depending on the treating consultant decision.

Diastolic blood pressure should not be used to diagnose compartment syndrome in the paediatric population, due to their variable and low perfusion pressures.

Pressure monitoring should not be performed if the clinical diagnosis is clear and performance should not delay surgical treatment.



## DOCUMENTATION

Should include the following data:

- Time of injury
- Mechanism of injury
- Time of evaluation
- Level of pain
- Conscious level
- Response to analgesia
- Any regional anaesthesia given

Patients at risk of CS should receive hourly nursing assessment of these symptoms. Pain scores that do not reduce in response to treatment warrant immediate senior clinical assessment.

## MANAGEMENT

Acute compartment syndrome is a surgical emergency. Once definitively diagnosed, surgical release should be performed urgently (within 1 hour). Surgical treatment should not be delayed for any reason, including starvation status or bed availability.

### Immediate treatment

- Ensure adequate analgesia has been administered – Note the peak onset of action of oramorph 15 mins, ibuprofen 25 mins, paracetamol 30 mins
- Elevate the limb to heart level
- All circumferential dressings should be removed, without completely removing splintage of fractures
- Resuscitate the patient to a normal BP (age-specific)
- Avoid all regional anaesthesia and patient controlled analgesia
- Evaluation every 30 minutes is required. If symptoms fail to improve, proceed to surgical decompression
- The alternative of continuous pressure monitoring should only be instituted by a Consultant

## Surgical treatment:

Surgical treatment of lower leg compartment syndrome should be via a dual incision 4 compartment fasciotomy (as per BOAST / BAPRAS guidelines)

<https://www.boa.ac.uk/wp-content/uploads/2014/05/BOAST-4-The-Management-of-Sever-Open-Lower-Limb-Fractures.pdf>

- If compartment syndrome occurs following a fracture and prior to definitive surgical stabilisation, consideration should be given for temporary stabilisation following fasciotomy using external fixation.
- Fasciotomy wounds should be dressed with saline soaked gauze
- If significant delay has occurred between onset of compartment syndrome and diagnosis (greater than 6 hours), surgical decompression should be discussed urgently with the Orthopaedic Surgeons at the University Hospital of Wales

## Onward management

- Following surgical decompression, the patient will be managed by the Paediatric Orthopaedic team on the ward and will return to theatre at 48 hours for closure of the surgical wounds.
- If there is any difficulty in skin closure then the Orthoplastics team will be consulted.

## Related documents

British Orthopaedic Association Standards for Trauma (BOAST) 4: The management of severe open lower limb fractures.

British Orthopaedic Association Standards for Trauma (BOAST) 10: Diagnosis and management of compartment syndrome for the limb

# BURNS

## Introduction

Burn injury is defined as that resulting from exposure to thermal, chemical, electrical or radiated energy. Such injury often occurs in isolation, but may be associated with other trauma. Small, uncomplicated burns can usually be managed safely by suitably trained primary care providers, with guidance from the specialised services if required. Outcome from severe burn injury is optimal when patients are managed by specialised burn services from an early stage.

## Burn Care in the UK

Specialised Burn Care in England & Wales is delivered by four regional Operational Delivery Networks (ODNs). Within each, burn services are designated as providing care at one of three levels. Burn Centres provide specialised burn care for patients with burn injuries of any severity, including the most severe and complex. Burn Units provide care up to a moderate level of injury complexity, while Burn Facilities provide care for non-complex burn injuries only.

Specialist paediatric burn services are available within each ODN, at Paediatric Burn Centres and Units. These may or may not be co-located with Adult Burn Services.

### Burn Care in Wales

Burn Care for South and Mid-Wales is provided by the South West UK (SWUK) ODN. The Welsh Centre for Burns and Plastic Surgery at Morriston Hospital, Swansea, is the only service located in Wales and is designated as an Adult Burn Centre and Paediatric Burn Unit within the SWUK ODN. Thus, this service will manage any severity of adult burn injury and small to moderately severe paediatric injuries. Severe and complex paediatric injuries are managed by the South West UK Children's Burns Centre at the Bristol Royal Hospital for Children.

Burn Care for North Wales is usually provided by specialised burn services within the Northern Burns ODN in Liverpool. Adult services are based at Whiston Hospital, while Paediatric services are based at Alder Hey Children's Hospital.

## Network Policy for Managing Burn Injuries

The network policy on managing burn injury follows nationally and regionally agreed guidance, already in place under the SWUK ODN.

### First Aid

Advice on First Aid is available via the British Burn Association (BBA) website, at <https://www.britishburnassociation.org/wp-content/uploads/2017/06/BBA-First-Aid-Guideline-24.9.18.pdf>

### Initial Management

SWUK Burn Care ODN guidance on various aspects of the initial assessment & management of burn-injured patients is available on the Network website.

Initial Assessment & Management

[http://www.mysurgerywebsite.co.uk/website/SWUK001/files/SWUK Guideline Initial Assessment and Management Burn Injury v1 \(Oct 2018\).pdf](http://www.mysurgerywebsite.co.uk/website/SWUK001/files/SWUK%20Guideline%20Initial%20Assessment%20and%20Management%20Burn%20Injury%20v1%20(Oct%202018).pdf)

Smoke Inhalation Injury and Airway Management

[http://www.mysurgerywebsite.co.uk/website/SWUK001/files/SWUK Guideline Smoke Inhalation and Airway Management V2.0 \(July 18\)NB.pdf](http://www.mysurgerywebsite.co.uk/website/SWUK001/files/SWUK%20Guideline%20Smoke%20Inhalation%20and%20Airway%20Management%20V2.0%20(July%2018).pdf)

Wound Management

[http://www.mysurgerywebsite.co.uk/website/SWUK001/files/SWUK%20Wound%20Management%20Guidelines%20V1%20\(Oct18\).pdf](http://www.mysurgerywebsite.co.uk/website/SWUK001/files/SWUK%20Wound%20Management%20Guidelines%20V1%20(Oct18).pdf)

Requirement for Surgery Prior to Transfer

<http://www.mysurgerywebsite.co.uk/website/SWUK001/files/SWUK%20Guideline%20Need%20for%20Surgery%20prior%20to%20Transfer%20V1.0NB.pdf>

Burns Intensive care in the First 48 Hours

[http://www.mysurgerywebsite.co.uk/website/SWUK001/files/SWUK%20Guideline%20Burns%20Intensive%20Care%20First%2048%20Hours%20V2.0NB%20\(July%202018\).pdf](http://www.mysurgerywebsite.co.uk/website/SWUK001/files/SWUK%20Guideline%20Burns%20Intensive%20Care%20First%2048%20Hours%20V2.0NB%20(July%202018).pdf)

### Referral to a Specialised Burn Service

National guidance on referring burn-injured patients to specialised burn services is available at: [http://www.britishburnassociation.org/downloads/National\\_Burn\\_Care\\_Referral\\_Guidance\\_-\\_5.2.12.pdf](http://www.britishburnassociation.org/downloads/National_Burn_Care_Referral_Guidance_-_5.2.12.pdf)

### Referrals to the Burn Centre at Morriston Hospital, Swansea

Non-urgent referrals & enquiries – via Hospital Switchboard, 01792 702222 ext. 23882.

Urgent Consultant-to-Consultant referrals:

08:00 – 17:00 weekdays – Duty Burns Consultant via Hospital Switchboard.

17:00 – 08:00 & weekends – On-call Burns Consultant via Hospital Switchboard.

### Referrals to the Paediatric Burn Centre at Bristol Royal Children's Hospital, Bristol

Guidance for the referral of paediatric burns to the regional Paediatric burns centre at Bristol Royal Children's Hospital can be found online at:

<http://www.uhbristol.nhs.uk/patients-and-visitors/your-hospitals/bristol-royal-hospital-for-children/what-we-do/the-south-west-uk-children's-burn-centre/how-to-refer/>

Discussion with the On-Call Paediatric burns team can be made on the number below:

Referrals & enquiries – 0117 923 0000 Bleep 6780.

### Triage decision making

Broadly, if major trauma is the predominant issue, the patient should be transferred to the adult and children's MTC at UHW. If burns are the predominant issue, the patient should be transferred to the appropriate burns centre or unit. For further guidance, discuss cases with the MTC TTL and Burns Consultant at Morriston Hospital.

# TRAUMA IMAGING IN CHILDREN

## GUIDANCE

All imaging needs to follow the ALARA (As Low As Reasonably Achievable) principle, minimising radiation exposure and keeping radiation levels to as low as possible. This is especially important in paediatric cases as children are at a higher risk from radiation due to fact that developing tissue is more radiosensitive. This is a cumulative risk and they have a longer lifetime ahead of them. **The routine use of adult protocols for imaging in paediatric patients is inappropriate.** It is important to remember that certain areas are more sensitive to radiation e.g. gonads, eyes and thyroid. CT of the C-spine delivers 200 times the radiation dose compared to an x-ray to the developing thyroid gland.

In order to prevent unnecessary radiation **ONLY** request CTs that will change management.

But remember CT is the best way to evaluate acute trauma, ultrasound can miss injuries and should not be used.

### STOP AND THINK!!

**Does this child need imaging at all? Will a CT change management or will an x-ray provide the answer instead?**

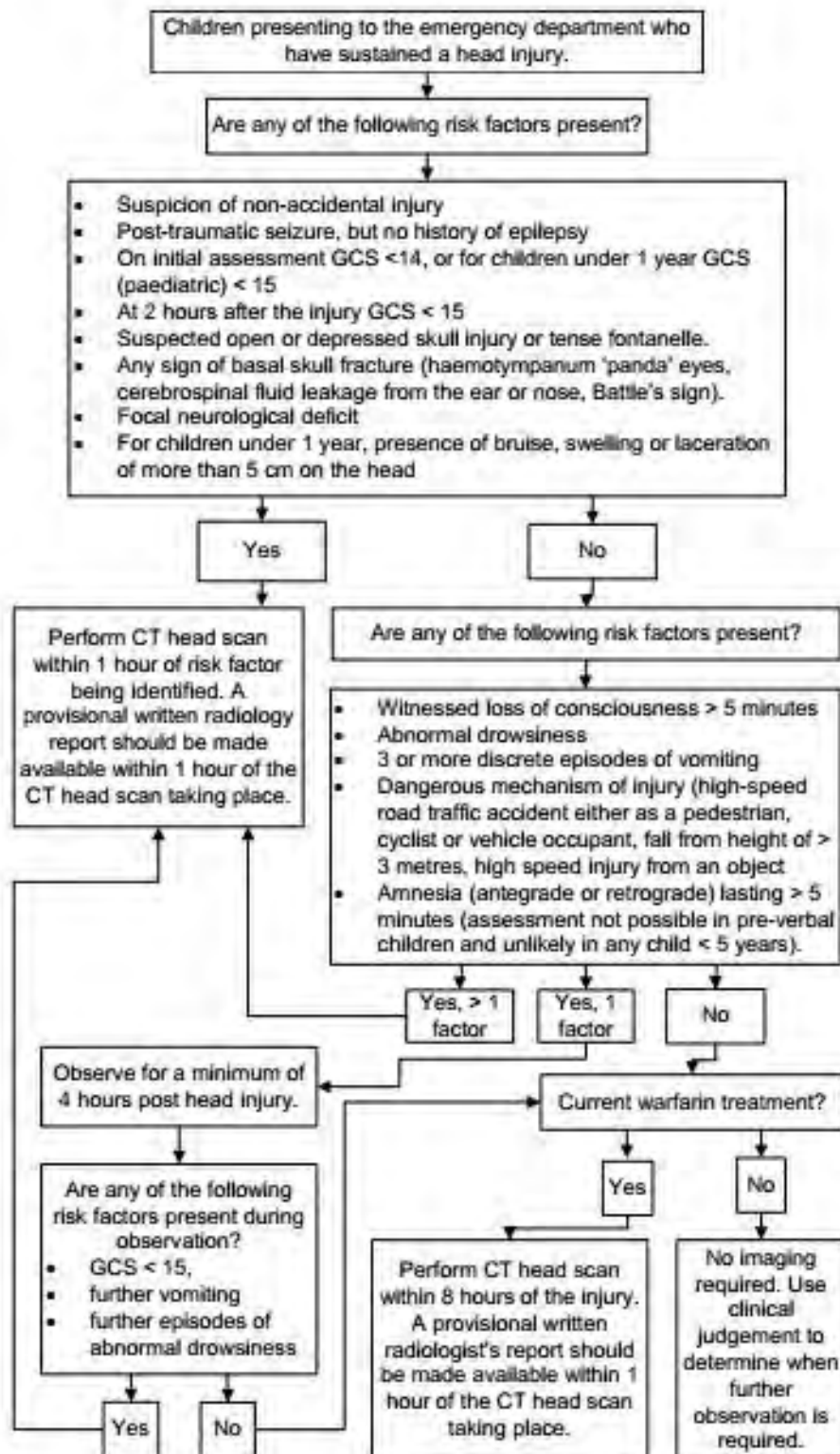
## Primary Survey X-rays

The routine ordering of chest, c-spine and pelvis x-rays is NOT appropriate.

## INDICATIONS FOR CT HEAD

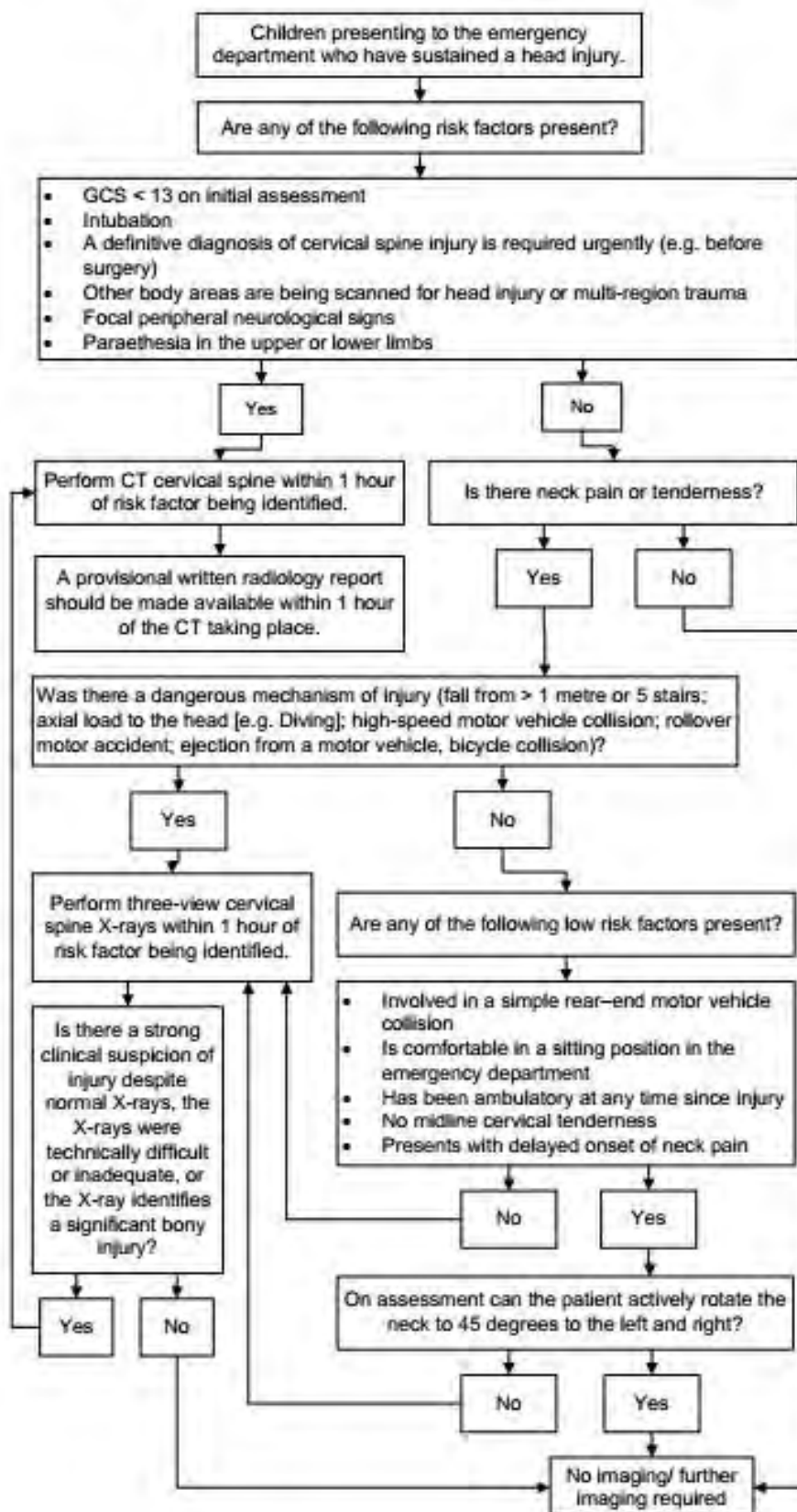
The need for a CT head is decided according to the NICE guidance below:

**Algorithm 2: Selection of children for CT head scan**



## INDICATIONS FOR IMAGING OF C-SPINE

**Algorithm 4: Selection of children for imaging of the cervical spine**





## IMAGING THE CHEST

The primary investigation for blunt chest trauma is CXR this can be done quickly with a portable chest x-ray in resus.

**CT chest should be reserved for penetrating chest trauma or when injuries are identified on a CXR**

## IMAGING THE ABDOMEN

When clinically indicated, CT is the modality of choice to assess trauma. There is no indication for ultrasound in the evaluation of trauma.

Risk factors for abdominal injury which may indicate the need for abdominal CT;

1. **Lap belt or handle bar injuries**
2. **Abdominal wall bruising**
3. **Abdominal distension or tenderness**
4. **Blood from NG tube or rectum or within urine**
5. **Persistent hypovolaemia**
6. **Evidence of thoracic and pelvic trauma**

**There is no role for FAST scans in paediatric trauma; it will only delay time to CT.**

## Imaging of Pelvis

Children rarely have significant pelvic ring disruption fractures (this excludes isolated pubic ramus fractures) and a routine pelvic x-ray is NOT required. If there is strong clinical suspicion of pelvic ring injury then a pelvic x-ray is indicated in resus with the CXR .

## NOTE

**Do NOT** request CT chest in the patient who requires a CT head and CT abdomen (a common combination) simply because the chest lies between the 2 injured areas. This is inappropriate in children where multi-system trauma is the exception, not the rule. Similarly do NOT request CT C-spine (200 x the radiation dose of 3 view C-spine x-rays) just because the head may require CT.

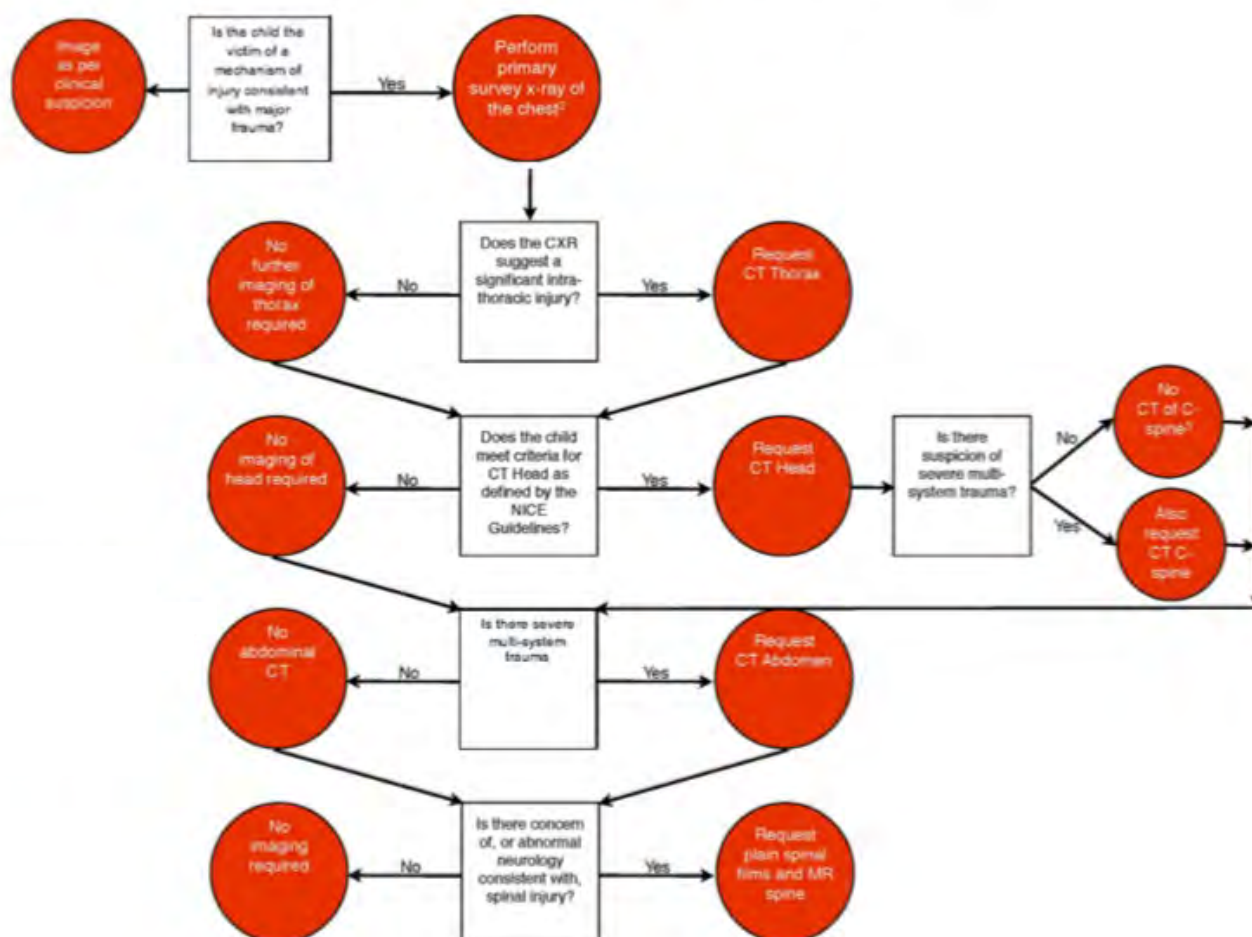
## Whole Body CT

The key investigation for the critically injured patient is likely to be a polytrauma CT (head to symphysis pubis). National targets (adults) state that this should occur within 30 minutes of patient's arrival to ED. **However, few paediatric patients meet the criteria of polytrauma to justify this as a first line investigation.**



## Royal College of Radiology Imaging Decision Tool

### ED Paediatric Major Trauma Imaging Decision Tool

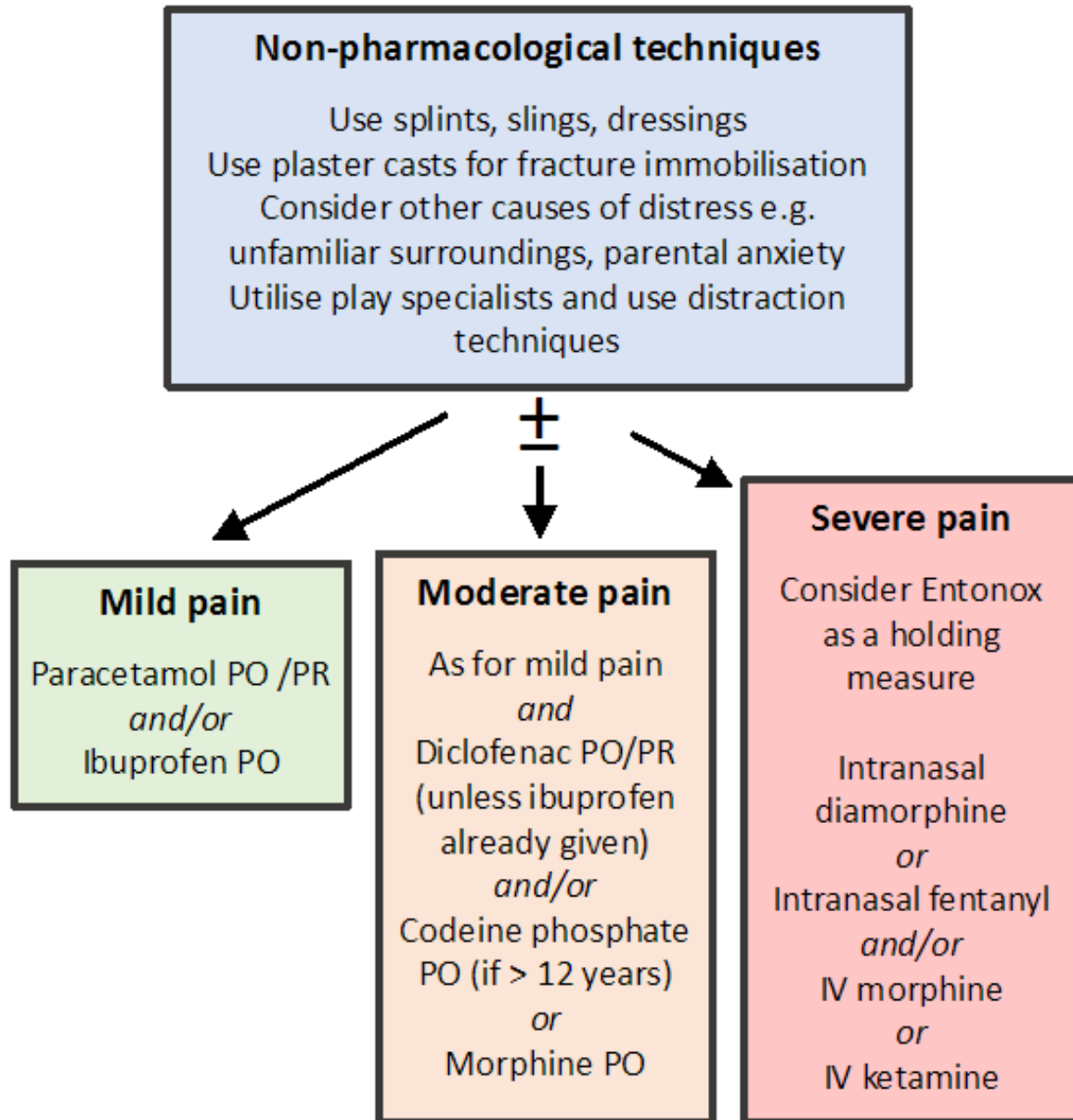


#### Notes

1. A primary survey pelvic X-ray is not indicated in the paediatric population
2. If there is clinical suspicion of isolated C-spine injury plain C-spine films are normally sufficient to exclude bony injury
3. i) Lap belt injury  
 ii) Abdominal wall ecchymoses  
 iii) Abdominal tenderness in conscious patient  
 iv) Abdominal distension  
 v) Persistent hypovolaemia/ PR or NG blood

# PAIN MANAGEMENT IN PAEDIATRIC TRAUMA

(including analgesia for rib fractures)



## Ongoing analgesia: Analgesia for chest trauma with rib fractures

Regular paracetamol and NSAIDs +/- opiates +/- ketamine

If further analgesia is needed then for discussion with paediatric anaesthetic consultant on call.

(Epidural analgesia or intercostal nerve blocks may be needed) <sup>3,4</sup>

## Appendix 1 – Drug doses (BNF)

### Paracetamol oral dose:

AGE	DOSE	FREQUENCY
1 – 2 months	30 – 60mg	8 hourly
3 – 5 months	60mg	4- 6 hourly
6 months – 23 months	120mg	4- 6 hourly
2 – 3 years	180mg	4- 6 hourly
4 – 5 years	240mg	4- 6 hourly
6 – 7 years	240 – 250mg	4- 6 hourly
8 – 9 years	360 – 375mg	4- 6 hourly
10 – 11 years	480 – 500mg	4- 6 hourly
12 – 15 years	480 -750mg	4- 6 hourly
16 – 17 years	500mg – 1g	4- 6 hourly

**Maximum 4 doses in 24 hours.**

**Also check BNF for up to date doses**

### Ibuprofen oral dose:

AGE	DOSE	FREQUENCY
1 – 2 months	5mg/kg	3 – 4 times daily
3 – 5 months	50mg	3 times daily
6 – 11 months	50mg	3 – 4 times daily
1 – 3 years	100mg	3 – 4 times daily
4 – 6 years	150mg	3 – 4 times daily
7 – 9 years	200mg	3 – 4 times daily
10 – 11 years	300mg	3 – 4 times daily
12 – 17 years	300 – 400mg	3 – 4 times daily

**Maximum 30mg/kg in 3 – 4 divided doses**

### Diclofenac:

<https://bnfc.nice.org.uk/drug/diclofenac-sodium.html#indicationsAndDoses>

### Codeine:

<https://bnfc.nice.org.uk/drug/codeine-phosphate.html#indicationsAndDoses>

### Morphine:

<https://bnfc.nice.org.uk/drug/morphine.html#indicationsAndDoses>

### Ketamine:

<https://bnfc.nice.org.uk/drug/ketamine.html#indicationsAndDoses>

## Appendix 2

### Intranasal Diamorphine (guidelines from RCEM website) <sup>1</sup>

Dilute 10mg of diamorphine powder with the specific volume of sterile water:

CHILD'S WEIGHT (KG)	VOLUME IN STERILE WATER
10	1.9
15	1.3
20	1.0
25	0.8
30	0.7
35	0.6
40	0.5
50	0.4
60	0.3

Aerosolize (using MAD® or similar device) 0.2mls of the solution into one nostril using a 1 ml syringe (gives 0.1mg/kg in 0.2ml). Remember to allow for dead space of device (0.1mls for MAD, therefore draw up 0.3mls).

Patients should be observed following intranasal diamorphine

## Appendix 3

### Intranasal fentanyl doses

WEIGHT (KG)	FENTANYL DOSE (1.5MCG/KG)	VOLUME OF 50MCG/ML FENTANYL
10	15 mcg	0.3 ml
12	18 mcg	0.35 ml
14	20mcg	0.4 ml
16	24 mcg	0.5 ml
18	27 mcg	0.55 ml
20 – 24	30 mcg	0.6 ml
25 – 29	37.5 mcg	0.75 ml
30 – 34	45 mcg	0.9 ml
35 – 39	52.5 mcg	1.05 ml
40 – 44	60 mcg	1.2 ml
45 – 49	67.5 mcg	1.35 ml
>50	75 mcg	1.5 ml

Patients must be observed for 30 minutes after administration of intranasal fentanyl.

**References**

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5. WHO guidelines on the management of persistent pain in children with medical illness  
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6. Royal Children's Hospital Melbourne, The paediatric trauma manual, Pain management  
[https://www.rch.org.au/trauma-service/manual/Pain\\_Management/](https://www.rch.org.au/trauma-service/manual/Pain_Management/)

# SAFEGUARDING IN PAEDIATRIC TRAUMA

## Introduction

Non-accidental injury makes up 10% of Major Trauma cases in young children and in many more there will be other safeguarding concerns such as neglect. It is imperative to consider safeguarding in all cases of traumatic injury in children.

## Assessment

For all paediatric trauma, consider the following questions:

- Does the story of the mechanism fit with the pattern of injury seen?
- Do the injuries fit with the child's developmental age?
- Could the parents or carers have done anything in advance to prevent the accident from happening?
- Has there been a delay in seeking medical advice?
- Are there multiple fractures (or historic - check previous attendances)?
- Are they currently or previously known to children services?
- Are they a looked after child?
- Are there siblings at home? Always consider the safety of not only the patient, but any other siblings or children that are in contact with the family

If you do have concerns regarding safeguarding it is important that you escalate your concerns to the Paediatric Emergency Consultant, the General Paediatric consultant or the Child Protection consultant on call, and follow your local Child Protection guidelines.

## Documentation

Ensure clear documentation including the mechanism of injury described and who is accompanying the child.

Children should be fully examined and injuries should be clearly documented – consider using body maps

If there are concerns – multi agency checks should be performed and documented, looking for previous child services involvement. This may be via a multi-agency database (e.g. PARIS in Cardiff and Vale) or via the Children's Services Emergency Duty Desk

## Responsibility for children who are being treated out of area

Children from other health boards who are inpatients in the Major Trauma Centre, will be the responsibility of the child protection paediatricians in UHW, and the social care services and police teams from where they reside. These cases require cross health board meetings and cooperation. Local teams remain responsible for reporting concerns to own social care services, even if the child is transferred out to the MTC for ongoing care.

## South Wales Trauma Network Paediatric Major Trauma Clinical Guidelines

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## South Wales Trauma Network Paediatric Clinical Guidelines

Date issued:	January 2020	
Review Date:	January 2023	
Target Audience	Staff in Emergency Departments, Radiology, Paediatric Intensive care, Paediatric Wards, Theatres. Trauma Unit and Major Trauma Centre staff	
Groups/committees consulted	First consultation	Second consultation
Paediatric Major Trauma Network working group	September 2019	November 2019
University Hospital of Wales Paediatric Trauma Working Group	November 2019	
South Wales trauma network governance subcommittee	October 2019	November 2019
External Reviewer:	Dr Giles Haythornthwaite, Clinical Lead Severn and Peninsula Paediatric Major Trauma Centre	November 2019
Any comments please contact:	Dr Nikola Creasey (nikola.creasey@wales.nhs.uk)	



# SOUTH WALES TRAUMA NETWORK (SWTN) CLINICAL GUIDELINE (CG)

## PELVIC INJURY (ADULT MAJOR TRAUMA PATIENTS)

<b>Reference Number</b>	SWTN CG09
<b>Application</b>	All Health Board providers
<b>Version</b>	1
<b>Replaces</b>	N/A
<b>Issue date</b>	January 2020
<b>Review date</b>	January 2023
<b>Related guidelines/policies</b>	Multiple
<b>Author(s)</b>	Mr J Lewis
<b>Internal reviewer(s)</b>	Dr K Morley, Mr L Davies, Dr D Gill
<b>Network Governance Subcommittee review</b>	January 2020
<b>Sign off</b>	Network Board

### Aims and Objectives

The aim of this document is to describe the key interventions in the management of pelvic trauma in hypovolaemic shock.

The objectives are to:

- Describe the identification of pelvic trauma.
- Outline the radiological assessment standards of pelvic injuries. To include quality indicators.
- Describe the management of pelvic injuries in the resuscitation phase.
- Outline the use of pelvic binders.
- Outline the use of urinary catheters.

For paediatrics guidelines see SWTN CG18.

## Background

- Severe pelvic fractures cause significant life threatening haemorrhage and may be associated with severe intraperitoneal injury.
- Early recognition is essential so as to institute appropriate interventions.

## Identification

This should be based on a high index of suspicion based on all the following factors:

### Physiological findings:

- SBP < 110 mmHg and or absence of a radial pulse.
- Cold extremities.
- A motor score of 4 or less.

### Anatomical findings:

- Pelvic pain.
- Open pelvic wounds.
- Bruising swelling or deformity (especially scrotal swelling, medial thighs).
- Leg length discrepancy or rotational deformity of a lower limb.
- Tenderness or gap on gentle palpation at the symphysis pubis.

### Mechanism of injury:

- High speed motor vehicle collision.
- A fall from >20 feet (6 metres) for an adult or 2 times the height of a child.
- Ejection from a vehicle partial or complete.
- Significant cabin intrusion.
- Pedestrian or cyclists hit by a vehicle > 20 mph.
- Motorcycle crash > 20 mph.
- Large animal incidents.

### Special circumstances:

- Beware of extremes of age.
- Pregnancy.
- Medication issues (e.g. anticoagulants).

## Radiological assessment

- CT scan is the imaging modality of choice. Plain x-rays can miss significant injuries.
- US can be used to elucidate the presence of free fluid in the abdomen.
- US should not delay definitive imaging by CT scan.
- Interventional radiology can be used to manage certain pelvic vascular injuries.

## Initial management principles:

### Resuscitation

- The patient should be resuscitated using the damage control resuscitation paradigm.
- Femoral or lower limb access should be avoided when pelvic injury is suspected.
- The pelvis should not be “sprung” or compressed to assess mechanical stability.
- The principles of minimal movement should be employed if the patient is to be rolled.

## Pelvic Binders

- A pelvic binder device should be applied. See Appendix 1.
- The legs should first be internally rotated and the knees flexed. This maximises closure of the pelvis.
- The binder should then be placed and tightened over greater trochanters.
- If a pelvic binder has been positioned by the prehospital team then its application should be checked.
- Pelvic binders should be applied to skin and not over clothing.
- Genitalia should be protected from unnecessary damage.
- If the position is not correct then a new binder should be placed before removing the incorrectly placed binder.
- The pelvic binder should be cleared radiologically using a CT scan.
- Removal of the pelvic binder will require a pelvic x-ray post removal to ensure that a fracture anatomically reduced by the pelvic binder has been excluded.
- All pelvic fractures will require a trauma CT scan.
- The lower limbs should be supported in this position using bandages and padding below the knees.
- In small children a sheet, towel or a large BP cuff can be improvised.
- Pelvic binders can be kept in place for up to 24 hours if required.

## Further Management

- The thoracolumbar spine and rectum should be assessed after radiological clearance of the pelvis.
- When appropriate the perineum should be inspected for obvious open wounds.
- Wounds may also be present in the rectum or vagina.
- Wounds can be packed but should be explored in the operating theatre by the relevant surgical teams.
- Open pelvic injuries should receive antibiotics as per open fracture guidelines.
- There is NO INDICATION for the application of emergency pelvic external fixator in the ED.

## Catheterisation

- In the absence of concerns regarding urethral injury, for example:
- Blood at the meatus.
- Haematuria.
- Scrotal or perineal bruising.
- A single attempt may be made to gently pass a urethral catheter.
- This should be performed by an experienced team member.
- A 16F soft silicone catheter should be used.
- A urinary catheter should not delay CT.
- If a urethral injury is suspected or catheterisation fails then an early urological opinion is mandated.
- Further radiological tests may be considered but should not delay theatre.
- If a suprapubic catheter is required then this should be discussed with the pelvic orthopaedic team prior to insertion. It is normally inserted in the midline 3 to 4 finger breaths above the symphysis. It can be performed away from the midline by an experienced practitioner. This should not delay theatre.
- Patients should be catheterised before admission to the trauma ward.

## Catheter Cystogram

- Usually be performed in the resuscitation room.
- X-ray plate under the pelvis.
- 300ml dilute IV contrast medium (150ml contrast with 150 ml saline).
- Push catheter in a further 2-3cm so the balloon is not blocking the bladder neck.
- Inject contrast down the catheter with a bladder syringe and clamp catheter.
- AP x-ray of the pelvis should be taken (with lateral if possible)
- Evacuate the contrast and repeat the AP Pelvis x-ray.

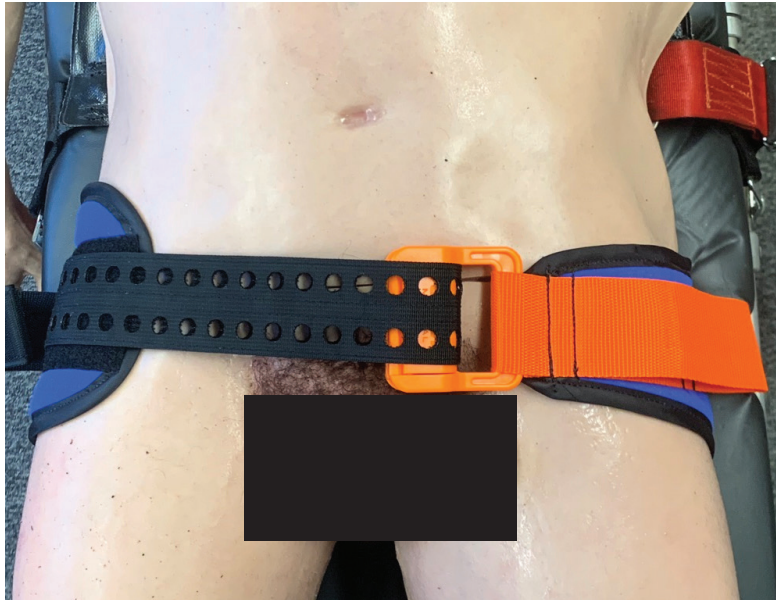
## Disposition

- In the presence of multi-system trauma, patients with pelvic fractures should be transferred to the MTC, irrespective of the need for operative fixation.
- Consider rapid transfer of those that are haemodynamically unstable to the MTC for control of arterial and venous bleeding (if cannot be managed locally within 30 minutes of recognition). Consider EMRTS to undertake these transfers.
- Consider interventional radiology for arterial bleeding available at the MTC or regionally.
- All of the above should be discussed with the MTC TTL.
- All isolated pelvic fractures with haemodynamic stability should be discussed with local T&O teams in the first instance and if require operative fixation referred to pelvic surgical service at the MTC. These should be considered for fixation within 48hrs of injury.

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## Appendix one – Pelvic splinting (manikin model)



# SOUTH WALES TRAUMA NETWORK (SWTN) CLINICAL GUIDELINE (CG)

## RADIOLOGY (ADULT MAJOR TRAUMA PATIENTS)

<b>Reference Number</b>	SWTN CG16
<b>Application</b>	All Health Board providers
<b>Version</b>	1
<b>Replaces</b>	N/A
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<b>Review date</b>	January 2023
<b>Related guidelines/policies</b>	SWTN CG17
<b>Author(s)</b>	Mr L Davies
<b>Internal reviewer(s)</b>	Dr R Ellis-Owen, Dr C Parry, Dr D Chung, Dr D Gill
<b>Network Governance Subcommittee review</b>	January 2020
<b>Sign off</b>	Network Board

### Aims and Scope

**The aim of this guideline is to:**

- To signpost the MTC and other hospitals receiving major trauma to the standards defined by the RCR in the management of severely injured patients.
- Provide guidance on time to CT imaging can be improved.

For paediatrics guidelines see SWTN CG18.



## Introduction

This clinical guideline for the use of radiology in the management and assessment of seriously injured patients (SIP) is largely adapted from the Royal College of Radiology Guideline (RCR) – Standards of practice and guidance for trauma radiology in severely injured patients, 2015.

The full guideline sets out:

- How diagnostic imaging and interventional radiology services should be provided and used in the management of the SIP.
- When diagnostic imaging and interventional radiology are appropriate and when they are contraindicated.
- What quality indicators can be used in the provision of diagnostic imaging and interventional radiology for trauma.
- Provision of protocols for imaging and reporting that can be adapted according to loco-regional service requirements and equipment.

Where Health Boards are not capable of providing the necessary level of service to adhere to the full RCR imaging standards, protocols to transferring SIP's to the MTC or nearest TU should be in place. It is recognised that from the outset of the network, not all hospitals will be compliant with all of these standards, but they should be used as a framework to work towards and identify areas for improvement.

## Immediate Decision Making

The acute trauma setting is no place for disagreements about patient management, as such, immediate management decisions must be made by the designated trauma team leader (TTL).

**Standard 1** – The TTL is in overall charge in acute care.

**Standard 2** – Protocol-driven imaging and intervention must be available and delivered by experienced staff. Acute care for SIP's must be consultant delivered.

**Standard 3** – MDCT should be adjacent to or in the ED, if not, transfers must be rehearsed and performed according to protocols. Radiology departments in the MTC and the TU's should make MDCT available in the ED in the near future if not already.

The location, design and equipment should be based on the following principles:

- Speed is of the essence.
- Moving a SIP increases delay and exacerbates blood loss.
- Imaging more accurately delineates extent of injury than clinical examination.
- Imaging technique of choice is the one which is definitive in the trauma setting (usually multidetector CT or MDCT)
- Definitive imaging should not be delayed by other less accurate investigations
- All life-support facilities which are available in the Emergency Department (ED) should be available in the imaging facility.
- The imaging facilities should allow visual and technical monitoring of the SIP by anaesthetic staff.

**Standard 4** – Digital radiology (DR) must be available in the ED.

**Standard 5** – If there is an early decision to request MDCT, then FAST and DR should not cause delay to that request.

**Standard 6** – MRI must be available with safe access for the SIP.

## Indications for imaging in the SIP

There may be circumstances where imaging is inappropriate, such as, profound shock, non-response to fluid resuscitation, or the bleeding site is clear from mechanism and clinical assessment. These patients may be taken directly to theatre.

The more accessible the MDCT is to the ED and the more efficient the transfer to imaging facilities, the less frequently the SIP's should bypass radiology prior to theatre.

Indications for a polytrauma protocol MDCT include:-

- Haemodynamic instability.
- Mechanism of injury suggestive of occult severe injuries.
- FAST demonstrates intra-abdominal fluid.
- DR suggests significant injury (e.g. pneumothorax or pelvic fracture).
- Obvious severe injury on clinical assessment.

**Standard 7** – A CT request in the trauma setting should comply with the 'Ionising radiation (Medical Exposure) Regulations 2000 in the same way as any other request for imaging involving ionising radiation.

## Preparation and transfer to MDCT

There must be clear protocols to notify the CT department of the need for urgent imaging and how the department will clear the scanner for the incoming SIP.

The transfer route to CT must be established in advance and transfer staff notified well in advance. Intravenous access in the right antecubital fossa access is preferred for contrast administration. If peripheral access is not available, then Central venous access should be capable of accepting 4ml of contrast per second via a power injector.

If pelvic fracture is suspected, a temporary pelvic fixation (binder) should be applied before MDCT. Only immediately limb conserving manipulations/splinting should be performed prior to CT with rapid immobilisation devices such as air splints.

All SIP's without contraindications should be catheterised unless this would delay transfer to CT. Urinary catheters should be clamped prior to MDCT.

There must be an awareness of pregnancy status in female SIP's of childbearing age. However, the health of the mother takes precedence over the health of the foetus and modifications of the pathway should be decided by the TTL and consultant radiologist.

**Standard 8** – There should be clear written protocols for MDCT preparation and transfer to the Scan facility as agreed locally.



## MDCT Imaging Protocols

Whole body MDCT is a predictor of survival in SIPs. MDCT has the ability to accurately detect many abnormalities and protocols should be the same across trauma networks so repeat scanning is unnecessary following transfer.

The on-call IR radiologist in the MTC should be informed where contrast extravasation is identified along with the TTL. For patients outside of the MTC, discuss all cases with the MTC trauma team leader.

Patients undergoing MDCT must be stable 'enough' for transfer to scanner and for the duration of the scan. This is a local consideration. However it is recognised that some patients may require ongoing resuscitation whilst receiving a MDCT.

**Standard 9** - Whole-body contrast enhanced MDCT is the default imaging procedure of choice in the SIP. Imaging protocols should be clearly defined and uniform across a regional trauma network.

**Standard 10** – Future planning and design of emergency rooms should concentrate on increasing the numbers of SIPs stable enough for MDCT and intervention.

## Reporting

An initial MDCT report from an appropriately trained on-call radiologist should be available as soon as possible. This should be in the form of a two-stage report, an initial primary survey report followed by a full secondary survey report.

The aim of the primary survey report is to give an indication of the major life-threatening injuries to support the active management of the SIP. The initial report should concentrate on thoracic, vascular and neurological injuries that may, impair breathing, cause bleeding or cause disability respectively if not rapidly treated. An example report is available online with the full RCR guidance on imaging in major trauma.

**Standard 11** – The primary survey report should be issued to the TTL. It should be signed and designated, and a copy should be retained in the CT department (or RIS).

The secondary/definitive radiology survey/report will be issued once the scan has been carefully reviewed against a written set of criteria and the completed secondary trauma report. This should be performed by a consultant radiologist either in person or via a teleradiology link.

**Standard 12** – On-call consultant radiologists should provide the final report on the SIP within 1 hour of MDCT image acquisition.

**Standard 13** – On-call consultant radiologists must have teleradiology facilities at home that allow accurate reports to be issued within 1 hour of MDCT image acquisition.

## Interventional Radiology (IR)

The role of IR in the SIP is to stop haemorrhage as quickly as possible with minimal interference to the patients damaged physiology. It is a form of Damage Control and can replace or adjunct surgical intervention. Information supplied by MDCT is key to informing the decision-making process and guiding IR. There are no significant contraindications to the use of IR to arrest haemorrhage in major trauma. Decisions to undertake IR as a part of the SIPs management is typically made by agreement between the TTL, IR consultant radiologist and the consultant surgeons involved in the SIPs care. However, decisions should be made quickly without unnecessary delay and along the lines of agreed algorithms. Communication between services is paramount. For patients outside of the MTC, discuss all cases with the MTC trauma team leader. See SWTN CG17.

**Standard 14** – IR facilities should be co-located to the Emergency department.

**Standard 15** – Angiographic and endovascular theatres in the MTC should be safe environments for SIPs and should be of theatre standard.

**Standard 16** – Agreed written transfer protocols between the emergency department and imaging/IR facilities internally or externally must be available.

## Workforce

Adequate staffing levels must be available. If resident on-call IR staff are not considered necessary, early warning systems for on-call IR teams should be in place. The priority must be to develop systems that reduce the total time to arrest of haemorrhage.

**Standard 17** – IR trauma teams should be in place within 60 minutes of the patient's admission or 30 minutes of referral.

## Consumable equipment

There should be a full range of suitable equipment to undertake IR techniques and a robust system should be in place for their replacement, especially in out of hours procedures.

**Standard 18** – Any deficiency in consumable equipment should be reported at the debriefing and be the subject of an incident report.

## Patient transfers

SIP's may need transfer from one unit to another, repeat investigations should be avoided. All current relevant images should be transferred with the patient as securely as possible using an image exchange portal (IEP). Ideally, patients transfers should not be delayed in order to conduct further investigations locally if not required for the immediate management of the patient's condition.

**Standard 19** – Where patients are transferred there should be systems in place for locally acquired images to be transferred to the receiving hospital within 2 hours.

## Audit and Morbidity and Mortality Meetings

Multi-disciplinary Team meetings including all involved specialities, are essential to improve and maintain high-quality clinical services. Radiologists should ensure they participate in ongoing audit of trauma services and contribute to local and national audit mechanisms.

**Standard 20** – SIP's should be discussed at regular MDTM's, with learning from events facilitated by an early debrief and changes made to local protocols, as appropriate, to improve patient safety.

## Special Circumstances

- **CT and renal impairment** – Consideration should be given to the possibility of significant renal impairment in some patients especially the elderly or those with a known history of renal disease or those with a significant past medical history or other co-morbidities. However, uncontrasted scanning in trauma is of significantly reduced value and the risk benefit more often sits with undertaking a contrasted scan in these circumstances.
- **CT angiography** - should be considered as part of the initial trauma scan in addition to standard image acquisition protocols in clinical scenarios where there is a risk of vascular injury to the limbs or where there is significant history of neck trauma suggestive of vascular injury (either penetrating or blunt). Angiography of the neck should be considered in the presence of arterial haemorrhage, anterior tenderness/bruising, focal neurological deficit, neurological examination findings unexplained by initial neurologic imaging, ischaemic stroke on secondary head CT and patients with a cervical spine fracture.
- **Significant facial trauma** - may require further scanning with additional image acquisition sequences to the standard trauma scan. These may be undertaken concurrently with the trauma scan if patient stability allows but in cases where the scan acquisition may cause additional delay to the management of the patient's immediate life threatening problems than facial images may be acquired at a return visit.

## Quality indicators

- The MTC and TU's will have multidisciplinary debriefings about SIP's on a regular basis to assess the processes and adjust pathways as necessary. These meetings should involve a radiologist who is experienced and current in trauma radiology. In addition, Individual cases should be discussed in radiology quality and safety sessions on a regular basis.
- Availability of clear protocols for the transfer of SIP's to MRI facilities within 12 hours.
- Where FAST or plain films have been used in a SIP, their use and value in that case should be evaluated in a multidisciplinary debriefing.
- An annual audit of justification in trauma imaging should be carried out by the radiology department.
- Written protocols should be available for MDCT and patient transfer, with discussion of any problems that arise during this process at the debriefing.
- Imaging and reporting protocols should be agreed across the network and written protocols must be available.
- All imaging should be discussed at debriefing meetings and errors of protocol or fact discussed at discrepancy meetings.

## References

Royal College of Radiology Guideline (RCR) – Standards of practice and guidance for trauma radiology in severely injured patients, 2015.

[https://www.rcr.ac.uk/system/files/publication/field\\_publication\\_files/bfcr155\\_traumaradiol.pdf](https://www.rcr.ac.uk/system/files/publication/field_publication_files/bfcr155_traumaradiol.pdf) [Accessed on 9/1/2020].

## Appendix 1: Top Tips for Improving Time to CT

1. For major trauma patients speed is vital.

The TARN dashboard for the MTC records the following:

- Proportion of patients meeting NICE head injury guidelines that receive CT scan within 60 minutes of arrival at MTC.
- Proportion of directly admitted patients receiving CT scan within 30 minutes of arrival at MTC.

The TARN dashboard for TUs records the following:

- Proportion of patients meeting NICE head injury guidelines that receive CT scan within 60 minutes of arrival at MTC.
- Proportion of directly admitted patients receiving CT scan within 60 minutes of arrival at MTC.

2. In order to improve time to CT imaging:
  - Improve the efficiency of the trauma team response.
  - Scribe to remind TTL after every 5 minutes that elapse.
  - Ask colleague to arrange CT whilst you manage the patient (if possible).
  - THINK about what can wait till after CT:
    - No CXR, x-ray pelvis or FAST if the plan is to always go to CT.
    - Avoid logroll and PR exam if doing CT.
    - Avoid art line (unless absolutely needed).
    - Avoid NG (in adult) and urinary catheter.
    - Finger thoracostomy is sufficient in ventilated patient, chest drain only required if large haemothorax.
3. Regardless of what device is used to transfer the patient to CT, it is essential that the head is placed in neutral alignment and clothing/jewellery is fully removed prior to transfer.
4. Undertake a pre-transfer checklist to ensure a safe transfer.
5. If patient is haemodynamically unstable, have senior surgical team in CT to make a rapid decision about next steps, based on findings.
6. Engage your radiology department to provide a 'hot report.' This is required within 5 minutes of the scan being completed in the MTC. For TUs it will improve time to referral of patients who need to be transferred to the MTC.

# SOUTH WALES TRAUMA NETWORK (SWTN) CLINICAL GUIDELINE (CG)

## TRAUMATIC CARDIAC ARREST (ADULT MAJOR TRAUMA PATIENTS)

<b>Reference Number</b>	SWTN CG020
<b>Application</b>	All Health Board providers
<b>Version</b>	1
<b>Replaces</b>	N/A
<b>Issue date</b>	January 2020
<b>Review date</b>	January 2023
<b>Related guidelines/policies</b>	Multiple
<b>Author(s)</b>	Dr C Lambert, Dr N Mallya
<b>Internal reviewer(s)</b>	Dr D Gill, Dr K Morley
<b>Network Governance Subcommittee review</b>	January 2020
<b>Sign off</b>	Network Board

### Aims and Scope

**The aim of this guideline is to:**

- Describe the key immediate interventions in the management of traumatic cardiac arrest.
- Apply this within the context of the advanced life support algorithm.

For paediatrics guidelines see SWTN CG18.

## Background

Cardiac arrest due to trauma i.e. “Traumatic Cardiac Arrest” (TCA) was once thought to be universally fatal and attempted resuscitation futile.

However, recent studies have found similar outcomes to other causes of out-of-hospital cardiac arrest. The best outcomes were found where a reversible cause could be rapidly addressed, and aggressive treatment of those causes could make a big difference.

By contrast, cardiac arrest from severe hypovolaemia occurs late, and carries a particularly poor prognosis in civilian populations.

There is very **limited evidence** to guide our management of TCA. This is mostly due to the infrequency of TCA, the heterogeneity of traumatic injuries, and the difficulty of performing randomised trials in the pre-hospital setting. Evidence is largely limited to retrospective analyses and animal studies. Much of this guideline is based on evidence from other causes of cardiac arrest, and on our current understanding of the pathophysiology of TCA.

Traumatic Cardiac Arrest is **challenging**: it typically presents in a younger patient group, is relatively uncommon (and, therefore, unfamiliar), and when it does occur, TCA often requires rapid and aggressive interventions.

TCA often has a **reversible** underlying cause, and this must be aggressively sought and treated to maximise chance of survival.

## Identification of Reversible Causes

- Reversible causes should be addressed rapidly (“HOT” mnemonic):
  - Hypovolaemia
  - Oxygenation
  - Tension pneumothorax & Tamponade

### Immediate Interventions

- May be performed empirically (depending on pattern of injury and clinical signs); these (“VEST” procedures) include:
  - Volume bolus
  - Endotracheal intubation.
  - Splinting fractures & Stasis of external haemorrhage.
  - Thoracostomies +/- thoracotomy.

Thus the above procedures can be both diagnostic and therapeutic.

## Traumatic Cardiac Arrest Algorithm

The TCA algorithm is based on the familiar ALS algorithm, with modifications based on European Resuscitation Council guidelines (2015). See Appendix 1.

## Causes of TCA

TCA is usually caused directly by the injury itself. Important causes of TCA include Hypovolaemia (an “empty” circulation), Tension pneumothorax and Tamponade (an “obstructed” circulation). In these cases, the patient may not be in true “cardiac arrest”, but in a profound “low flow state” with impalpable pulses, presenting as pulseless electrical activity (PEA). In addition, Hypoxia due to disorders of airway and breathing may also lead to cardiac arrest. These key treatable causes of TCA were recently summarised in the “HOT” mnemonic:

**Hypovolaemia**  
**Oxygenation**  
**Tension pneumothorax & Tamponade**

Other directly traumatic causes of arrest include massive head injury, and direct cardiac injury (e.g. cardiac contusion). “Commotio cordis” is a rare cause cardiac arrest, caused by a blunt chest impact during the vulnerable phase of the cardiac cycle, leading to malignant arrhythmia (usually VF).

However, it should be born in mind that the patient may have an underlying “medical” cause of cardiac arrest, which preceded the traumatic event (e.g. MI leading to a road traffic accident, drug overdose followed by penetrating self-harm, anaphylaxis to anaesthetic drugs). A careful history of the event may point to these hidden causes.

Rapid assessment of the cause of TCA is important to guide interventions:

**Circumstances** of the arrest may give clues to the cause. These may become apparent at “ATMIST” handover. For example, a single knife wound to precordium should prompt an active search for tamponade; an elderly driver off the road in a single vehicle accident might be due to medical cause.

**Rhythm** on cardiac monitor: PEA may be due to an “empty” or “obstructed” circulation; VF suggests a medical cause, or direct cardiac injury; asystole suggests hypoxia, or prolonged arrest.

**Imaging:** the role of FAST scanning is increasingly recognised; bedside focused ultrasound examination can rapidly identify reversible causes of TCA, with minimal disruption to resuscitation. In particular, it can rapidly identify tamponade, and assess cardiac activity; it can identify an empty circulation, possible sources of bleeding and pneumothorax. FAST scanning (particularly focussed echocardiography) should be regarded as part of the “Pulse and Rhythm check” normally performed in cardiac arrest. FAST scanning requires training and experience, and the network strongly encourage members of the trauma team to acquire this skill.

## Key Interventions

The best chance of survival in TCA lies in rapid performance of key interventions, to treat reversible causes. These may be remembered by the mnemonic “VEST” (see below):

### “VEST” procedures

Volume	IV access (or IO if required) and volume bolus (ideally warmed blood products i.e. red cells, plasma, and platelets, with Tranexamic Acid). In the absence of blood products, consider a 250ml crystalloid challenge.
Endotracheal intubation	Securing airway and positive pressure ventilation is mandatory in all TCA; a supraglottic airway device may be used if intubation proves impossible.
Splinting and Stasis	Prevent further blood loss by applying pelvic splint/Kendrick splint for femur fracture/CAT tourniquet in external haemorrhage, as appropriate
Thoracostomy	Finger thoracostomy is more effective than needle decompression of tension pneumothorax, and quicker than formal chest drainage. Intercostal drain should be placed if output returns.
& Thoracotomy	Resuscitative thoracotomy (see SWTN CG03). Needle pericardiocentesis is NOT recommended in traumatic tamponade, as pericardial blood has often clotted.

These interventions can be selected according to the clinical circumstances, and performed in any order. It is often appropriate to perform them empirically in TCA (without waiting for imaging) depending on the mechanism of injury. In blunt trauma, a standardised set of interventions may be performed rapidly and concurrently (volume loading, endotracheal intubation, splinting pelvis & long bone fractures, thoracostomies). In penetrating trauma to thorax or epigastrium, immediate resuscitative thoracotomy may be indicated (see SWTN CG03).

## Resuscitative Thoracotomy

See SWTN CG03 for indications and details of procedure.



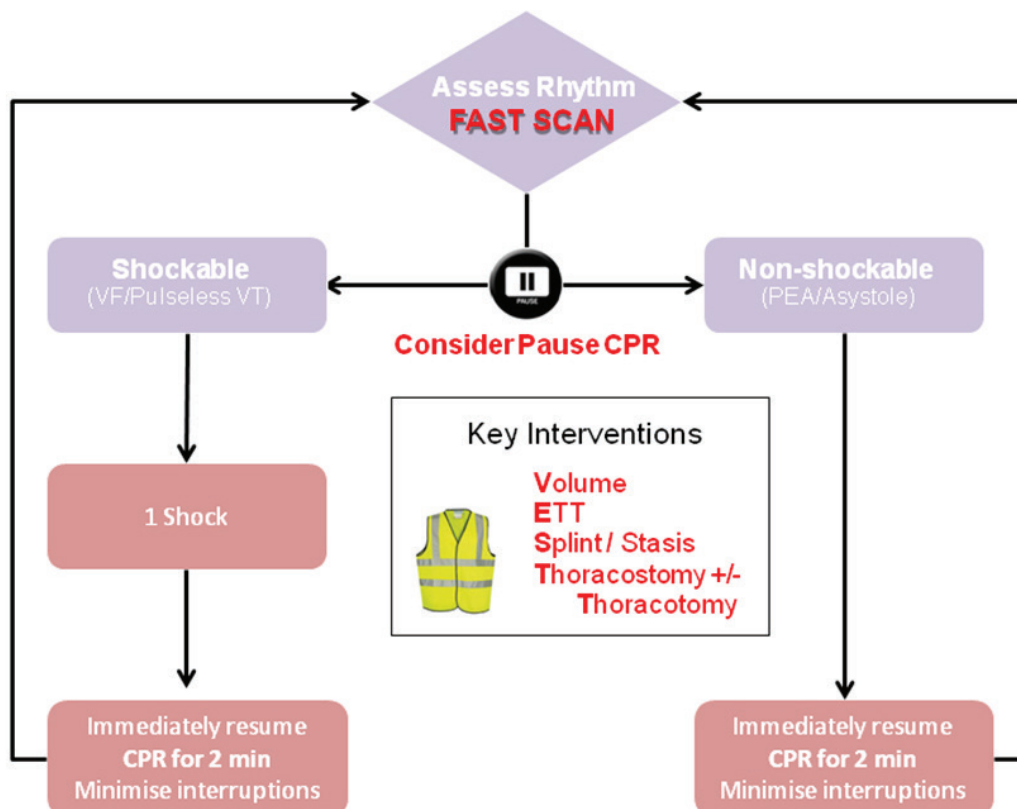
## Role of CPR

The use of closed chest cardiac compressions (here termed “CPR”) in TCA has become controversial. Some commentators have suggested that there is no role for CPR in TCA. They cite the following reasons:

- **Futility** - it is claimed there is no point in attempting to compress an empty or obstructed circulation; there is some very limited animal evidence to support this view. However, as described above, there are other causes of TCA, notably hypoxia that are likely to benefit from CPR.
- **Hindrance** - some are concerned that performing CPR will hinder the performance of key assessments & interventions. In fact, many interventions can be performed during CPR (e.g. IV access & filling, splint application). It is sensible to pause chest compressions for intubation (i.e. point at which ready to pass the Endotracheal Tube), FAST scanning, thoracostomy and thoracotomy.
- **Damage** - there is concern that chest compressions may worsen injuries to the thoracic cage, lungs and mediastinum. This concern remains theoretical, and must be balanced against the known hypoxic brain damage that results from even brief periods without cerebral perfusion.

Making TCA an exception to the usual practice of performing CPR may lead to confusion and misunderstanding among different healthcare professionals involved in trauma care.

On balance, the network recommends that CPR may be paused, to allow performance of key interventions (especially FAST scanning, Thoracostomy and Thoracotomy), and resumed immediately once they are complete. This pause to CPR should last only one or two resuscitation “cycles”, and is at the discretion of the trauma team leader. Adrenaline, likewise, may be omitted at the discretion of the Trauma Team leader.



## TCA Algorithm

Several authors have published discrete algorithms for the management of TCA. These take the form of complex flowcharts, which are hard to memorise and apply at the bedside. It is simpler to keep to the well-known ALS algorithm, with certain key modifications aimed at trauma as a “Special Circumstance”, as endorsed by recent European Resuscitation Council guidelines.

These are:

- Use of FAST scanning (particularly echocardiography), as adjunct to pulse/rhythm check.
- Key interventions to treat reversible causes (“VEST” procedures).
- Pausing CPR if necessary to address reversible causes.

## When to stop

Resuscitation should normally be stopped if the patient remains pulseless after 10 minutes of active resuscitation, with treatment of appropriate reversible causes. It is sometimes difficult to distinguish true cardiac arrest from a low cardiac output state. The diagnosis of true cardiac arrest (and decision to stop) is strengthened by:

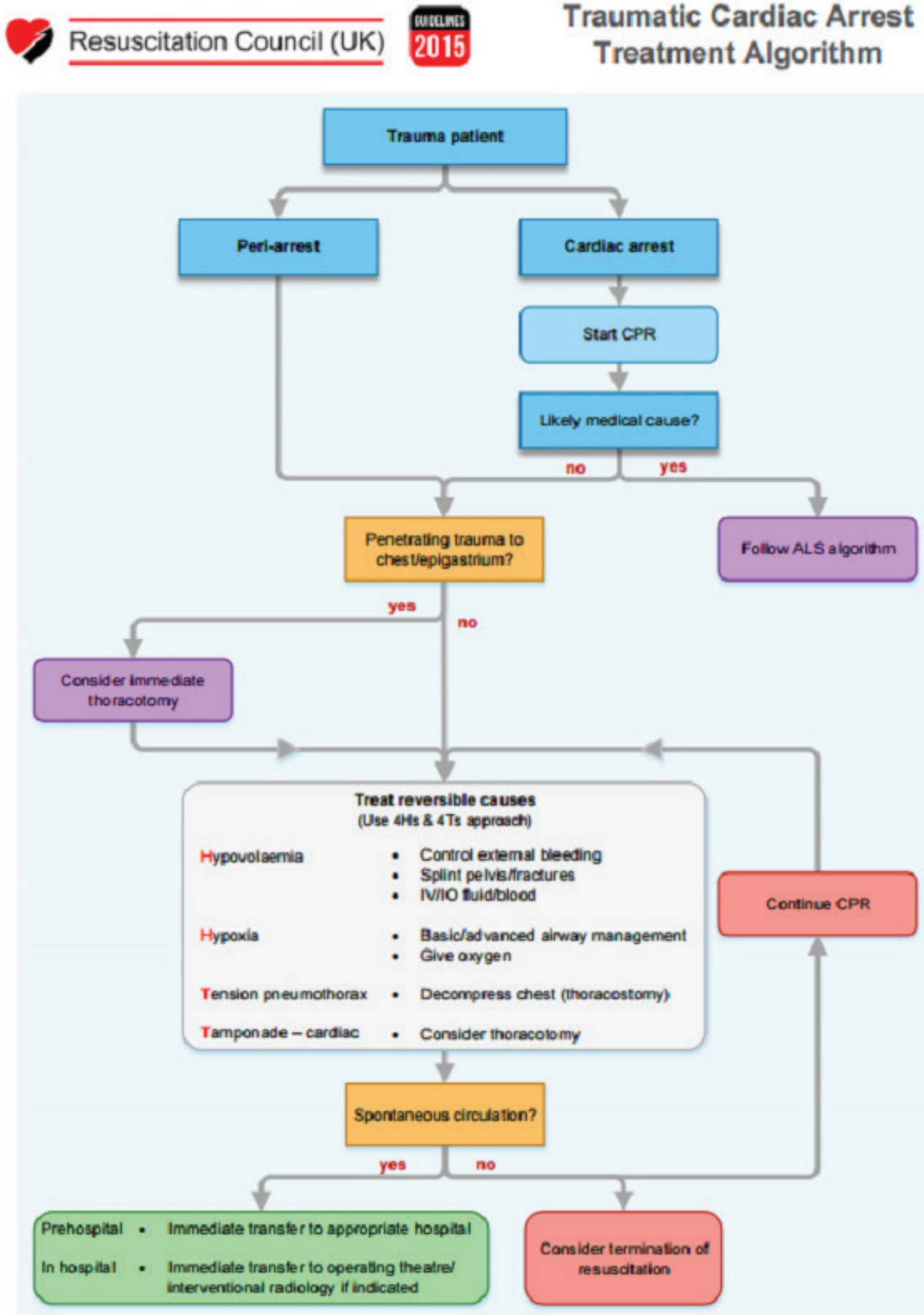
- Asystole on ECG.
- Absent cardiac movement on echocardiogram.
- Absence or falling of end tidal CO<sub>2</sub> (without CPR).

Clearly, resuscitation should be stopped immediately where the patient has unsurvivable injuries (e.g. decapitation, hemicorporectomy, massive cranial destruction).

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## Appendix 1: Resuscitation Council (UK) - Traumatic Cardiac Arrest Treatment Algorithm



# SOUTH WALES TRAUMA NETWORK (SWTN) CLINICAL GUIDELINE (CG)

## VASCULAR INJURIES (ADULT TRAUMA PATIENTS)

<b>Reference Number</b>	SWTN CG013
<b>Application</b>	All Health Board providers
<b>Version</b>	1
<b>Replaces</b>	N/A
<b>Issue date</b>	January 2020
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<b>Related guidelines/policies</b>	Multiple
<b>Author(s)</b>	Mr L Davies
<b>Internal reviewer(s)</b>	Mr D O'Reilly
<b>Network Governance Subcommittee review</b>	January 2020
<b>Sign off</b>	Network Board

### Aims and Scope

**The aim of this guideline is to describe:**

- The recognition and management of vascular injuries.
- The management of suspected vascular injuries.

For paediatrics guidelines see SWTN CG18.

## Introduction

Vascular injury in major trauma accounts for less than 10% of injuries seen at Major Trauma Centres (MTCs) and are most commonly associated with blunt rather than penetrating trauma. However, they remain a major cause of significant morbidity and mortality and are associated with delayed diagnosis in blunt trauma cases and as such amputation rates following blunt vascular injury are higher.

Major uncontrolled bleeding is the major cause of preventable death in major trauma. A high degree of suspicion of vascular injury in major trauma should be maintained by major trauma clinicians in order to prevent inadvertent missed injuries and preventable morbidity. Where there is any suspicion of vascular injury that suspicion should be specifically excluded by appropriate investigation. These guidelines are intended to act as a reference guide for actions suggested in these circumstances and represent a guide only and should be taken in the context of the clinical scenario present in the patient and the experience available within the treating team.

## Clinical Features

Clinical features suggesting potential vascular injury:

- History suggestive of potential vascular injury - Mechanism of injury e.g. penetrating limb injury, fracture dislocations associated with vascular injury, significant on scene bleeding.
- Examination findings suggestive of vascular injury:
  - o Hard signs:
    - Active pulsatile bleeding.
    - Shock with ongoing bleeding.
    - Absent distal pulses.
    - Signs and symptoms of acute ischaemia.
    - Expanding haematoma.
    - Thrill or Bruit.
  - o Soft signs:
    - History of severe bleeding.
    - Diminished distal pulse.
    - Injury of anatomically related structure.
    - Multiple fractures and extensive soft tissue injury.
    - Injury in anatomical area of major blood vessel.
- Extensive soft tissue swelling that makes evaluation difficult but any diminished or reduced distal pulse is due to arterial occlusion until proven otherwise.
- A concern raised of significant vascular injury from the mechanism, assessment or investigations should prompt contact with the on call vascular consultant.

## Actions on Suspicion of Vascular Injury

In cases where vascular injury is suspected, the following actions should be taken:

- Call Trauma Team – if not already in attendance.
- Immediately call (pre-alert if possible):
  - o Consultant vascular surgeon on-call.
  - o Consultant TTL leader (MTC) and ED on call consultant (TU/other hospitals)
  - o Anaesthesia consultant on-call.
  - o Resuscitative/General surgery consultant on-call.

- The vascular surgeon will:
  - Come directly to MTC/TU/other hospitals to evaluate the patient. **For TUs/others hospitals, if this is not possible and no vascular surgery is available on site within 30 minutes of the decision being made, the patient should be immediately transferred to the MTC (via the MTC Trauma Team Leader).** Involve EMRTS early to undertake the transfer.
  - After evaluation of the patient, decide if an emergency vascular surgery is required immediately or if further resuscitation and/or investigation is appropriate. This will be in consultation with the Anaesthetic consultant on-call and the General Surgeon on-call.
  - Patients may require further vascular imaging following surgical resuscitation as appropriate. This should be conducted as soon as possible following surgery (i.e. before transfer from theatre to ITU to prevent delays in diagnosis).
- Management principles:
  - Patients with an abnormal vascular physical examination or an Ankle Brachial Pressure Index < 0.9 require arterial imaging.
  - Patients with hard signs of arterial injury will require the on call vascular surgeon to be contacted as soon as possible, further imaging may not be required to confirm management.
  - Patients with hard signs of arterial injury (pulsatile bleeding, bruit thrill, expanding haematoma) should be surgically explored and repaired, restoration of perfusion to an extremity with an arterial injury must be performed in less than six hours and fasciotomies should be performed liberally if there is any significant concern that compartment syndrome may occur (prolonged ischaemia or significant soft tissue injury).
  - CT angiography is used as the primary diagnostic study in major trauma patients with a suspected vascular injury
  - Patients whose mechanism of injury or pre-hospital history includes hard signs of vascular injury should be discussed early with the on call vascular consultant as soon as possible so that plans to access theatres may get underway in readiness for the patient's arrival.
  - Patients presenting with life threatening haemorrhage will be treated in the first instance by the resuscitative General surgeon on-call by rapid control of haemorrhage (including tourniquets, laparotomy, packing, direct pressure and arterial clamps as appropriate) until such a time as the on-call vascular surgeon arrives to assist with their management.
  - Post traumatic coagulopathy is common and should be assessed and managed as per SWTN CG07. Close liaison with the haematologist with the use of massive transfusion protocol should occur.
  - Patients with pelvic ring disruption in haemorrhagic shock require immediate pelvic stabilisation.
  - Patients bleeding from the pelvis despite stabilisation require early pre-peritoneal packing (see SWTN CG09).
  - Ongoing abdominal, pelvic or thoracic bleeding that CT assessment suggests is treatable endovascularly, should receive this intervention rapidly (see SWTN CG17).
- Following assessment and/or surgery patients who are located at the TU/other hospital should be considered for their suitability for transfer to the MTC as appropriate. Consideration should be made for the early involvement of EMRTS to make arrangements for this transfer.

<b>Report Title:</b>	<b>Annual Committee Workplan</b>					
<b>Meeting:</b>	Quality Safety and Experience Committee			<b>Meeting Date:</b>	18-02-20	
<b>Status:</b>	<b>For Discussion</b>		<b>For Assurance</b>		<b>For Approval</b>	<b>For Information</b>
<b>Lead Executive:</b>	Executive Nurse Director					
<b>Report Author (Title):</b>	Assistant Director Patient Safety and Quality					

### Background and current situation:

The purpose of this paper is to provide a revised Work Plan for the Committee until March 2021. The work plan should be reviewed annually by the Committee prior to presentation to the Board to ensure that all areas within its Terms of Reference are covered with the plan.

### Executive Director Opinion /Key Issues to bring to the attention of the Board/ Committee:

The UHB has a significant and challenging Patient Quality, Safety and Experience agenda to progress across the organization. The Board has delegated the monitoring and scrutiny of these arrangements to the Quality, Safety and Experience Committee. In order to inform the development of this work across the UHB, the Committee needs to consider and approve an Annual Work Plan in order to structure the work of the Committee over the coming year. As part of its approval, the Committee needs to agree that the proposed workplan and programme reflects the priorities of the UHB and will provide the necessary assurance required during 2020-2021.

### Assessment and Risk Implications (Safety, Financial, Legal, Reputational etc:)

The work plan for the Quality, Safety and Experience Committee 2020/2021 has been based on the requirements set out within the Quality, Safety and Experience Committee Terms of Reference which assumes that the Committee meets six times a year.

### Recommendation:

**The Quality, Safety and Experience Committee is asked to:**

**REVIEW** the Work Plan 2019/20

**APPROVE** the Work Plan 2019/20

**RECOMMEND** approval to the Board of Directors



### Shaping our Future Wellbeing Strategic Objectives

*This report should relate to at least one of the UHB's objectives, so please tick the box of the relevant objective(s) for this report*

1. Reduce health inequalities		6. Have a planned care system where demand and capacity are in balance	
2. Deliver outcomes that matter to people	x	7. Be a great place to work and learn	
3. All take responsibility for improving our health and wellbeing		8. Work better together with partners to deliver care and support across care sectors, making best use of our people and technology	
4. Offer services that deliver the population health our citizens are entitled to expect	x	9. Reduce harm, waste and variation sustainably making best use of the resources available to us	x
5. Have an unplanned (emergency) care system that provides the right care, in the right place, first time		10. Excel at teaching, research, innovation and improvement and provide an environment where innovation thrives	

### Five Ways of Working (Sustainable Development Principles) considered

*Please tick as relevant, click [here](#) for more information*

Prevention		Long term		Integration		Collaboration		Involvement	
<b>Equality and Health Impact Assessment Completed:</b>	<p>Yes / No / Not Applicable</p> <p><i>If "yes" please provide copy of the assessment. This will be linked to the report when published.</i></p>								





Quality, Safety and Experience Committee Work Plan 2020 - 2021								
A - Approval	Exec Lead	14-apr	16-jun	18-aug	13-okt	15-des	16-feb	13-apr
Agenda I								
Standing								
Sub Comm	SC	Surgery	Specialist	Women and Children	N/A	CD&T	Medicine	Mental Health
Community	RW	D	D	D		D	D	D
Patient Sto	RW	Surgery	Specialist	Women and Children	N/A	CD&T	Medicine	Mental Health
Quality C								
Quality, Saf	RW		A			D (update)		
Patient Exp	RW		A			D (update)		
Annual Qua	RW	A						
Health Care	RW		A			D (progress update))		
Serious Incident and Never Event overview					D			
Key External	RW	D						D
Items for								
QSE Perform	RW	D	D	D		D	D	D
National an	SW		A			A		
National Au	SW		D			D	D	
Cancer pee	SW	D	D	D		D	D	D
Mortality -	SW	D		D		D		
Healthcare	RW	D	D	D		D	D	D
Healthcare	RW	D	D	D		D	D	D
Internal ins	RW	D		D		D		D

Exception r	RW/SW	D	D	D		D	D	D
Concerns A	RW				D			
Ombudsm	RW			D				
Complaints	RW		D			D		
Claims and	RW		D			D		
Items for								
Policies	RW	A	A	A	A	A	A	A
Items for Noting and Information								
Annual Car	RW			I				
Annual Vol	RW			I				
Quality, :								
Chair's Acti	SE	I	I	I	I	I	I	I
Annual Wo	NF							A
Review of M	NF	D	D	D	D	D	D	D
Self Assess	NF	TBC						TBC
Review Ter	NF							A
Produce Co	NF							A
Minutes of	NF	A	A	A	A	A	A	A
Action Log	NF	D	D	D	D	D	D	D

<b>Report Title:</b>	Draft Annual Report 2018/19 – Quality, Safety and Experience Committee					
<b>Meeting:</b>	Quality, Safety and Experience Committee			<b>Meeting Date:</b>	18.02.20	
<b>Status:</b>	<b>For Discussion</b>		<b>For Assurance</b>		<b>For Approval</b>	<b>For Information</b>
<b>Lead Executive:</b>	Director of Corporate Governance					
<b>Report Author (Title):</b>	Corporate Governance Officer					

### Background and current situation:

The purpose of the report is to provide Members of the Quality, Safety and Experience Committee with the opportunity to discuss the attached Annual Report prior to submission to the Board for approval.

It is good practice and good governance for the Committees of the Board to produce an Annual Report from the Committee to demonstrate that it has undertaken the duties set out in its Terms of Reference and provides assurance to the Board that this is the case.

### Executive Director Opinion /Key Issues to bring to the attention of the Board/ Committee:

The Committee has achieved an overall attendance rate of 87% and has met on six occasions during the year.

### Assessment and Risk Implications (Safety, Financial, Legal, Reputational etc)

The attached Annual Report 2019/20 of the Quality, Safety and Experience Committee demonstrates that the Committee has undertaken the duties as set out in its Terms of Reference.

### Recommendation:

The Quality, Safety and Experience Committee is asked to:

**REVIEW** the draft Annual Report 2019/20 of the Quality, Safety and Experience Committee.

**RECOMMEND** the Annual Report to the Board for approval.

### Shaping our Future Wellbeing Strategic Objectives

*This report should relate to at least one of the UHB's objectives, so please tick the box of the relevant objective(s) for this report*

- |                               |  |  |  |
|-------------------------------|--|--|--|
| 1. Reduce health inequalities |  | 6. Have a planned care system where demand and capacity are in balance |  |
|-------------------------------|--|--|--|

2. Deliver outcomes that matter to people		7. Be a great place to work and learn	
3. All take responsibility for improving our health and wellbeing		8. Work better together with partners to deliver care and support across care sectors, making best use of our people and technology	
4. Offer services that deliver the population health our citizens are entitled to expect		9. Reduce harm, waste and variation sustainably making best use of the resources available to us	
5. Have an unplanned (emergency) care system that provides the right care, in the right place, first time		10. Excel at teaching, research, innovation and improvement and provide an environment where innovation thrives	

**Five Ways of Working (Sustainable Development Principles) considered**  
Please tick as relevant, click [here](#) for more information

Prevention		Long term		Integration		Collaboration		Involvement	
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**Equality and Health Impact Assessment Completed:**

Yes / No / Not Applicable  
If “yes” please provide copy of the assessment. This will be linked to the report when published.



**GIG**  
CYMRU  
**NHS**  
WALES

Bwrdd Iechyd Prifysgol  
Caerdydd a'r Fro  
Cardiff and Vale  
University Health Board

# **Annual Report of the Quality, Safety and Experience Committee 2019/20**

## 1.0 INTRODUCTION

In accordance with best practice and good governance, the Quality, Safety and Experience Committee produces an Annual Report to the Board setting out how the Committee has met its Terms of Reference during the financial year.

## 2.0 MEMBERSHIP

The Committee membership is a minimum of four Independent Members one whom must be a member of the Audit and Assurance Committee. During the financial year 2019/20 the Committee comprised four Independent Members. In addition to the Membership, the meetings are also attended by the Executive Nurse Director (Executive Lead for the Committee) and the Director of Corporate Governance. The Chair of the Board is not a Member of the Committee but attends at least annually after agreement with the Committee Chair. Other Executive Directors are required to attend on an ad hoc basis.

## 3.0 MEETINGS AND ATTENDANCE

The Committee met six times during the period 1 April 2019 to 31 March 2020. This is in line with its Terms of Reference. The Quality, Safety and Experience Committee achieved an attendance rate of 87% (80% is considered to be an acceptable attendance rate) during the period 1<sup>st</sup> April 2019 to 31<sup>st</sup> March 2020 as set out below:

	16.04.19	18.06.19	17.09.19	15.10.19	17.12.19	18.02.20	Attendance
Gary Baxter	X	X	✓	✓	✓	✓	67%
Susan Elsmore	✓	✓	✓	✓	✓	✓	100%
Akmal Hanuk	X	✓	✓	✓	✓	✓	83%
Michael Imperato	✓	✓	✓	✓	✓	✓	100%
Dawn Ward	✓	X	✓	✓	✓	✓	83%
<b>Total</b>	<b>60%</b>	<b>60%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>87%</b>

## 4.0 TERMS OF REFERENCE

The Terms of Reference were reviewed and approved by the Committee on 19 February 2019 and were approved by the Board on 27 March 2019.

## 5.0 WORK UNDERTAKEN

During the financial year 2019/20 the Quality, Safety and Experience Committee reviewed the following key items at its meetings:

### PRIVATE QUALITY, SAFETY AND EXPERIENCE COMMITTEE

#### APRIL, JUNE, SEPTEMBER, OCTOBER, DECEMBER 2019 AND FEBRUARY 2020

- Safeguarding Report
- Health Inspectorate Wales Letter and Response
- NICU Safety Valve

- Critical Care Review and Acute Deterioration Services
- National Vascular Audit
- National Joint Knee Registry Replacement Audit

## **PUBLIC QUALITY, SAFETY AND EXPERIENCE COMMITTEE – SET AGENDA ITEMS**

**April 2019 - March 2020**

### **Patient Story**

Patient Stories were received from the Clinical Boards in the following areas below:

Surgery Clinical Board	Patient Knows Best: This is a system that improves the patient's care journey through the system
Specialist Services Clinical Board	The story was of conjoined twins who had moved to Cardiff from Senegal, and told the story of how, through the work of ALAS, they were given greater mobility and their quality of life improved.
Children and Women Clinical Board	My Journey – complex maternity care and the multi professional team who cared for me.
Clinical Diagnostics and Therapeutics Clinical Board	The Speech and Language Therapy (SLT) service support people who have sustained moderate to severe cognitive emotional, behavioural and psychiatric difficulties arising from Acquired Brain Injury (ABI). They shared a story regarding the difficulties a patient encountered around her communication impairment.
Medicine Clinical Board	A presentation was provided on the multi agency care pathway for a patient with multi drug resistant tuberculosis.

### **Clinical Board Assurance Reports**

The reports provided detail of the clinical governance arrangements within the Clinical Boards in relation to Quality, Safety and Patient Experience (QSPE). The reports identified the achievements, progress and planned actions to maintain the priority of QSPE. This is aligned to the UHB's Shaping Our Future Well Being Strategy 2015 – 2025, underpinning the development of the services by working collaboratively with the UHB workforce.

### **A Special Meeting of the Quality, Safety and Experience Committee 15 October 2019**

This meeting is held each year to focus on Serious Incidents and provide a deep dive into particular issues. The following items were presented:

1. Hot Topics
2. Serious Incidents and Never Event Paper October 2018-19
3. Tracheostomy Stimulation

4. Analysis of Trends and Themes in Deaths of Patients with Mental Illness
5. Management of Endoscopy Surveillance Patients

### **Policies and Procedures**

A number of policies and procedures were approved at the Committee as follows:

1. Labelling of Specimen's Submitted to Medical Laboratories Policy
2. Labelling of Specimen's Submitted to Medical Laboratories Procedure
3. Venepuncture for Non-Clinically Qualified Research Staff Policy
4. EHIA Venepuncture for Non-Clinically Qualified Research Staff Policy
5. Venepuncture for Non-Clinically Qualified Research Staff Procedure
6. Ionising Radiation Risk Management Policy
7. Exposure of Patients to Ionising Radiation Procedure
8. Exposure of Staff and Members of the Public to Ionising Radiation Procedure
9. Radioactive Substances Risk Management Policy
10. Radioactive Substances Risk Management Procedure
11. Parental Infusion Pumps Policy
12. Research Governance Policy
13. Framework for the Management of Performance Concerns in General Medical Practitioners (GPs) on the Medical Performers List Wales
14. Consent to Examination or Treatment Policy
15. Management of Throat Pack Policy and Procedure
16. Update of Healthy Eating Standards for Hospital Restaurant and Retail Outlets
17. Optimising Outcomes Policy
18. Laser Risk Management Policy
19. Procedure and Policy for the Pregnancy Testing of Girls of Child Bearing Age (who are menstruating) Before Procedures and Treatments

### **Inspections, Peer Reviews and Other Reviews**

11 Inspections were received and approved over the course of the year and is as follows:

1. Cancer Peer Review: Thyroid
2. Youth Thematic Review
3. Gosport Review
4. Feedback from Effectiveness Review
5. Cancer Peer Review
6. Internal Inspections
7. Health Inspectorate Wales Activity Overview



8. Health Inspectorate Wales Primary Care Contractors
9. Health Inspectorate Wales Assessment Unit Update Report
10. Community Health Council Report: One Simple Thing – Communications in the NHS and the UHBs Response
11. Terms of Reference Annual Review

## **Audits**

Five audits were received over the course of the year in the public session of the Committee:

1. Health and Care Standards Annual Audit Report
2. National Audit Update
3. National Audit Update
4. Fracture of Neck of Femur National Audit Update
5. National Hip Fracture Database

## **Risk and Assessments**

The Committee received two reports on the above:

1. Healthcare Self-Assessment Plan and Progress Update
2. Overview of Regulation 28 Reports 2018-19

## **Plans**

Three plans were presented to the committee and are as follows:

1. Clinical Audit Plan – Local and National
2. Local Clinical Plan Audit Update
3. Annual Committee Workplan

## **Other Reports**

Over the course of the year 27 'Other Reports' were presented to the Committee. The following was highlighted:

### **1. Mental Health Clinical Board Assurance Report: Reducing Length of Stay Project Plan**

The Mental Health Clinical Board presented the Committee with an overview of the steps being taken to reduce the average length of stay (ALOS), bed numbers and the resources associated with elderly inpatient care.

### **2. Mental Health Clinical Board: Report on Medical Cover for Mental Health Patients with Physical Health Needs on Llandough Site**

Concerns had been highlighted with regards to the availability of medical support in the event of a cardiac arrest. The Committee was advised that in the case of an emergency it

had been agreed that the cardiac arrest team would attend Llanfair Unit on a 2222 call. Further work was needed to firm up arrangements for the transportation of patients to the most appropriate care facility. The Executive Medical Director confirmed that he was content with the resuscitation arrangements at Hafan y Coed, and confirmed that all psychiatrists had been reminded of their responsibilities in respect of the physical health needs of their patients.

### **3. Annual Quality Statement**

NHS bodies are required to publish Annual Report and Accounts, an important element of this will be the publication of the Annual Quality Statement. The AQS is intended to provide an opportunity for the Health Board to inform the public about the quality and safety of the services that it provides, including how it is making better use of resources to deliver safe, effective and patient centred services and how it provides care that is dignified and compassionate.

### **4. Patient Safety Solutions**

The UHB regularly receives alerts and notices from Welsh Government. These cover a range of patient safety issues. Each notice or alert contains a list of actions to be completed before compliance can be declared. The timescale given to undertake these actions varies according to the complexity of the actions required. By the specified deadline, the UHB must report a position of compliance, non-compliance or not applicable.

### **5. Patient Falls**

Falls and falls-related injuries are a major public health concern, and are a one of the biggest causes of morbidity and mortality for older people in the home, community and in hospital settings.

The Committee was briefed on the significant amount of work that has been done to date and to describe the proposed approach to falls prevention in Cardiff and the Vale of Glamorgan, providing an update on the launch of the Falls Prevention Framework and the outcome of the first Community Falls Prevention Alliance workshop held in March 2019.

### **6. Primary Outcome: People are supported to meet their nutritional and hydration needs, to maximise recovery from illness or injury**

The Committee was presented with an overview of the UHB's approach to the assessment of compliance against the Health and Care Standard 2.5. As part of this overview the criteria and evidence used to undertake the assessment was discussed. Good progress had been made in many areas notably staff catering and public health with reference to the delivery of the corporate health standard framework.

The Committee was advised that the implementation of a Model Ward across four wards within the UHB had enabled a standardisation of nutrition and hydration practices across the inpatient setting. It was also noted that the Model Ward had been accepted as a Bevan Exemplar and for a portfolio research grant.

## **7. Patient Notification Exercise - Endoscopy Decontamination**

During a decontamination process in August 2018, Cardiff and the Vale University Health Board (the UHB), identified that a gastroscope and a video colonoscope had not been adequately decontaminated in line with the manufacturer's decontamination re-processing instructions. This happened because each endoscope contained a 6<sup>th</sup> internal channel that staff were unaware of. Based on all available evidence, none of the patients are known to have a blood borne virus (BBV).

A UHB-wide exercise was undertaken immediately to establish whether there were any other 6-channelled scopes in use anywhere across the organisation and also to confirm that all endoscopes in use were being decontaminated in line with manufacturer's instructions. This was concluded and it was apparent that there were no other 6 channelled endoscopes in use and that all endoscopes in use, were being decontaminated in line with manufacturer's instructions.

## **8. Patient Notification Exercise in Cardiff and Vale of Glamorgan Populations: Hepatitis C Virus Infection Re-Engagement Project**

Members were informed that some patient notifications exercises (PNE) were led by Public Health Wales. Over 5000 individuals had been diagnosed with hepatitis C, but for various reasons had never been linked to care or had never received follow up investigation or treatment. Patients had been identified through laboratory data searches in Wales. Those patients with an identified General Practitioner (GP) who had provided consent, were contacted and offered treatment as Phase 1 of an on-going re-engagement programme throughout Wales and directed by Welsh Government. The PNE carried out showed commitment to the World Health Organisation (WHO) goal to eliminate Hepatitis C by 2030.

## **9. Quality, Safety and Improvement Framework**

The Patient Safety and Quality team have been working with Clinical Boards and specialist leads within the organisation to support implementation of the Quality Safety and Improvement Framework. It supports, and is integral, to delivery of our Integrated Medium Term Plan and embraces the philosophy of Caring for people, Keeping People Well; supporting the broad organisational objectives of our overall UHB strategy –Shaping our future Wellbeing Strategy – that is, to deliver outcomes that matter to people and avoid waste, variation and harm

## **10. Patient Experience Framework and Improvement Indicators**

(See item 9)

## **11. ESSURE (issues with the failure of the process)**

A patient notification exercise that was undertaken when it became apparent that the outcomes of some patients who had undergone the ESSURE procedure (hysteroscopic sterilisation), were unclear. HSGs were undertaken through the department of Radiology or alternatively a Consultant Gynaecologist utilised the Cardiff University system to undertake a 3D ultrasound scan. It became apparent that due to a lack of clear documentation, it was unclear as to whether the HSG/ultrasound scan had been undertaken and the associated outcome/success of the procedure. Therefore all patients who had received an ESSURE Procedure were reviewed to ascertain the outcome.

## **12. Infected Blood Inquiry Update**

On 2 July 2018, the Independent Public Inquiry into Infected Blood and Blood Products (the Infected Blood Inquiry) was launched. The inquiry will examine the circumstances in which men, women and children treated by the NHS in the UK were given infected blood and blood products, in particular since 1970.

Since responding to the Inquiry on 12<sup>th</sup> September 2018, the UHB has continued to work with Haemophilia Wales, Welsh Blood Service, Public Health Wales, Velindre NHS Trust and other Health Boards across Wales.

## **13. HTA CAPA Plan Closure Letter**

On 6<sup>th</sup> September 2017, the organisation received a letter and report from the HTA following the inspection of the Cellular Pathology Laboratory and Mortuary on the 9<sup>th</sup> and 10<sup>th</sup> August 2017. The feedback from this inspection demonstrated that there were a number of areas of deficiency linked to governance and quality, tissue traceability and the premises, facilities and equipment. In response to this the Clinical Board and service developed a response plan in order to begin corrective actions within a governed framework (CD&T Gold Command). Following this inspection a root case analysis investigation (RCA) was commissioned into the tissue traceability failures identified. Additionally an external review was commissioned to review both the governance arrangements and cultural position of the service. All actions were developed and progressed.

## **14. Cwm Taf Maternity – Cardiff and Vale UHB Lessons Learnt**

The Royal College of Obstetricians and Gynaecologists was commissioned by Welsh Government to undertake an external review to investigate the care provided by the maternity services of Cwm Taf University Health Board. The review took place in January 2019 and was initially prompted by the discovery of under-reporting of Serious Incident cases by the maternity service. A look back exercise to January 2016 had identified 43 cases for review. In response to a request from Dr Andrew Goodall, following publication of the report, the UHB completed an assurance framework which provided a position statement with regards to the UHB compliance against the recommendations in the report.

## **15. Point of Care Testing Alert**

The WPOCT database revealed several issues (mismatches) which prevent the flow of data into both WLIMS and WCP. There has been a significant improvement in user compliance, with a reduction in incorrect use or manual entry of patient demographics, not acknowledging the POCT result when prompted, and the incorrect use or manual entry of user ID. User Errors are being actively managed by the corporate nursing team and lessons learned discussed at the POCT group.

## **16. Position Paper – Model of Stroke Rehabilitation and Workforce**

Cardiff and Vale University Health Board has a strategy to improve the rehabilitation pathway for patients in our care. To help instill a rehabilitation ethos amongst our teams, the Stroke Rehabilitation Centre (SRC) at University Hospital Llandough is developing a rehabilitation workforce model which could be replicated across the Health Board.

### **17. Ophthalmology Report**

The Committee was informed that a plan for Ophthalmology had been developed as the volume of individuals requiring access to the service was a problem across Wales. It was advised that there was a high level of risk associated with long waits as an individual's eyesight could deteriorate quickly. He informed that when steps were taken previously to develop an Ophthalmology Plan it had been difficult given the various groups and stakeholders with an interest. It was confirmed that a prioritised plan was developed based on discussions with a range of stakeholders and interested parties. An update was provided on progress against the priorities set out in the Ophthalmology Plan.

### **18. Car Parking – A Position Paper and Impact on Patients and Staff, How this is Managed**

It was reported that car parking on our major hospital sites is extremely limited with no medium term opportunities to increase the number of spaces available. In addition to this, in line with the Wellbeing of Future Generations legislation, the Health Board has a duty to develop and implement plans that increase the use of sustainable and active travel. A paper was presented outlining the additional actions that are being taken, and the impact this will have for patients, visitors and staff.

### **19. Ombudsman Annual Letter and Report**

The Public Service Ombudsman for Wales annually writes to each Health Board in Wales and provides an overview of trends, performance and key messages arising from activity in the Ombudsman's office over the previous year. The letters are published on the Ombudsman's website.

### **20. Putting Things Right Annual Report**

A report was provided to the Quality Safety and Experience Committee with a review of the Complaints/ claims and compliments activity that has taken place 1 April 2018 to 31 March 2019. The NHS (Concerns, Complaints and Redress Arrangements) (Wales) Regulations 2011 (hereafter, the 'Regulations') apply to all Welsh NHS bodies, primary care providers and independent providers in Wales, providing NHS funded care and were introduced in April 2011. The Regulations set out the process for the management of concerns and is known as Putting Things Right (PTR). The Regulations are supported by detailed guidance on raising a concern.

### **21. Diabetic Retinopathy – Patient Recall**

The Committee received a report that provided an overview of a patient notification exercise that was carried out when it became apparent that a number of patients with Diabetic retinopathy, appeared to have been lost to follow up by Diabetic Eye Screening Wales.

### **22. Centralisation of Endoscopy Decontamination**

The Executive Director of Therapies and Health Sciences provided a verbal update advising all decontamination in the Health Board would be centralised to ensure they were clean and safe. There had been discussions with ME and a piece of work was being undertaken to develop an options appraisal.

### **23. Carer Measures**

The Committee received a report on the Annual Carers Report 2018-2019. It sets out the achievements of the UHB, Cardiff and Vale of Glamorgan Local Authorities, Cardiff Third Sector council and Glamorgan Voluntary Services, during 2018-2019.

### **24. Delivery Unit Report: Impact of Long Waits**

The Health Board responded to concerns regarding an increasing number of patients across Wales waiting greater than 52 weeks on a Referral to Treatment Time (RTT) pathway, the Delivery Unit undertook a Wales-wide review of long waits for Planned care. The Health Board received a final copy of the Delivery Unit's report for Cardiff and Vale Health Board at the end of January 2019 and shared the Delivery Unit's report and the Health Board's action plan with the Committee.

### **25. Nice Guidance Update**

The National Institute for Health and Care Excellence is an independent arm of the NHS that is responsible for providing guidance on treatments and care for people in the NHS in England and Wales. NICE guidance other than Technology Appraisals (TA) are currently disseminated by the Patient Safety and Quality Team to identified Clinical Leads and Clinical Board Directors on a monthly basis. Implementation of NICE guidance other than TAs is not mandated, however it represents independent and objective evidenced based advice about health care provision and implementation is therefore carefully considered. Compliance with medicines related Technology Appraisals (TA) has been mandated since the launch of the New Treatment Fund at the beginning of 2017 and has been recorded since this time. There is a requirement to include medications on the formulary within two months of the publication of the TA and this process is overseen by Pharmacy.

## **6.0 REPORTING RESPONSIBILITIES**

The Committee has reported to the Board after each of Quality, Safety and Experience Committee meetings by presenting a summary report (introduced from November 2018) of the key discussion items at the Quality, Safety and Experience Committee. The report is presented by the Chair of the Quality, Safety and Experience Committee.

## **7.0 OPINION**

The Committee is of the opinion that the draft Quality, Safety and Experience Committee Report 2019/20 is consistent with its role as set out within the Terms of Reference and that there are no matters that the Committee is aware of at this time that have not been disclosed appropriately.

**SUSAN ELSMORE**  
**Committee Chair**



## AGENDA

### CHILDREN & WOMEN'S CLINICAL BOARD QUALITY, SAFETY & EXPERIENCE COMMITTEE

Tuesday 22<sup>nd</sup> October 2019, 8.30am, Meeting Room, Clinical Board offices, Lakeside UHW

Preliminaries		Action
1.1	<p><b>Welcome &amp; Introductions</b></p> <p>Cath Heath, Director of Nursing Bev Thomas, Deputy DM, Community Child Health Julia Davies, Staff Side Representative Matt McCarthy, Patient Safety Advisor Alicia Christopher, Cancer Services Lead Manager Anthony Lewis, Clinical Board Pharmacist Lois Mortimer, Midwife, Obstetrics &amp; Gynaecology Cheryl Evans, Directorate Manager, Obstetrics &amp; Gynaecology Eirlys Ferris, Senior Midwife, Obstetrics &amp; Gynaecology</p> <p><b>In Attendance</b></p> <p>Kirsty Hook, Board Secretary Heather Gater, Clinical Lead Paediatric Physiotherapy (Flu Lead)</p> <p>It was noted that due to the apologies received, the meeting was non quorate, therefore it was noted that the group was unable to agree any actions. Any issue requiring agreement/action would need to be followed up outside of the meeting for resolution and this would be noted at a future meeting where necessary.</p>	
1.2	<p><b>Apologies for absence</b></p> <p>Meriel Jenney, Becci Ingram, Suzanne Hardacre, Sarah Spencer, Mary Glover, Paula Davies, Raj Krishnan</p>	
1.3	<p><b>To receive the minutes of the previous meeting 24<sup>th</sup> September 2019</b></p> <p>The minutes of the meeting were agreed to be an accurate record.</p>	
1.4	<p><b>To note and update the action log of the meeting of 24<sup>th</sup> September 2019</b></p> <p>Risk Registers – deadline of 31<sup>st</sup> October for submission of registers so that the clinical board register can be collated.</p> <p>IP&amp;C Support – conversations have taken place with the IP&amp;C team. Support is being provided at Directorate level and work is ongoing in order to provide a lead support</p>	ALL
2.1	<p><b>Flu Update</b></p> <p>Heather Gater welcomed to the group. Update was provided as to the current position for the Clinical Board in relation to the current programme. The Clinical Board has a total of 30 flu champions, and leads from each of the Directorates. Leads for O&amp;G and ACH have been identified and a request was made for a nominated lead from CCH.</p> <p>For any wasted vaccines, any that are unaccountable would come with a financial cost. Any meetings where there is opportunity for flu vaccinations to be undertaken, contact Heather</p>	BT  ALL

	Gater. Consideration is also being given to out of hours support for staff and how this can be undertaken.	
3.1	<p><b>Patient Story – Complex maternity care, a multi-professional approach</b></p> <p>Patient story was shared surrounding the complex maternity care of a patient who presented with abdominal pain, and following investigation received an appendectomy at 32 weeks gestation. Further complications with a ruptured kidney meant that an emergency c-section was undertaken and stents placed in both kidneys within the obstetric theatre so that the patient was not separated from her partner and new baby. The patient recovered well and her diagnosis was confirmed as renal obstruction and hydronephrosis secondary to a gravid uterus.</p> <p>Key points;</p> <ul style="list-style-type: none"> <li>• Women who are low risk may become unwell very quickly</li> <li>• Skilled multi professional teams working and training together provide safe, effective and timely care.</li> <li>• Even in the most high risk, complicated of circumstances continuity of carer by the right people in the right place can be achieved</li> <li>• The team made sure that the patient and her family were placed at the centre of their care during their entire journey</li> </ul> <p>Discussion ensued and it was important to take learning from how well the multi-disciplinary teams worked together to provide the best possible care to the patient and her family. It was agreed that this story should be shared with the Surgery Clinical Board also.</p>	LM
3.2	<p><b>Health and Care Standards – key areas from Directorate QSE Reports (including any Exception reports and required escalation of key QSE issues)</b></p> <p><b>O&amp;G Directorate Report</b></p> <ul style="list-style-type: none"> <li>• 17 ongoing RCA's with a further 3 cases identified</li> <li>• QUAD audit – currently exploring what refurbishments can be taken forward in the current theatres</li> <li>• Gap and Grow business case being submitted to BCAG in November outlining the requirement for additional capacity and meet recommended criteria.</li> <li>• MDT sessions continue with the next meeting planned for January 2020</li> <li>• T2 environmental issues have been resolved. Phase 2 and Phase 3 opening is awaited.</li> <li>• Work continues on the Cwm Taf Morgannwg Health Board action plan</li> <li>• Resus area on MLU is currently not fit for purpose. Further options are being explored with Estates.</li> <li>• X1 incident tissue damaged reported within Gynaecology for September</li> <li>• X1 fall reported, no injury was sustained by the patient.</li> <li>• X1 medicines management incident reported of incorrect dose of Nefedipine</li> <li>• Blood glucose machine for transitional care – noted that the monitors that are currently in situ are suitable and therefore it was noted that these will now not be replaced. Process has now been implemented with regards to receiving of the results</li> <li>• Paper lite opportunities are being investigated</li> <li>• Expressions of interest advertised for Hypnobirthing training</li> <li>• Cwm Taf flow continues to be monitored, concerns with regards to the complexity of the women that are transferring their care</li> <li>• Birth rate plus report is awaited</li> <li>• New midwives commenced in post in October and rotations are taking place across all areas.</li> <li>• X4 consultants have been appointed with a commencement in January 2020</li> <li>• Band 7 sickness on Delivery Suite has started to improve.</li> </ul> <p><b>ACH Directorate Report</b></p>	



	<ul style="list-style-type: none"> <li>• Flu champions have commenced vaccinating throughout the CHFW</li> <li>• 5 current RCA's are progressing</li> <li>• Work ongoing with patient safety team around Natssips most procedures within the children's hospital covered by generic plans</li> <li>• Hand Hygiene audits continue. Reminders also provided at junior doctor inductions to reiterate responsibilities</li> <li>• ICU research nurse funding has been secured and is progressing.</li> <li>• Generic risk assessments for all wards are being developed.</li> </ul> <p><b>CCH Directorate Report</b></p> <ul style="list-style-type: none"> <li>• Improved uptake on Fluenz within schools. The supply is worse than initially anticipated and will have a significant impact on the programme. Welsh Government have advised that 2-4year old group is being prioritised and further information is awaited from Welsh Government. Staff will be moved to where the biggest constraints are and this will be managed on a daily basis.</li> <li>• GI outbreak in Cardiff High School which is being investigated at present.</li> <li>• H&amp;S incident in St Davids (CAMHS Dept). Concerns were noted that this was not escalated to the site manager on call and the escalation process being reviewed. Further meeting is being undertaken with Security as whilst there was security available on site, no support was provided to the staff members. It was felt that due to these issues, the incident should be re-opened in order to additional actions to be undertaken and review of lessons learnt.</li> <li>• X2 community acquired pressure ulcers reported. Review of training is being undertaken for staff within Special Schools</li> <li>• Work ongoing on the transcribing pathway</li> <li>• SG Section 47 investigation is ongoing, further update will be provided</li> <li>• SBAR for respite – meeting arranged on 24<sup>th</sup> October to discuss the impact of withdrawal of the service and support is being arranged to support parents/families.</li> <li>• Workload pressures within the crisis service</li> </ul>	
3.3	<p><b>Exception Reporting / New Risks to be considered for the Clinical Board Risk Register</b></p> <p>Noted as part of item 1.4</p>	
3.4	<p><b>Long Waiting Patients Update</b></p> <p><b>O&amp;G</b> X1 36week breach last month and further gaps anticipated for October however work continues in order to manage this going forward</p> <p><b>ACH</b> Inpatients/day cases - End of September 39 patients waiting over 36 weeks Outpatients recorded as follows</p> <p><b>Paeds Surgery</b></p> <ul style="list-style-type: none"> <li>• 110 patients over 26 weeks</li> <li>• 7 patients with no apt booked</li> <li>• longest wait 32 weeks apt set for September</li> </ul> <p><b>Gen Paeds</b></p> <ul style="list-style-type: none"> <li>• 150 patients over 26 weeks</li> <li>• 14 patients with no apt booked</li> <li>• longest wait 34 weeks</li> </ul> <p><b>Endocrine</b></p> <ul style="list-style-type: none"> <li>• 3 patients over 26 weeks</li> <li>• longest wait 28 weeks</li> <li>• 0 patients without dates</li> <li>• Paediatric diagnostics - 1 patients waiting over 8 weeks for endoscopy</li> </ul>	

	<p>Waiting lists for outpatient therapy services at the CHFV is 11 weeks</p> <p><b>CCH</b></p> <p>Primary Mental Health remains a concern. Work is ongoing to improve the current position and assessments are being booked. Extra sessions are being taken forward within the community. The plan continues in order to improve trajectory by December 2019.</p> <p>Therapies</p> <ul style="list-style-type: none"> <li>• SLT 13 weeks</li> <li>• Physio 10 weeks</li> <li>• OT currently at 14weeks however noting that 25 patients are yet to be booked and will therefore breach. Work continues in order to book as soon as possible.</li> </ul> <p>Neuro Development – 6,000 patients on follow up list and work continues in order to manage this backlog</p>	
3.5	<p><b>Business Continuity Update</b></p> <p><b>Cancer Services</b></p> <p>Draft plan was circulated for information and focuses mainly on MDT process and impact on cancer treatment, IT processes etc. It was agreed that this would be reviewed by the Clinical Board for final sign off outside of the meeting.</p>	Clinical Board
4.1	<p><b>Update on Serious Incidents</b></p> <p>X2 SI's have been reported to Welsh Government following the last meeting.</p> <p>In100656 A baby died following a breech delivery.</p> <p>In100603 A baby was stillborn following a suspected placental abruption.</p> <p>RCA investigations have been commenced for both incidents</p> <p>11 open SI's at present, 8 of which are overdue. It was noted that work continues on these, however it was acknowledged that there were no specific concerns to note as to the reasons behind the delays, specifically in relation to new incidents being reported.</p> <p>Currently it was noted that there have been more incidents reported than have been closed. All were asked to ensure that there are robust processes in place in order to manage this backlog and actions undertaken in a timely manner. Service disruption has been noted that are most frequently reported incident for September which seems to be a theme compared to last year. It was noted that this is a very busy period during the year as result of lack of beds/cots, new starters etc.</p>	
4.2	<p><b>Closure Forms for noting / Sign Off</b></p> <p><b>Closure Summary – In79881</b></p> <p>Include detail from the closure form – x10 dose of Oramorph. All actions have been identified and implemented. This will be audited to ensure that this has been embedded into practice. Wider work underway with regards to tenfold errors and presentation was provided at a previous meeting.</p>	
4.3	<p><b>RCA SBAR's for noting / sign off</b></p> <p><b>BH 281034</b></p> <p>The SBAR outlined the case of an unexpected Neonatal baby death. At birth the baby was pale and floppy making no respiratory effect. Baby was immediately taken to the awaiting neonatal team. Baby received intensive resuscitation, unfortunately this was not successful, and a neonatal death was confirmed. The steps taken during resuscitation were reasonable, proportionate and appropriate. A post mortem examination root cause could not be identified.</p>	

	<p><b>Lessons learned</b></p> <ul style="list-style-type: none"> <li>• Gestational age should be confirmed at each antenatal appointment.</li> <li>• Additional staff training on the use of customised growth charts is required.</li> <li>• Management of PET should be in line with the guideline - an obstetric face to face review should take place prior to commencing Syntocinon.</li> <li>• Two hourly reviews on delivery suite must be evident either in the maternal records or the central monitoring system ( Fetal Surveillance Bundle and All Wales National Standards 2018)</li> <li>• The Midwife in charge of delivery suite should review high risk women during labour to maintain on overview of the ongoing care.</li> <li>• Following antenatal admissions, discharges should be undertaken by a senior obstetrician of ST3 level or above.</li> <li>• Oral fluids should be recorded on the fluid balance chart. Decreased urine output should be escalated to senior midwifery and obstetric staff and a bedside review should be performed to make a management plan.</li> </ul> <p>Pre inquest hearing has been undertaken and further information is being provided to Welsh Government. Whilst there is incidental learning to note, there were no specific issues in practice and care that would have contributed to the outcome.</p> <p><b>KP 285879</b> Deferred until the next meeting as final review is being undertaken.</p> <p><b>ZD 287335</b> The SBAR outlined the case of an incorrect medication error due to the rate not being changed on the pump. There are a number of factors that have been identified that may have contributed to this incident. Overall no harm came to the patient.</p>	LMc
4.4	<p><b>Infection Prevention Control Update</b></p> <p><b>Current position reported</b></p> <ul style="list-style-type: none"> <li>• C Diff – currently 6 incidents have been reported to date which is significantly higher compared to the same period last year.</li> <li>• MRSA – x1 case reported as part of maternal transfer</li> <li>• MSSA – 6 cases</li> <li>• E Coli – 7 cases</li> <li>• P.aeruginosa – 4 cases</li> <li>• Klebsiella app – 4 cases</li> </ul> <p>It was noted that robust multidisciplinary investigations are undertaken for all cases, there were no specific issues or exceptions to note. Some breaches have been reported with Bare Below the Elbow which has been addressed as part of Junior Doctor induction.</p>	
4.5	<p><b>Safeguarding</b> <b>Standard Operational Procedure for Pressure Damage</b> Noted for information. This has been shared widely as appropriate throughout all areas in the Clinical Board.</p>	
4.6	<p><b>Patient Safety Alerts (internal/external)/Welsh Health Circulars</b></p> <ul style="list-style-type: none"> <li>• <b>Welsh Health Circular 2019 022 - Implementation of PROMPT in Maternity Services in Wales</b> On track, further feedback to be provided to Welsh Government.</li> <li>• MDA/2019/031 - Kiwi Complete Vacuum Delivery System – risk of failure to achieve or maintain vacuum during use (specific lot affected)</li> <li>• Message from Welsh Government - UPDATE to Medicines Shortage Letter -</li> </ul>	

	<p>CPhO/MedsLet/2019/16 Disruption to supply of Fluoxetine 10mg and 30mg and 40mg Capsules</p> <ul style="list-style-type: none"> <li>• ISN 2019 003 - Resuscitation trolley checks</li> </ul> <p>The alerts above were noted for information and have been disseminated widely. There were no specific exceptions to note for the Clinical Board.</p> <p><b>Raniterdean Supply</b></p> <p>It was noted that information has been received with regards to decreased supply of ranitidean. Welsh Government guidance is available, but is adult focused. An action plan has been developed by Pharmacy for children, and alternatives identified which can be used. Further information will be circulated for wide dissemination to all areas to note/action as appropriate.</p>	
4.7	<p><b>Medication safety metric data summary</b></p> <p>Noted for information. There were no specific issues to note. It was noted that active feedback from pharmacy should be provided as this is identified and AL agreed to ensure that this is taking place appropriately. Any issues will be reported back at a future meeting.</p>	AL
4.8	<p><b>Laryngoscope Compliance</b></p> <p>Non compliance within Theatres, single use is being investigated however it was noted that the current scopes provided by the UHB are not single use, and guidance required on the process to follow going forward. EF agreed to review the current position and will feedback at a future meeting.</p>	EF
5.1	<p><b>Latest Cleaning Scores Report – for information</b></p> <p>Neonatal services have decreased slightly, and it was noted that this will be further investigated.</p> <p>St Davids – this has not been undertaken for a few weeks. CH agreed to discuss with Housekeeping outside of the meeting.</p>	CH
6.1	<p><b>Performance with National targets/the NHS Outcomes and Delivery framework relating to timely care outcomes</b></p> <p>Work continues and position discussed as part of agenda. There were no specific exceptions to note.</p>	
7.1	<p><b>Update on latest 2 minutes of your Time feedback</b></p> <p>No update to note for this meeting.</p>	
8.1	<p><b>Regional Safeguarding Reports &amp; 7 Minute Briefings</b></p> <p>Noted for information.</p>	
8.2	<p><b>Medicines Safety Newsletter</b></p> <p>Noted for information. No specific exceptions to report.</p>	
AOB	<p><b>MTED Rollout</b></p> <p>This will be progressed imminently within Maternity Services.</p> <p><b>H&amp;S Operational Minutes</b></p> <p>These are still awaited, and will be circulated as soon as these are received for information</p> <p><b>CCH Move from Global Link</b></p> <p>The moves have taken place to Woodland House. It was noted that there are x4 teams (LAC &amp; Psychology will move to St David's Hospital) still based at Global Link (x2 teams will be moved to Ely). Mental Health Team will remain at Global Link until the new year, whilst accommodation at CRI is being finalised.</p>	

DATE AND TIME OF NEXT MEETING
The next meeting is scheduled for <b>Tuesday 26th November, Meeting Room, Clinical Board Offices, 1<sup>st</sup> Floor, Lakeside UHW</b>



GIG  
CYMRU  
NHS  
WALES

Bwrdd Iechyd Prifysgol  
Caerdydd a'r Fro  
Cardiff and Vale  
University Health Board

## CLINICAL DIAGNOSTICS AND THERAPEUTICS CLINICAL BOARD QUALITY SAFETY AND EXPERIENCE SUB-COMMITTEE

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### MINUTES OF THE MEETING HELD ON 13<sup>TH</sup> NOVEMBER 2019

#### **Present:**

Matthew Temby (Acting Chair)	Clinical Board Director of Operations
Lisa Griffiths	Quality Manager, Laboratory Medicine
Nigel Roberts	Laboratory Service Manager, Biochemistry
Rachael Daniel	Health and Safety Adviser
Jane James	Phlebotomy Support Service Manager
Robert Bracchi	Medical Advisor to AWTTC
Lesley Harris	Professional Head of Radiography UHL
Bolette Jones	Head of Media Resources
Maria Jones	Senior Nurse, Outpatients
Paul Williams	Clinical Scientist, Medical Physics
Suzie Cheesman	Patient Safety Facilitator
Anthony Powell	Medical Devices Safety Officer, Clinical Engineering

#### **Apologies:**

Sue Bailey	Clinical Board Director of Quality, Safety and Patient Experience
Mike Bourne	Clinical Board Director
Sion O'Keefe	Head of Business Development/ Directorate Manager of Outpatients/Patient Administration
Emma Cooke	Head of Physiotherapy
Mathew King	Head of Podiatry
Alun Morgan	Assistant Director of Therapies and Health Sciences
Rebecca Vaughan-Roberts	Quality and Safety Lead, Radiology Department
Sarah Jones	Quality Lead, Pharmacy

#### **Secretariat:**

Helen Jenkins	Clinical Board Secretary
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### **PRELIMINARIES**

#### **CDTQSE 19/439 Welcome and Introductions**

Matt Temby welcomed everyone to the meeting and introductions were made.

#### **CDTQSE 19/440 Apologies for Absence**

Apologies for absence were **NOTED**.

## **CDTQSE 19/441    Approval of the Minutes of the Last Meeting**

The minutes of the meeting held on 9<sup>th</sup> October 2019 were **APPROVED**.

## **CDTQSE 19/442    Matters Arising/Action log**

The action log was **RECEIVED** and it was noted that a number of actions had been completed. The outstanding actions were updated as follows:

### *CDTQSE 19/196    Physiotherapy Business Continuity Plan*

The Physiotherapy Business Continuity Plan has been submitted.

### *CDTQSE 19/400    AWTTC Compliance with Welsh Standards*

Sue Bailey to appraise Alun Williams, Welsh Language Officer of the work being undertaken in AWTTC to comply with the Welsh Language Standards.

#### **Action: Sue Bailey**

### *CDTQSE 19/411    Audit on IT Mobile Devices*

A template will be circulated to directorates for them to undertake the audit on IT mobile devices within their areas.

#### **Action: Matt Temby/All**

## **GOVERNANCE, LEADERSHIP AND ACCOUNTABILITY**

### **CDTQSE 19/443    Presentation: Electronic Requesting in the Welsh Clinical Portal**

Nigel Roberts reported that with the current paper request form, there are many incidences of the wrong patient information being written on the form. A lot of clinical information is missing or the form is illegible. Requester details are not always completed and the wrong tests have been requested or important tests missed out. This has resulted in a lot of Datix incidents.

12221 sets of test were rejected for EAU for August 2019. 1045 patients were affected and needed to be re-bled. These errors were a result of incorrect samples, insufficient samples and labelling errors, however majority were incorrect/insufficient sample types received. These errors could have been avoided if the unit was utilising ETR.

On ETR, patient details, the requesting clinician and a contact number are mandatory fields. The system reduces the need for duplicate and unnecessary testing and improves turnaround times. Requests are typed and are legible. This decreases the number of Datix incidents. It allows the ability to communicate urgent results and the ability to discuss investigations with the requester.

Whilst ETR takes longer to complete, it allows for bulk requesting and groups tests.

ETR is rolled out across outpatients and inpatients and presentations are being delivered across all Clinical Boards to encourage uptake of the system.

### **CDTQSE 19/444 Patient Story**

Ann Patterson, Transfusion Practitioner reported that the Blood Transfusion Laboratory also have similar issues relating to insufficient information provided for blood samples and she presented a patient story that occurred in the EU department.

A gentleman who was a pillion passenger was involved in a road traffic accident. He was wearing a helmet but no other protection and travelling at 35 miles an hour. He fell off the bike and presented to the EU with a right swollen ankle that was tender. Tests were taken and it was identified that he had a fractured ankle and was prepped for surgery. A blood sample was taken but this was rejected as no date of birth was provided. In total 6 blood samples were taken and only one was acceptable. Of the samples that were rejected, there were 2 instances where no date of birth was provided, one of the forms had no declaration completed, another with no signature on the declaration.

The All Wales Zero Tolerance Policy means that the forms and samples have to match, be fully completed and the declaration signed. All Wales posters have been produced to show users how to complete the pre transfusion forms correctly.

Recommendations for best practice are for the Health Board to consider the implementation of an electronic solution where the patient's identification wrist band is scanned to obtain positive patient identification.

Assessments are undertaken in accordance with the National Patient Safety Agency Safer Practice Notice 14.

Introduce a revised pre-transfusion request form.

Ensure each clinical area has a transfusion competence assessor in place who is able to provide education for staff and undertake the transfusion competence assessments.

Transfusion competence assessments are now recorded centrally on ESR allowing clinical managers to maintain their own registers of competence assessments undertaken.

Promote e-learning on blood transfusion. NWIS are working on a solution for a module on ESR.

SHOT indicates that 1 in 2000 patients bled, will be cases of wrong blood in tube. Lisa Griffiths asked what can happen to patient who is transfused with the wrong blood group. It was noted that there is potential that this could result in a patient death.



Matt Temby asked to receive data around delays in the system due to forms containing incorrect or missing information.

An electronic system would reduce patient identification errors. There would be significant costs involved to implement this, however this would need to be considered against the costs that would be saved in the reduction of zero tolerance rates. Matt asked for Alun Roderick to undertake a cost benefit analysis.

**Action: Alun Roderick**

**CDTQSE 19/445    Feedback from UHB QSE Committee September 2019**

The UHB QSE Committee minutes for September 2019 are not yet available.

**CDTQSE 19/446    Health and Care Standards**

Nothing to report.

**CDTQSE 19/447    Risk Register**

It was noted that Sue Bailey has undertaken work to group the risks on the Clinical board risk register and identify the top 5 risks for the Clinical Board. This will be submitted to the Corporate Team.

**CDTQSE 19/448    Exception Reports**

A radiation protection issue was reported in Radiology whereby a consultant breached his annual eye dose limit. The department is liaising with HSE and the Radiation Protection Adviser. The HSE has written a formal letter to Sue Bailey and this will be circulated to Rachael Daniel and Radiology.

**Action: Helen Jenkins**

Nigel Roberts reported a potential serious incident involving a deceased patient. The patient had a potassium result reported from the Biochemistry laboratory as low which was not in keeping with previous results reported. The request was checked for accuracy and the sample was reanalysed which confirmed the original results reported. POCT blood gas analysis had been performed by the clinical area.

The clinical team were aware of the potassium result of 2.6 mmol/L and they had given the patient a potassium infusion. This caused a significant increase in potassium levels and the patient appeared symptomatic.

Review of the results suggest the sample may have been diluted and phlebotomy occurred from the patient in close proximity to an intravenous infusion.

An SI meeting is being held on Friday to understand the root cause further.

## **HEALTH PROMOTION PROTECTION AND IMPROVEMENT**

### **CDTQSE 19/449 Initiatives to Promote Health and Wellbeing**

Lisa Griffiths has met with colleagues in Public Health Wales and they have agreed a mechanism to marry up both Datix systems.

### **Public Health Wales Briefing: Start of Respiratory Syncytial Virus (RSV) Season in Wales.**

Syncytial Virus (RSV) is a common cause of acute respiratory infection in children which can lead to severe disease requiring admission and sometimes intensive care and ventilator support, particularly in younger children. RSV cases occur annually, usually starting in the autumn and lasting an average of 12 weeks. The RSV season has now started in Wales. Public Health Wales has issued an alert to Health Boards to circulate to relevant clinicians to plan for the likely impact.

### **CDTQSE 19/450 Falls Prevention**

The next UHB Falls Meeting is being held tomorrow.

## **SAFE CARE**

### **CDT QSE 19/451 Concerns and Compliments Report**

In October 2019 the number of concerns received in the Clinical Board continue to be above the average numbers normally received. The Clinical Board received 19 concerns, 22% of these were managed within early resolution. There were 3 breaches against response times. 20 compliments were received.

Areas of concern to highlight are Radiology which received 7 concerns, 28% of these were managed within early resolution. There were 2 breaches against timeframes. However the department received 1 compliment.

Dietetics received 1 concern. A response was produced in time but due to an error whereby the response was emailed to the wrong inbox within the concerns team, this resulted in a breach.

OT received 2 concerns and 1 compliment.

Areas of good concern management were Outpatients and Patient Administration which received 1 concern which was managed within early resolution. The department also received 1 compliment.

Physiotherapy received 2 concerns. 50% of these were managed within early resolution timeframes. The department also received 8 compliments.

Medical Illustration received no concerns and 2 compliments.

Matt Temby commented that concerns management in all areas is variable in terms of process and quality of responses. He requested that every service identifies a

named individual who will take responsibility for production of the final draft and submitting the concern. Responses to be sent to Helen Jenkins and Matt Temby by the end of next week.

**Action: All**

A meeting will then be held with the nominees and Sue Bailey to set clarity on expectations.

**CDTQSE 19/452 Ombudsman Reports**

Nothing to report.

**CDTQSE 19/453 RCA/Improvement Plans for Serious Complaints**

Nothing to report.

**CDTQSE 19/454 Patient Safety Incidents**

**SI Report**

In101473 relates to an old Neuroradiology incident that has been closed but it is now linked to a high value claim.

In101460 relates to a further old Neuroradiology incident that has been closed but is now linked to a high value claim.

In69239 - the closure form for this incident was submitted to Welsh Government in October 2018 and is awaiting a response. Suzie Cheesman has followed this up.

In82274 is an incident relating to a choking episode.

In101759 relates to the theft of a laptop in Outpatients.

**CDTQSE 19/455 New SI's**

A new SI has been reported relating to the potassium incident that was noted earlier in the meeting.

A new incident has been reported in Radiology relating to a delay in the return of diagnosis report which was received after a patient had passed away.

**CDTQSE 19/456 RCA/Improvement Plans**

Nothing to report.

**CDTQSE 19/457 WG Closure Forms – Sign Off**

There were no closure forms to be submitted to Welsh Government.

## **CDTQSE 19/458    Regulation 28 Reports**

Nothing to report.

## **CDTQSE 19/459    Patient Safety Alerts**

### **ISN 004: Security of Patient Information**

This alert advises all staff that patient identifiable information must not be stored on unencrypted computers or laptops. As discussed earlier, an audit of mobile devices will be undertaken in directorates.

### **ISN 005: Ranitidine**

An Internal Safety Notice has been received to advise that all oral formulations of Ranitidine are anticipated to be out of stock with no date for resupply. Although some IV products are affected, there is sufficient unaffected IV stock available to meet current UK demand. Advice for medical staff was provided within the alert.

## **CDTQSE 19/460    Addressing Compliance Issues with Historical Alerts**

Nothing to report.

## **CDTQSE 19/461    Medical Device Risks/Equipment and Diagnostic Systems**

Tony Powell provided an update on the defibrillator issue. Staff in Physiotherapy need to receive the training. Tony Powell to email Emma Cooke to escalate this and copy in Sue Bailey.

### **Action: Tony Powell**

Directorates have been requested to submit any medical equipment bids. Helen Jenkins has collated bids received for this Clinical Board will send them to Tony Powell and Matt Temby to prioritise.

### **Action Helen Jenkins/Tony Powell/Matt Temby**

New Medical Device Regulations are coming to force in April next year. The main change relates to software used to diagnose or treat a patient.

## **CDTQSE 19/462    IP&C/Decontamination Issues**

Maria Jones, Alun Morgan and Sue Bailey met last week to consider how to receive assurance from directorates on IPC related issues. Alun Morgan will be circulating an email to directorates.

### **Action: Alun Morgan**

### **CDTQSE 19/463    Point of Care Testing**

The Medical Director is meeting with Matt Temby to discuss direction of travel for Point of Care Testing going forward.

### **CDTQSE 19/464    Key Patient Safety Risks**

#### **Safeguarding**

Nothing to report.

#### **MCA Act**

Nothing to report.

### **CDTQSE 19/465    Health and Safety Issues**

There were no issues to escalate from the Clinical Board Health and Safety Group.

Rachael Daniel reported that the Health Board has not yet received a date for the HSE visit. In preparation, she has met with Scott Gable, Sion O'Keefe and Keeley Baker as Cellular Pathology and Medical Records are areas that the HSE are likely to visit.

The following policies and procedures have been approved by the Health and Safety Committee:

- Contractor Control
- DSEAR guidance
- Hand Arm Vibration
- DSE Equipment
- Health and Safety Risk Assessment Procedure.

### **CDTQSE 19/466    Regulatory Compliance and Accreditation**

Matt Temby noted that good progress is being noted against the regulatory compliance metrics in a number of areas. There is concern around progress against the SMPU recovery plan.

### **CDTQSE 19/467    Policies, Procedures and Guidance**

Paul Williams raised concerns that there is a lack of attendance in the Ultrasound Governance Group. Whilst this group sits outside of this Clinical Board, it was requested that Paul Williams writes to Matt Temby and Sue Bailey to raise his concerns.

#### **Action: Paul Williams**

## **EFFECTIVE CARE**

### **CDTQSE 19/468 Clinical Audit**

Nothing to report.

### **CDTQSE 19/469 Research and Development**

Matt Temby advised that the Clinical Board is looking at developing an in-house capability on RPA work around trials.

He has also met with Professor Fegan and discussed a values based approach to R&D funding.

### **CDTQSE 19/470 Service Improvement Initiatives**

The CD&T Innovates session is being held this Friday. Any member of staff in the Clinical Board is welcome to attend.

### **CDTQSE 19/471 NICE Guidance**

Nothing to report.

### **CDTQSE 19/472 Information Governance/Data Quality**

Nothing further to report.

## **DIGNIFIED CARE**

### **CDTQSE 19/473 HIW/CHC, DECI (Dignity and Essential Care Inspections) Reports and Improvement Plans**

Nothing to report.

### **CDTQSE 19/474 Initiatives to Improve Services for People with:**

#### **Dementia/Sensory Loss**

Nothing to report.

### **CDTQSE 19/475 Initiatives Specifically Related to the Promotion of Dignity**

Maria Jones reported that a Bariatric Patient Working Group has been set up to develop a bariatric pathway. A meeting has been held and issues that are common across services were noted. Concerns were raised that bariatric patients are not receiving equitable care.

### **CDTQSE 19/476 Equality and Diversity**

Alun Morgan participated in a 'Walk a Mile in Her Shoes' campaign.

The Clinical Board will be delivering presentations to its departments supporting mental health issues in the workplace.

## **TIMELY CARE**

### **CDTQSE 19/477 Initiatives to Improve Access to Services**

Nothing to report.

### **CDTQSE 19/478 Performance with National Targets/the NHS Outcomes and Delivery Framework Relating to Timely Care Outcomes**

In Therapies it was reported that 41 patients were waiting over 14 weeks in October. These figures are being checked.

For November, Radiology is predicting 5 patients waiting over 8 weeks.

### **CDTQSE 19/479 Delayed Transfers of Care**

Nothing to report.

## **INDIVIDUAL CARE**

### **CDTQSE 19/480 National User Experience Framework**

The September report was **RECEIVED**. It was pleasing to note the high number of positive comments received from visitors and patients.

## **STAFF AND RESOURCES**

### **CDTQSE 19/481 Staff Awards and Recognition**

Numbers of nominations being received for the Clinical Board Staff Recognition Scheme are low and Matt Temby encouraged nominations from departments. A lot of previous winners are clinical and frontline staff and he would therefore particularly like to receive nominations for non-patient facing staff.

Rhodri John has produced a recognition card in conjunction with the Medical Illustration Team. The purpose of the recognition card is for them to be handed to a member of staff working in this Clinical Board for a job well done and making a difference to someone's day.

### **CDTQSE 19/482 Monitoring of Mandatory Training and PADRs**

The latest mandatory training and PADR figures were not available.

## **ITEMS TO BE RECORDED AS RECEIVED AND NOTED FOR INFORMATION BY THE SUB-COMMITTEE**

The following minutes were **RECEIVED**:

Biochemistry Quality Minutes October 2019  
CD&T Health and Safety Group Draft Minutes October 2019

## **ANY OTHER BUSINESS**

Biochemistry will be subject to a UKAS inspection in early December.

A DGSA audit has been undertaken in Biochemistry. Issues were raised around Category A waste security.

Matt Temby stated that he is aware that there are a number of estates issues in patient facing areas that are of concern. He proposed to undertake a walkround with Rachael Daniel and an Estates colleague. UHL is of particular concern. Directorates to inform Helen Jenkins of any longstanding problematic areas within their services where they would welcome a visit.

### **Action: Directorates/Matt Temby**

Tony Powell has been advised that there are insurance renewal issues relating to lifts. Rachael Daniel will look into this.

### **Action: Rachael Daniel**

## **DATE AND TIME OF NEXT MEETING**

11<sup>th</sup> December 2019 at 2pm in Room 1.5. 1<sup>st</sup> Floor, Ty Dewi Sant Building UHW





GIG  
CYMRU  
NHS  
WALES

Bwrdd Iechyd Prifysgol  
Caerdydd a'r Fro  
Cardiff and Vale  
University Health Board

## CLINICAL DIAGNOSTICS AND THERAPEUTICS CLINICAL BOARD QUALITY SAFETY AND EXPERIENCE SUB-COMMITTEE

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### MINUTES OF THE MEETING HELD ON 11<sup>TH</sup> DECEMBER 2019

#### **Present:**

Sue Bailey	Clinical Board Director of Quality, Safety and Patient Experience
Lisa Griffiths	Quality Manager, Laboratory Medicine
Sarah Jones	Quality Lead, Pharmacy
Mathew King	Head of Podiatry
Sion O'Keefe	Head of Business Development/ Directorate Manager of Outpatients/Patient Administration
Cath Marshall	Physiotherapy Manager
Lesley Harris	Professional Head of Radiography UHL
Bolette Jones	Head of Media Resources
Maria Jones	Senior Nurse, Outpatients
Scott Gable	Laboratory Service Manager, Cellular Pathology
Paul Williams	Clinical Scientist, Medical Physics
Alun Morgan	Assistant Director of Therapies and Health Sciences
Rebecca	Quality and Safety Lead, Radiology Department
Vaughan-Roberts	

#### **Apologies:**

Matthew Temby	Clinical Board Director of Operations
Mike Bourne	Clinical Board Director
Suzie Cheesman	Patient Safety Facilitator
Emma Cooke	Head of Physiotherapy
Anthony Powell	Medical Devices Safety Officer, Clinical Engineering
Judyth Jenkins	Head of Dietetics
Rachael Daniel	Health and Safety Adviser
Robert Bracchi	Medical Advisor to AWTTC

#### **Secretariat:**

Helen Jenkins	Clinical Board Secretary
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### PRELIMINARIES

#### **CDTQSE 19/483 Welcome and Introductions**

Sue Bailey welcomed everyone to the meeting and introductions were made.

#### **CDTQSE 19/484 Apologies for Absence**

Apologies for absence were **NOTED**.

## **CDTQSE 19/485 Approval of the Minutes of the Last Meeting**

The minutes of the meeting held on 13<sup>th</sup> November 2019 were **APPROVED**.

## **CDTQSE 19/486 Matters Arising/Action log**

The action log was **RECEIVED** and it was noted that a number of actions had been completed. The outstanding actions were updated as follows:

### *CDTQSE 19/411 Template for Audit on IT Mobile Devices*

It was noted that the audit tool has been piloted in Outpatients and feedback is that it is easy to use.

### *CDTQSE 19/451 Nominations for Concern Leads*

Nominations for individuals who will take responsibility for concerns are still outstanding from some services.

#### **Action: All**

### *CDTQSE 19/462 IPC Issues*

Maria Jones and Alun Morgan have met and agreed to develop a dashboard specific to IP&C. Alun Morgan will discuss with Matt Temby if there is a dashboard that can be adapted to show performance metrics for IP&C.

#### **Action: Alun Morgan/Matt Temby**

### *CDTQSE 19/486 Estates issues*

It was agreed at the Health and Safety Group that Sue Bailey will create a master list of all estates issues within this Clinical Board to submit to Estates.

#### **Action: Sue Bailey**

Matt Temby and Rachael Daniel will undertake walkrounds of the priority areas.

#### **Action: Matt Temby/Rachael Daniel**

## **GOVERNANCE, LEADERSHIP AND ACCOUNTABILITY**

### **CDTQSE 19/487 Patient Story**

#### **Cellular Pathology**

Adam Christian, Laboratory Director, Cellular Pathology was welcomed to the meeting. He presented on a patient diagnosed with lung cancer who was the particular patient that led to the Cellular Pathology department undertaking quality

improvement work on the lung cancer and bowel cancer pathways following a long wait from presenting to GP to commencing chemotherapy.

The patient was a young female, non-smoker with a young family. She presented to her GP with hip pain in June. She was sent for an X-ray and an abnormality was detected. An MRI was undertaken which highlighted a sclerotic deposit throughout the lumbar spine, pelvis femur felt to be metastatic disease. A CT was also undertaken. She was placed on MDT in October and seen by Oncology for palliative chemotherapy in October.

The focus of this story is on the laboratory element. Lung cancer treatment has evolved to use biomarkers (genetic mutations) to guide treatment. EGFR, ROS-1, Alk, PDL-1 are tests undertaken that are required on most lung cancers to tailor the treatment regimen for that patient. Oncologists cannot start treatment without the results and tailor the chemotherapy based on the results. Cellular Pathology has previously approached this element of the pathway in a way where there was scope for better organisation and this has now been taken forward as a result of this particular patient.

A meeting was held to agree an approach and work together to improve the flow of specimens. The Cellular Pathology team were engaged and keen to implement change at pace. Process maps for 4 streams were developed on how to get specimens to Medical Genetics in the most efficient way and a flyer was produced for pathologists for lung cancer and bowel cancer pathways. This one patient's story affected a change across a number of departments. It has been agreed that the results will go straight to the Welsh Clinical Portal from Medical Genetics and this is a significant breakthrough. The aim is to initially have results received by the Oncologist in 17 working days from the date of the biopsy. This work was implemented in December and as it becomes embedded this timeframe will reduce further. Further work is needed around engaging with clinical teams for them to highlight to the laboratories if cancer is suspected. Electronic test requesting is not available in Cellular Pathology.

Sion O'Keefe commented on the positive attitude of the Cellular Pathology staff to implement a change and their commitment to working on solutions to the problems. He noted that there is regional interest in this improvement work.

### **Presentation from Medical Illustration**

Jan Sharp, Senior Medical Artist was welcomed to the meeting. She presented on the work undertaken by Medical Artists and a recent delirium exhibition that she supported. She explained that Medical Artists provide illustrations on clinical techniques that medical staff and students can understand. The illustrations are used in journals and books and are easier to demonstrate a technique rather than a photograph. The Medical Artists also worked on the 'Show me Where' app for patients with verbal disabilities and stroke patients who are unable to indicate where they are experiencing a medical complaint which allows clinicians to start investigations in how to treat them.

Jan Sharp participated in the Cardiff Delirium study for patients who experience delirium post cardiac surgery. Jan spoke to patients of their experiences and provided her with a detailed description of what they hallucinated and she captured and illustrated them. She has taken over 60 images and these images have been exhibited at conferences around the country. 20% of patients coming into hospitals experience delirium and there is a plan to produce the images into a book that can be shown to patients pre-surgery to explain that these are images that they might experience.

#### **CDTQSE 19/488    Feedback from UHB QSE Committee October 2019**

The minutes of the meeting in October are not yet available.

Sue Bailey noted that the Clinical Diagnostics and Therapeutics Clinical Board will be presenting its annual report to the UHB Committee next week. Speech and Language will present the patient story.

#### **CDTQSE 19/489    Health and Care Standards**

The Health Care Standards are due to be sent out in January.

#### **CDTQSE 19/490    Risk Register**

Clinical Boards have been requested to submit their top 5 risks to the corporate risk register. Sue Bailey has identified the common risks highlighted in the Clinical Board risk register and placed these into themes.

#### **CDTQSE 19/491    Exception Reports**

Mathew King raised concerns that Podiatry is still dealing with the challenges around the diabetic foot issues in secondary care. The SBAR that recommended that nursing staff undertake inpatient assessments was rejected at Board level. The Clinical Board also attempted for this to be included in E-nurse documentation however this was deemed as a lower priority. The issue needs engagement and agreement with clinicians on the pathway as this is a cross Clinical Board issue. Alun Morgan will escalate to Executive level.

#### **Action: Alun Morgan**

Podiatry Antibiotic PGD's are written and awaiting governance sign off from Pharmacy and Microbiology. Tim Banner and Microbiology are to provide a view if the proposed regime by Podiatry is reasonable. Sarah Jones will follow up with Tim Banner and ask him to feedback to Mathew King.

#### **Action: Sarah Jones**

### **HEALTH PROMOTION PROTECTION AND IMPROVEMENT**

#### **CDTQSE 19/492    Initiatives to Promote Health and Wellbeing**

Influenza is now circulating in the community. Staff who have not yet been vaccinated are encouraged to receive the flu vaccination. The Clinical Board is currently reporting 56% compliance.

The flu prize money from last year's campaign will be utilised for training to support staff and managers on mental health and wellbeing. Stress, anxiety and depression is the highest reason reported for sickness in this Clinical Board.

Kate Roberts is producing materials on Work Health, My Health that directorates can use in their own areas. She is looking for volunteers to take up a month on the Happiness Calendar prepare the content for that month.

### **CDTQSE 19/493 Falls Prevention**

Alun Morgan advised that the next Falls Alliance meeting will be held in January.

## **SAFE CARE**

### **CDT QSE 19/494 Concerns and Compliments Report**

The volume of concerns are increasing across the Health Board. In November 2019, the Clinical Board dashboard is showing an amber to green status. The Clinical Board reported 11 concerns in November 2019 with 22% resolved within early resolution timeframes. It received 6 compliments.

Areas demonstrating good concerns management are Radiology which received 4 concerns with 25% managed by early resolution. It reported 0 breaches and 3 compliments.

Physiotherapy reported 1 concern which it managed within early resolution timeframes. It reported 0 breaches and 2 compliments.

Podiatry reported 0 concerns, 0 breaches and 1 compliment.

There are no areas on the dashboard reporting a red status this month.

### **CDTQSE 19/495 Ombudsman Reports**

Nothing to report.

### **CDTQSE 19/496 RCA/Improvement Plans for Serious Complaints**

Nothing to report.

### **CDTQSE 19/497 Patient Safety Incidents**

## **SI Report**

The Clinical Board is reporting 3 open SIs:  
In82274 - progressing to closure.

In101759 – relates to a missing laptop and is under investigation.

In103765 – relates to a patient who received a CT scan. Due to a backlog in CT reporting the images were sent to Everlight. A significant finding result was not passed on to the Health Board in a timely manner and the patient passed away.

2 IRMER incidents have been reported since the last meeting:

- An unintended chest x-ray for an NG tube patient.
- CT head scan undertaken on wrong patient with the same name.

Investigations are underway and the learning will be fed back at a future meeting.

#### **CDTQSE 19/498 New SI's**

Nothing to report.

#### **CDTQSE 19/499 RCA/Improvement Plans**

Nothing to report.

#### **CDTQSE 19/500 WG Closure Forms – Sign Off**

A closure form was presented for learning purposes from Medicine Clinical Board. A patient presented to the Emergency Unit with abdominal distension. The patient had severe learning disabilities, epilepsy, cerebral palsy, scoliosis and was wheelchair bound and was discharged home after having a plain X-ray. Symptoms were ongoing and the patient presented on a further two occasions. Radiology had identified a bowel obstruction but this had not been detected by the doctors reviewing the patient and no recall for the patient was made. An investigation noted that the patient could have survived if the obstruction had been noted and action taken.

The investigation recommended that all staff who report X-rays are aware of the UHB Radiology Department Abnormal Results Notification Policy and are aware of their responsibilities. Radiology colleagues are also asked to provide some x-ray teaching sessions.

#### **CDTQSE 19/501 Regulation 28 Reports**

Nothing to report.

#### **CDTQSE 19/502 Patient Safety Alerts**

Nothing to report.

#### **CDTQSE 19/503 Addressing Compliance Issues with Historical Alerts**

Nothing to report.

## **CDTQSE 19/504    Medical Device Risks/Equipment and Diagnostic Systems**

Tony Powell produced an update report. The capital bids received by directorates have been prioritised and submitted.

Procurement in conjunction with Clinical Engineering are working on a business case to be submitted to Welsh Government for replacement of all out of date patient monitoring in the UHB.

The Ultrasound Governance Group is in need of better attendance to ensure the correct practices in the use of ultrasound equipment is taking place.

The rollout of the new defibrillators across the UHB is almost completed.

There has been no progress with the move to the new type of gas cylinder in the UHB. Sue Bailey to obtain further information from Tony Powell.

### **Action: Sue Bailey/Tony Powell**

Mathew King reported that new Medical Device Regulations are coming into force in May 2020. There are a lot of bespoke devices used for patients within Podiatry that will now fall under the regulations and this will have a significant impact on the department.

Sue Bailey noted that the full guidance from the MHRA has not yet been received.

## **CDTQSE 19/505    IP&C/Decontamination Issues**

Alun Morgan reported that an E-Coli bacteraemia post-TRUS has been reported.

There was discussion around bacteraemia rates at the UHB IP&C Group. The antimicrobial stewardship business case was also discussed.

He noted that the UHB Environmental Group is being reconvened. The Nurse Director is keen to re-audit the state of the estate. Maria Jones will represent the Clinical Board on this group.

## **CDTQSE 19/506    Point of Care Testing**

No report has been received from the Point of Care Testing team.

## **CDTQSE 19/507    Key Patient Safety Risks**

### **Safeguarding**

Maria Jones reported that concerns have been raised that the safeguarding adults level 2 mandatory training compliance rate is only 46%.

The violence against women, domestic abuse and sexual violence module is reporting 81% compliance.

## **MCA Act**

Nothing to report.

### **CDTQSE 19/509 Health and Safety Issues**

The HSE visited Radiology after it was reported that an Interventional Radiologist exceeded his eye dose limit. 2 improvement notices were issued:

- The monitor was being worn on the collar to measure the eye dose but as a classified worker this is not an acceptable technique and it should be worn closer to the eye.
- The department was criticised for the length of time to act and it should have been reviewing the doses for this Radiologist in a more timely manner.

2 breaches were also issued:

- Radiologists must undertake refresher training.
- Risk assessments need strengthening.

An action plan and responses have been submitted to the HSE and awaiting a response.

### **CDTQSE 19/510 Regulatory Compliance and Accreditation**

Sue Bailey provided feedback on the main issues raised in the Clinical Board Regulatory Compliance Group.

The IAG letter to Pharmacy has been responded to.

PADR compliance in Biochemistry was raised as a concern.

An impact assessment has been undertaken on increasing production capacity in the Radiopharmacy Unit.

### **CDTQSE 19/511 Policies, Procedures and Guidance**

The Radiology department is looking to produce a Consent for Photography Policy in Sonography. There is an issue as conflicting advice has been given. Information Governance advice is that Information Governance Regulations are not applicable to an image of a fetus and therefore the department can charge patients for requests of their scans. However if a patient name is attached to an image then it forms part of the medical record and therefore no charges should apply. There is a debate as the images are used for bonding purposes for the parents not as a request for their medical record. This issue needs to be worked through.

## **EFFECTIVE CARE**

### **CDTQSE 19/512 Clinical Audit**



Nothing to report.

**CDTQSE 19/513    Research and Development**

Nothing to report.

**CDTQSE 19/514    Service Improvement Initiatives**

Sion O'Keefe reported that managers within the Clinical Board are participating in the Amplify, Accelerate and Operate programmes linked to the Shaping Our Future Wellbeing strategy. He noted that a lot of projects are being undertaken in this Clinical Board.

**CDTQSE 19/515    NICE Guidance**

Nothing to report.

**CDTQSE 19/516    Information Governance/Data Quality**

Sion O'Keefe asked for directorates to forward him the names of the individuals who are the Information Asset Owners in their departments.

**Action: All**

**DIGNIFIED CARE**

**CDTQSE 19/517    HIW/CHC, DECI (Dignity and Essential Care Inspections) Reports and Improvement Plans**

Nothing to report.

**CDTQSE 19/518    Initiatives to Improve Services for People with:  
Dementia/Sensory Loss**

Nothing to report.

**CDTQSE 19/519    Initiatives Specifically Related to the Promotion of Dignity**

Nothing to report.

**CDTQSE 19/520    Equality and Diversity**

The new requirements around Welsh translation for recruitment will have significant cost implications for the UHB. Lesley Harris has utilised the Cardiff Council translation service and turnaround time for translation is up to a week.

## **TIMELY CARE**

### **CDTQSE 19/521 Initiatives to Improve Access to Services**

Nothing to report.

### **CDTQSE 19/522 Performance with National Targets/the NHS Outcomes and Delivery Framework Relating to Timely Care Outcomes**

For November, there were 14 patients in Radiology waiting over 8 weeks and 6 patients in Therapies waiting over 14 weeks.

In December it is currently predicted that both areas could achieve 0 breaches.

### **CDTQSE 19/523 Delayed Transfers of Care**

Nothing to report.

## **INDIVIDUAL CARE**

### **CDTQSE 19/524 National User Experience Framework**

The October Report was **RECEIVED**. Sue Bailey raised concerns that some patients are referring to their experiences from appointments held 2 years' previous.

## **STAFF AND RESOURCES**

### **CDTQSE 19/525 Staff Awards and Recognition**

The UHB Staff Recognition Award deadline has been extended to 6<sup>th</sup> January 2020.

The following staff were winners at the Advancing Healthcare Awards Wales:

Hannah Carpenter  
Fiona Wood  
Annette Thomas  
Clive Morgan

Sue Bailey reported that the new Clinical Board Appreciation Cards are now in circulation.

### **CDTQSE 19/526 Monitoring of Mandatory Training and PADRs**

Statutory and Mandatory training compliance is 81%  
PADR compliance is 47%  
Fire training compliance is 75%

## **ITEMS TO BE RECORDED AS RECEIVED AND NOTED FOR INFORMATION BY THE SUB-COMMITTEE**

The following minutes were **RECEIVED**:

Biochemistry Quality Minutes November 2019

Clinical Board Regulatory Compliance Group Minutes November 2019

Clinical Board R&D Group Minutes November 2019

## **ANY OTHER BUSINESS**

Alun Morgan raised concerns that students are parking in visitor car parking spaces and stated that they need to be mindful that they are studying in a healthcare setting.

## **DATE AND TIME OF NEXT MEETING**

8<sup>th</sup> January 2020 in Room 1.5 First Floor Ty Dewi Sant UHW



**GIG**  
CYMRU  
**NHS**  
WALES

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Caerdydd a'r Fro  
Cardiff and Vale  
University Health Board

## **MENTAL HEALTH QUALITY, SAFETY AND EXPERIENCE COMMITTEE**

**17<sup>th</sup> October 2019**

### **SEMINAR ROOM, LLANDOUGH HOSPITAL**

**Present:** Jayne Tottle, Director of Nursing Mental Health (Chair)  
Mark Jones, Directorate Manager Adult MH  
Neil Jones, Clinical Director Adult MH  
Robert Kidd, Consultant Psychologist  
Bala Oruganti, Consultant Psychiatrist  
Mark Warren, Interim Lead Nurse Adult MH  
Paul Williams, Deputy Directorate Manager Adult MH  
Jo Wilson, Directorate Manager MHSOP

**Apologies:** Jayne Bell, Lead Nurse Adult Mental Health  
Dan Crossland, Transformation and Innovation Lead  
Mark Doherty, Lead Nurse MHSOP/Neuro  
Catherine Evans, Patient Safety Facilitator  
Nicola Evans, Head of Workforce and OD, MH  
Annie Procter, Clinical Board Director, Mental Health  
Claire Humphries, Safeguarding Nurse Advisor  
Ian Wile, Head of Operations & Delivery Mental Health  
Norman Young, Nurse Consultant

## **PART 1: PRELIMINARIES**

### **1.1 Welcome and Introductions**

The Chair welcomed all to the meeting.

### **1.2 Apologies for Absence**

Apologies for absence were noted.

### **1.3 Minutes of Last Meeting**

The Minutes of the Mental Health Quality and Safety meeting held on 20<sup>th</sup> June 2019 were accepted as an accurate record.

### **1.4 ACTION LOG/MATTERS ARISING**

The Committee received the Action Log and noted the actions that had been completed; these would be removed from the Log:

### **NICE Guidance**

Annie Procter would ask Mick McGeogh about the process for NICE Guidelines and she would then

complete a flow chart showing the process. Jayne Tottle would ask Annie for an update.

**Action: Annie Procter/Jayne Tottle**

## **Outlook Calendar**

Outlook Calendar. Query on the length of time of retention of outlook calendar data as staff may need to refer to a diary from a few years ago. Neil Jones will chase up a response.

**Action: Neil Jones**

## **MHSOP Cleaning**

Jo Wilson has been in discussions with housekeeping regarding cleaning hours and the cleaning service has improved.

## **Frequent Attendee alert on PARIS**

PARIS should have an alert that the patient has been admitted frequently. Jayne Bell, Consultant Nurse for Complex Clinical Risk Management in Mental Health is looking at this.

## **Autism Basic Skills Training**

Darren Shore has contacted Rona Aldridge, Integrated Autism Clinical Lead, for basic skills training. Mark Warren will liaise with Darren and feedback to the Directorate Q&S meeting.

## **1.5 Terms of Reference**

The Terms of Reference were discussed and approved. Date for next Review October 2020.

## **GOVERNANCE, LEADERSHIP AND ACCOUNTABILITY**

### **2.1 UHB Quality, Safety and Experience Committee**

The Chair noted the Minutes of the UHB Quality, Safety and Experience Committee meeting dated 18<sup>th</sup> June 2019:

#### **QSE 19/06/009 Quality and Safey Improvement Framework**

The Independent Member – Legal asked for some background information in relation to ‘Cyber bullying in young people’ that had been highlighted as an area of focus in 2019 to 2022. In response, it was confirmed that this had been an area of concern highlighted by the work of the Mental Health Clinical Board.

**Action: Jayne Tottle would query this**

**QSE 19/02/010 – Gosport Independent Panel Report:** The Executive Nurse Director confirmed that a report would be brought to the September meeting of the Committee.

Rob Kidd explained that the Gosport Independent Panel was set up to address concerns raised over a number of years by staff and families about the care of patients in an elderly care ward in Gosport War Memorial Hospital and the subsequent investigations into their deaths. The response sets out a number of measures that have been put in place since the events described in the report, which took place between the late 1980s and 2001. These include stronger measures to ensure the safety of controlled drugs, and an independent, clinically led inspectorate.

Rob would send the report to Mark Doherty, MSHOP for information.

## **2.2 Health and Care Standards**

Jayne Tottle said that evidence is being gathered for the Health and Care standard, which are on the S Drive.

## **2.3 Regulatory compliance and external accreditation**

### **Release of Medical Records**

Neil Jones reported that he had been contacted by the Medical Records Department who stated that they were having issues trying to obtain consent to release mental health medical records for subject access requests. They said that they need help with who can look at the third party information for them.

After discussion, it was decided that Jayne Tottle would meet with medical records to understand what the problem was and ascertain a clear guidance. **Action: Jayne Tottle**

## **2.4 Risk Register**

The risk register had been circulated.

## **2.5 Directorate QSE Groups**

The **ADULT DIRECTORATE QUALITY & SAFETY** Minutes dated 11<sup>th</sup> July & 12<sup>th</sup> September 2019 were noted.

### **In-patients, Hafan y Coed**

There was an on-going issue of sleeping out patients in Hafan y Coed due to bed pressures.

### **Links CMHT**

Mark Jones reported that staff at the Links CMHT building have had to move out due their building becoming uninhabitable. Estates are surveying the problems, for example water coming down the stairs, on a fortnightly basis. Links are awaiting relocation to CRI but this has been delayed until November and could have longer delays. Out-patients clinics are being held in Hafan y Coed, Gabalfa CMHT and Llanrumney Health Centre. Mark said he is monitoring the situation and the main concern is for the staff and patients.

### **CAMHS**

Mark Warren said that there had been an increase in young people under 18 being admitted to Hafan y Coed.

### **Out of Area Patients**

We have duty to care in an emergency (for 72 hours) then the patient will go back to the responsible Local Authority, but there is an issue with more complex individuals. Awaiting advice from legal department.

### **Global Link**

Mark Jones said that Shed and Perinatal services do not have a viable plan for exiting Global Link at the moment.

The **MHSOP/NEUROPSYCHIATRY QUALITY & SAFETY** - Meeting dated 7<sup>th</sup> October 2019, Minutes not available as yet:

## **Solace**

Jo Wilson reported that the roof at the Solace building was leaking. There is a plan to move to Grand Avenue in a few years.

## **Switch of Sunday (SoS)**

Switch Off Sunday was starting on 4<sup>th</sup> November. No Agency staff to be used on a Sunday.

## **MHSOP Community**

There are a number of vacancies.

## **Forms**

Helen Joy, Nexus has a template for survey forms for carers and families.

## **Incontinence Pads**

Jo Wilson reported that they are no longer able to be order wrap around incontinence pads which is causing distress to patients as they are having pad changes far more often. Jayne Tottle will liaise with the Deputy Executive Nurse Director.

**Action: Jayne Tottle**

The **PSYCHOLOGY & PSYCHOLOGICAL THERAPIES QUALITY & SAFETY** – Minutes dated 7<sup>th</sup> August 2019 were noted:

Robert Kidd advised that work is continuing on healthcare pathways.

Outcome Measures: Looking at collecting/processing/analysis of data. A presentation of the data will be arranged.

The September meeting focussed on planning around what may happen for veterans. A contingency plan for PMHSS. Thanks were extended to Martin Ford for doing a sterling job and holding it all together.

The October meeting looked at membership with a view to include more people, and CAMHS.

## **PHARMACY**

No report.

## **MENTAL HEALTH ACT**

No report.

## **INFECTION, PREVENTION & CONTROL (IP&C)**

No report.

## **SAFEGUARDING**

No report.

## **HEALTH PROMOTION PROTECTION AND IMPROVEMENT**

### **3.1 Initiatives to promote health and wellbeing**

Jayne Tottle informed the Committee that the Flu Bee Interactive game App is being trialled as a means to increase the flu vaccination uptake. The game tells you why you should get the vaccination and where to get it. Weekly vaccination clinics are being held.

## **SAFE CARE**

### **4.1 SIs**

Jayne Tottle said there are currently 23 SIs.

### **Report to UHB QSE**

The Mental Health Clinical Board presented the processes in place for the management of reported Serious Incidents in mental health service users to the UHB QSE on 15 October 2019.

Jayne Tottle said that the suicides per population in Wales is better than England. Ian Wile is getting population statistics for suicide rates across the UK and C&Vs position.

### **Improvement Plan**

Interviews for a Band 7 Clinical Lead for Quality, Safety and Governance is taking place soon. Andrea Sullivan is currently working 2 days a week in this role.

### **4.2 Patient Safety Alerts - No report.**

### **4.3 Key Patient Safety Risks**

#### **Clozapine**

Dr Lawrence is writing to the Coroner regarding Clozapine.

## **EFFECTIVE CARE**

### **5.1 Clinical Board Clinical Audit Plan**

Bala Oruganti circulated the High Dose Antipsychotic Therapy Guideline. The aim of the Guideline is to provide information and guidance on the use of high dose antipsychotic therapy in line with recommendations of the Royal College of Psychiatrists.

### **5.3 Research & Development**

#### **CRIS**

Jayne Tottle said that an Introductory CRIS Oversight Committee meeting was held on 9<sup>th</sup> October where the Terms of Reference were discussed.



## **DIGNIFIED CARE**

No report.

## **TIMELY CARE**

### **7.1 Substance Misuse Service**

Neil Jones said that a report on waiting times in substance misuse services is being completed by March 2020.

## **INDIVIDUAL CARE**

### **8.1 Feedback from Surveys**

Mark Warren said that CAVAMH are helping with the surveys on Adult In-patients wards in the next few months. A researcher is leading with the help of 3 peer support workers.

### **8.2 Compliments**

*Compliments received for:*

MHSOP and Neuropsychiatry – Plaudits October 2019.

Ash Ward – nominated for the “Best Placement Team” Award.

### **Complaints**

No report.

## **STAFF AND RESOURCES**

### **9.1 Disciplinary Trends - No report.**

### **9.2 Staffing Levels**

Student streamlining recruited Band 5s.

Mark Warren said that 26 Support Workers were recruited recently.

## **PART 2 : ITEMS TO BE RECORDED AS RECEIVED AND NOTED FOR INFORMATION**

### **10.0 Adult Practice Review - Safeguarding**

The Adult Practice Review Safeguarding information had been circulated and was noted.

### **10.1 Activity Nurse Team for Hafan y Coed Operational Guidance**

This guidance sets out the role of the Activity Nurse Team at Hafan y Coed Adult Mental Health Unit.

There was a discussion regarding the term “Activity Nurse Team”. Mark Warren will liaise with Karen Jones, Activities Team Manager.

### **THE GUIDANCE WAS APPROVED.**

## **10.2 Electro-Convulsive Therapy (ECT) Procedural Guidance**

The aim of these guidelines is to provide a framework for ECT to be administered in the Hafan Y Coed ECT clinic at Llandough Hospital, safely and consistent with national standards (including those issued by the Royal College of Psychiatrists ECT Accreditation Service [ECTAS]) and in accordance with current legal frameworks.

### **THE GUIDANCE WAS APPROVED**

## **10.3 Receipt of Applications for Detention under the Mental Health Act 1983**

This policy is required to ensure correct receipt and scrutiny of MHA detention papers by those formally delegated to undertake the task on behalf of the Hospital Managers.

### **THE POLICY WAS APPROVED**

## **10.4 Mental Health Review Tribunal Procedure and Guidance**

This procedure is required to ensure correct procedures are followed in relation to all aspects MHRT proceedings in accordance with the MHA 1983 and the MHRT for Wales rules 2008.

### **THE PROCEDURE WAS APPROVED**

### **DATE OF NEXT MEETING**

Thursday, 19<sup>th</sup> December 2019 at 9.30am in The Seminar Room, Hafan y Coed.  
(next Clinical Board Q&S Lessons Learned Meeting is on 21<sup>st</sup> November 2019 in the Seminar Room, Hafan y Coed)



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**MENTAL HEALTH CLINICAL BOARD QUALITY & SAFETY**  
**CLOSURE AND LESSONS LEARNED MEETING**

**21<sup>st</sup> November 2019**

**Seminar Room, Hafan y Coed, Llandough Hospital**

**Present:** Jayne Bell, Consultant Nurse Complex Clinical Risk MH (Chair)  
Philip Ball, Senior Nurse Manager Vale Locality CMHT  
Anne-Marie Bollen, Mental Health Lecturer, Cardiff University  
Catherine Evans, Patient Safety Facilitator  
Ruth Evans, Interim Integrated Manager Links CMHT  
Gwilym Griffiths, CMHN, Links CMHT  
Sarah Howell, Lead CMHN, Gabalfa CMHT  
Jayne Jennings, Deputy Senior Nurse Manager Adult MH  
Noel Martinez-Walsh, Integrated Manager Pentwyn CMHT  
Pete Murray, Integrated Manager Pendine CMHT  
Bala Oruganti, Consultant Psychiatrist, South Crisis Team  
Kelly Panniers, Senior Nurse Physical Health  
Fiona Pearson, Trainee Psychologist  
Ruth Perkins, Deputy Ward Manager, East 16  
Natalie Prosser, Professional Practice Development Nurse  
Clare Quinn, Psychologist, MHSOP  
Anjana Reddy, Staff Grade Psychiatrist South Crisis Team  
Somashekara Shivashankar, Consultant Psychiatrist, Links CMHT  
Darren Shore, Senior Nurse Manager Adult In-patients  
Jayne Strong, ANP Rehab & Recovery  
Andrea Sullivan, Concerns Co-ordinator  
Kim Tallett, Lead CMHN, Vale Locality CMHT  
Michelle Twynham, Professional Practice Development Nurse  
Natalie Williams, Integrated Manager Gabalfa CMHT  
Jo Wilson, Directorate Manager, MHSOP

**Apologies:** Jayne Tottle, Director of Nursing Mental Health  
Simon Amphlett, Senior Nurse Manager Crisis & Liaison  
Mark Doherty, Lead Nurse MHSOP  
Des Collins, Ward Manager Pine Ward  
Carol Evans, Assistant Director Patient Safety & Quality  
John Hyde, Mental Health Lecturer, Cardiff University  
Mike Lewis, SIMA Trainer  
Mary Morgan, Senior Nurse Manager Rehab & Recovery  
Annie Procter, Director Mental Health  
Tara Robinson, Senior Nurse Manager Cardiff CMHT  
Mark Warren, Senior Nurse Manager Criminal Justice & Forensic

**PART 1: PRELIMINARIES**

**1.1 Welcome and Introductions**

Chair welcomed all to the meeting and introductions were made. Chair congratulated Andrea Sullivan on her new full-time post as Clinical Lead for Quality, Safety and Governance, commencing on 25<sup>th</sup> November 2019.

Chair gave a background to the meeting:

This MHCB Quality & Safety Closure and Lessons Learned meeting is the last stage of the clinical governance process. The cases are discussed weekly in the Sentinels meeting. The meeting is to discuss good practice as well as incidents where things did not go quite right. It is not a meeting to look at individual practice; it is to look at what we can do better. Attendees are requested to disseminate the findings to their teams.

## **1.2 Apologies for Absence**

Apologies for absence were noted as above.

## **PART 2 : ACTIONS**

No Actions.

## **PART 3**

### **CLOSURES:**

#### **3.1 Mrs A**

In December 2018 on East 16 UHL, Mrs A was administered 3 doses of Morphine Oral Solution via a subcutaneous cannula. The next day, the Deputy Ward Manager on East 16 recognised that the wrong form of Morphine had been administered. Mrs A should have been administered Morphine Sulphate for injection use only, as prescribed on the medication chart.

Mrs A was reviewed by the GP that day due to the concerns that this error raised. The GP reported that there was no erythema (redness of the skin) noted to the site of the subcutaneous cannula, there was slight swelling where the medication had been administered but no bruising and advised that the cannula was removed and re-sited. The GP advised that Morphine has a short half-life and therefore any side effects from the excess Morphine would only last for about 4 hours. This could cause a local reaction but at that time the site appeared to look fine. The site was monitored for any changes. There were no further concerns raised regarding skin integrity around the cannulation site over the coming days.

#### **Contributory Factors:**

- The nurses sought advice from the Ward Manager on East 14 as neither felt comfortable or experienced with subcutaneous administration. The Ward Manager attended East 16 and demonstrated the subcutaneous procedure, however, none of the three nurses observed the controlled drugs administration procedures.
- The medicine had already been signed for before the Ward Manager arrived to administer it.
- The Ward Manager said that the two nurses assured her that they knew what medication to give but had just not administered it sub cut before and had already drawn up the 2.5mls of the oral Morphine that was in a syringe. The Ward Manager did not check the CD register.
- The two nurses thought they had drawn up the right type of Morphine.

#### **Notable/Good Practice:**

The patient was reviewed by a GP as soon as the medication error was discovered and this was escalated as soon as it was identified. The patient's family were also notified of the error once this had been clarified and offered the necessary support and advice on how to make a complaint if they felt it necessary.

## **Lessons learned:**

The wrong form of medication was drawn up to administer to the patient. The prescription was clearly written on the medication chart but was not interpreted correctly by the nursing staff, resulting in the oral liquid being administered subcutaneously.

The Administration of Controlled Drugs Procedure was not adhered to. The two Staff nurses involved both stated that they did not realise Morphine was a controlled drug or that it came in different forms. They administered oral morphine which they assumed was the correct medication.

When demonstrating how to administer the medication through a subcutaneous cannula, the Ward Manager did not check the patient's medication chart or how the two nurses had prepared this medication.

Significant periods of sickness may have impacted on both the staff nurses level of competence and abilities to attend the relevant mandatory study days.

## **Conclusion**

The provision of care provided by the nursing staff was not deviated beyond safe limits of practice but did have a direct impact on the patient due to the wrong medication being administered; it is likely that Mrs A experienced some pain as a result of receiving the wrong formula. Despite administering the wrong medication their intention was to relieve and control the symptoms of pain that the patient was expressing at this time.

It is clear that the Controlled Drug Procedure was not enacted by any of the nurses involved during the administration of the medication to the patient. It is clear that the wrong medication was administered to the patient as both nurses have admitted that the medication was drawn from the oral Morphine solution bottle that was kept in the medication trolley.

It was also admitted that the patient's medication chart had been signed before the medication was actually administered.

This evidence provides support that the patient did not receive the correct form of medication that was prescribed namely Morphine Sulphate. This medication was not accessed from the controlled drug cupboard, neither was the controlled drug procedure enacted during the times that the medication was administered to the patient. The prescription was clearly written as Morphine 2.5-5mg for pain to be administered via S/C (subcutaneous route), this was not adhered to. If this medication was to be administered via the oral route it would have read Oromorph 2.5-5mg for pain via PO (oral).

## **Recommendations**

Medication Management training has been arranged and implemented on East 16 and within the MHSOP Directorate. This includes subcutaneous injection and infusion guidance.

A Patient Safety Alert was issued in relation to the error and this was shared widely within the UHB.

Information from Clinical Engineering was obtained in regards to the correct sub cut cannula that is required to be used. This has now replaced the butterfly subcutaneous cannula that was used being used on the wards and shared with the wider Directorate.

Medicines Management Controlled Drug Training is being carried out by the Professional Practice Development Nurse or LED.

Identify any Medicines Management training during the PADR process.

## **TO CLOSE.**

### **3.2 Mrs B**

Mrs B was found dead at her flat. No cause of death as yet. The inquest is in December 2019.

In 2006 Mrs B was involved in a car accident where she sustained a severe brain injury; tragically her mother died. Mrs B's mother was the driver. Mrs B has taken overdoses previously on or around the anniversary of her mother's death. Mrs B reported that she carried a lot of guilt regarding the accident; she felt it was her fault as she should have been driving.

Mrs B had a history of drug misuse.

#### **Notable practice:**

Mrs B was referred to PTSD service by Amy Evans CMHT. Mrs B was assessed by the PTSD service and placed on the waiting list for treatment. Mrs B was advised by letter that she was nearing the top of the list. Sadly we will never know if Mrs B would have accessed PTSD treatment if she received her letter before her death or indeed received it but not read it or decided not to act on it.

Documentation shows each referral was acted upon appropriately and an assessment offered. Various treatment options explored and offered but not many accepted or accepted but not continued by Mrs B.

#### **Recommendations**

PTSD Pathway requires further discussion

#### **Action Plan:**

Clinical Directors to arrange a meeting with Traumatic Stress Services to discuss the pathway. Suggested attendees: Neil Jones, Clare Quinn, Mark Doherty, Ian Hughes.

**TO CLOSE.**

### **GOOD PRACTICE:**

### **3.3 Mr C**

Mr C was found in a property deceased. There is no information on cause of death at present. This was a huge shock as staff and his family had seen him looking much better the day before.

Mr C was in and out of prison since the age of 16yrs for theft, stealing vehicle, GBH, wounding, false imprisonment and mugging.

Seen by Dyfodol probation substance use service and prescribed methadone. Used Heroin for approximately 20 years prior to this.

Mr C Entered the Bridge programme (24 hr supported abstinence programme),

#### **Issues:**

Mr C was discharged from the Bridge project after an altercation over urine tests, Mr C spat at someone and was not allowed in building due to being under influence of drugs. Threats made toward staff leading to decision to discharge. Patient sofa surfing, Bridge key worker maintained contact via phone and was trying to arrange alternative homeless accommodation.

Mr C struggled with life outside Prison.

#### **Notable Practice:**

Transparent communication between agencies (Dyfodol, Bridge and CAU/DATT) as well as to Patient regarding expectations and service provision.

Mr C's family thanked us for all the hard work with him. There have been points on the programme that it is the best they have ever seen him and they are really grateful.

#### **Action Plan:**

- Naloxone training for in-patient staff – Michelle Twynham is undertaking this and will ensure that Cedar Ward has Naloxone kits.
- Jayne Bell to check with Cath Evans if the report has been sent to the Coroner.

#### **TO CLOSE.**

### **3.4 Mr D**

Mr D had been known to services with a diagnosis psychotic disorder of schizophrenia nature and a past history of co-morbid poly substance misuse. He had been in contact with services since the early 90's.

Mr D was prescribed Clopixol depot 400mg IM every two weeks and the arrangement was that he attend CMHT for this to be administered. He would miss appointments for depot medication although would attend outside of appointment times for this to be administered.

Mr D was admitted to critical care at UHW following a cardiac arrest and fall at home. Sadly, Mr D died whilst an inpatient ITU, UHW. Cause of Death 1a) Myocardial Infarction.

#### **Good Practice**

- Gwilym Griffiths CMHN, Links CMHT was praised for the work he did with Mr D.
- Excellent follow up provided when Mr D had not been seen at CMHT on his due dates for depot, attending Mr D's home and assessing his mental state.
- Mr D rarely had his depot on its due date. Generally it was only a day or two late. Contact was always attempted by Links on due date and this was chased up daily until Mr D attended.
- Excellent documentation on Paris of all contacts made with Mr D and dialogue with key people in identifying signs when he became unwell.

#### **TO CLOSE.**

### **4.0 DATE OF NEXT MEETING**

23<sup>rd</sup> January 2020 at 9.30am in the Seminar Room, Hafan y Coed.



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**MINUTES**  
**Specialist Services Clinical Board**  
**Quality, Safety & Experience Committee**  
**Date and time: 8am, 19th September 2019**  
**Venue: Critical Care Resource room, A3/B3, UHW**

**Attendance:** Carys Fox (CF), Director of Nursing (Chair)  
Hywel Roberts (HR), QSE Medical Lead and Critical Care Consultant  
Richard Skone (RS), Clinical Board Director  
Lisa Higginson (LH), Senior Nurse, N&T  
Claire Main (CM), Interim Directorate Manager, N&T  
Rachael Sykes (RS), H&S Lead  
Lorraine Donovan (LD), Senior Nurse, Neurosciences  
Ceri Phillips (CP), Lead Nurse, Cardiothoracics  
Gareth Jenkins (GJ), Service Manager, Haematology  
Mary Harness (MH), Senior Nurse, Haematology, Immunology and Metabolic Medicine  
Richard Parry (RP), QSE Facilitator  
Kevin Nicholls (KN), Service Manager, Cardiothoracics  
Nick Gidman (NG), Directorate Manager, Cardiothoracics  
Colin Gibson (CG), Clinical Engineer, ALAS  
Suzie Cheesman (SC), QSE Facilitator  
Clare Mahoney (CMah), CNS IP&C  
Lisa Simm (LS), Service Manager, Neurosciences  
Steve Gage (SG), Pharmacy Lead  
Beverley Oughton (BO), Interim Lead Nurse, Critical Care  
Sarah Williams (SW), Interim Senior Nurse, Critical Care

**Present:** Gemma Williams (GW), Personal Assistant, Specialist Services (Note Taker)  
Gareth Harris (GH), CCOT  
Gemma Woodman (GWo), CCOT  
Sarah McMillan (SMc), Vascular Access Nurse, N&T

<b>PART 1: PRELIMINARIES</b>		<b>ACTION</b>
1.1	<u>Welcome &amp; Introductions</u> The group introduced themselves one by one.	
1.2	<u>Apologies for absence</u> Received from Anne-Marie Morgan, Judith Burnett, Jennifer Proctor, Rachel Barry, Carol Evans, Craig Spencer, Gemma Ellis, Ravindra Nannapaneni, Catherine Wood and Sarah Matthews.	
1.3	<u>To review the Minutes of the previous meeting 9th August 2019</u> Minutes were agreed as an accurate record.  <u>Matters Arising</u> <u>Item 1.3</u> <ul style="list-style-type: none"> <li>Specimen labelling error reporting – CF had had the information from the areas involved in the last errors.</li> </ul>	

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1.4	<p>Patient Story re Self Cannulation – Sarah McMillan, Vascular Access Nurse, N&amp;T Sarah presented to the group a patient story in relation to the self-cannulation of haemodialysis patients.</p> <p>The story related to a patient who was to start haemodialysis in the dialysis unit. The patient was very anxious and distressed and was finding it increasingly difficult to be needled. The patient was sent to the IV access team for help. The patient started on button-hole cannulation (new guidelines supporting this). The presentation demonstrated how the patient self cannulates. The patient is now much happier having treatment. The message from the service is that they are trying to encourage patients to thrive and not just survive.</p> <p>CF thanked Sarah for sharing. GW will circulate the presentation to the group.</p>	GW
<b>PART 2: SAFE CARE</b>		
2.1	<p><u>Open Serious Incidents (SIs)</u> SC provided an update to the group. Very few open SIs. 4 currently. 2 relate to high value claims from several years ago. 2 Neuro cases. One where the Neurosurgical patient lost his sight. This should be able to be closed quickly. Awaiting the improvement plan from the Directorate and actions taken from Mathew Price (Service Manager, Neurosurgery) and Sarah Lloyd (Directorate Manager, Neurosciences). The other case relates to a female patient but was not investigated by the Concerns team. This will be picked up at the meeting on Monday with CF, RP and SC.</p> <p><u>In73577</u> – Gentleman had 2 chest X-rays carried out which were compared. The radiologist noted a small nodular shadowing on initial image. Repeat imaging in 3-6 weeks was suggested. Repeat imaging was not undertaken. The patient re-presented with a large malignant lesion which was lung cancer. The investigation highlighted that it was not clear whose responsibility it is to review chest x ray reports. HR noted that the report should be reviewed by the radiologist and reported back. Outcome was likely to have been the same but could have treated his pain sooner. HR noted that it wasn't possible to track all the X-rays requested as there are so many. HR noted that there is a need for a robust system in place to report abnormalities.</p> <p><u>In87624</u> - VRE outbreak still open.</p> <p><u>Needle Stick Injury</u> – This will be picked up via the H&amp;S update.</p> <p><u>QSE Officer</u> It was noted that Tracey Skyrme has taken over from Beth Richards as QSE Officer for PCIC.</p> <p><u>Open Inquests</u> INQ/UHW/3662</p> <ul style="list-style-type: none"> <li>• Patient admitted for Cardiac procedure. Second procedure carried out - balloon aortic valvuloplasty for severe aortic stenosis. After the procedure on the ward the patient deteriorated and become hypotensive and had a haemoglobin of 70. Bleeding from procedure site was mild but fully controlled quickly. Patient's blood pressure continued to fall after initially responding to fluids and adrenaline. DNAR was discussed with family and patient passed away a few hours later. Patient's family have a list of concerns to be considered within the statement. Reported as a balloon malfunction but statement from lab saying it wasn't a malfunction. SC not involved at present.</li> </ul>	MP/SL

	<p><u>Themes of Inquests</u> A large number of Major Trauma and out of hospital cardiac arrests. Also drug use in or out of hospital.</p>	
2.2	<p><u>Closure Forms for Serious Incidents:</u> <u>IN61929</u> A gentleman was delayed for surgery and his condition deteriorated and vision compromised. CG carried out the RCA. Attendees to review the form and any action taken/lessons learnt. Actions have gone to WG and this has been closed.</p>	ALL
2.3	<p><u>Patient Safety Alerts</u> None discussed.</p>	
2.4	<p><u>Safeguarding Update</u> BO updated the group. BO noted that an Adult Practice Review was shared 2 months ago. The link to this information was included on the previous QSE agenda for information. A review takes place if an adverse incident results in death and there is concern regarding safeguarding. BO referred to the case noting that the patient was suspected to have been a victim of domestic abuse. The patient was bed bound and was admitted with a broken ankle. The son was the main carer but the patient did have a carer come to the house 4 times a day. History of domestic abuse within the family. No multi agency response. Gareth Edgell is DSN for Safeguarding and he took part in the review. An 18 month timeline was completed demonstrating any contact with health professionals and formed a multi-agency time line to review if/where there were missed opportunities to be safeguarded. The patient later came into hospital, had an infection and died. Discovered from the review that all services were working in total insulation, limited information sharing. Nurses liaising with son as not aware of safeguarding issues. No opportunity to speak to the patient on her own. VA1 was submitted but no action taken to safeguard patient as nobody knew. There was a proposal for some rest bite care but staff not aware. A safe discharge meeting had been planned for 4 weeks after the patient's death.</p> <p>CF noted that safeguarding is picked up as part of the unannounced visits. It was agreed that in the main nursing staff know what to do if a situation like this arises. Not sure if this is the case for all professions. It was agreed that we are reliant on nurses in some areas. Report on medical mandatory training compliance required</p> <p>CF noted that there were two safeguarding issues within the Clinical Board and one professional concern which related to a staff member. They are both now closed. RK noted that staff will be supported if they raise concerns.</p> <p>New All Wales Policies and Procedures launched in November. The Annual safeguarding report will be ratified at the UHB Safeguarding meeting this morning and then circulated.</p> <p><u>Training</u> Safeguarding training level 2 is mandatory and on ESR. There will also be training available on statement writing going forward. If staff require level 3 safeguarding training then this should be identified as part of their role.</p> <p><u>Safeguarding Location</u> The Safeguarding team will be moving to Woodland House.</p> <p><u>White ribbon campaign movement</u></p>	CF

	The movement has been set up by men to support putting an end to violence against women. Looking for male members to become ambassadors. Tomorrow at 10am Walk a mile in her Shoes walk if anyone is interested in attending.	
2.5	<p><u>Health and Safety Update</u></p> <p>RS provided an update for the group.</p> <p>The Health Board reported to the H&amp;S Executive 119 H&amp;S incidents in 18/19. 13 were in relation to the Specialist Services Clinical Board. All related to work related accidents. 7 physical assaults and 5 patient handling injuries. 9 reported so far for this year from 1<sup>st</sup> April to 15<sup>th</sup> September 2019. 5 patient handling incidents, 2 physical assaults and 2 dangerous occurrences for dirty sharps injuries. All investigated and reported back on and action taken where necessary.</p> <p>18/19 compliance for manual handling was 49%. Inanimate object handling 26% compliant. A lot of work that needs to be done.</p> <p>Various levels of Violence &amp; Aggression (V&amp;A) training available. LED recently carried out a piece of work on this training which has been discussed amongst Lead and Senior Nurses. Concern regarding interpretation of who needs what level of training. CF has spoken to Lisa Franklin in LED and there is going to be a risk assessment to support managers. The guidance has also been revised. Advanced level of training required for patients difficult to manage. Compliance is 32%.</p> <p>CF requested that Directorates complete their mandatory training within the next 6 weeks. The expectation is that the DMTs will be at 100% by the 31<sup>st</sup> October QSE meeting.</p> <p><u>Needle Stick Injuries</u></p> <p>The first case relates to a surgeon who got a stick injury on their skin and the patient was hepatitis positive from a kidney transplant. When closing post-transplant the surgeon caught his finger. All processes were followed appropriately. There was also a case on Coronary Care where a staff nurse was taking blood and the patient moved and the needle went into the staff members thumb. The patient was HIV positive. The staff member has had all the appropriate checks. Directorates confirmed that where there are safety devices they are being used. CF noted that this also needs to be documented in the notes.</p> <p><u>HSE "Well at Work" Audit</u></p> <p>The H&amp;S Executive has initiated a program of auditing Health Boards on their compliance to V&amp;A and Musculoskeletal Disorders controls. It has been indicated that C&amp;V will be inspected at the end of October/beginning of November. CF noted that as a Clinical Board we need more information on this. Need to be aware and ready. Rachel Daniel is leading on it. Gareth Jenkins and CF to meet with the H&amp;S team re this.</p> <p><u>Clinical Board H&amp;S Meetings</u></p> <p>RS noted that attendance at these meetings can be poor. Need to make sure that deputies are sent if attendees can't make the meeting. Dates to be re-circulated.</p> <p><u>UHB Operational H&amp;S Meetings</u></p> <p>Martin Driscoll now chairs these meetings. Looking at taking more of a "workshop" approach. Will be looking at the Terms of Reference and how the meeting works.</p>	<p><b>Dirs</b></p> <p><b>CF/GW</b></p> <p><b>GJ/GW</b></p>
2.6	<p><u>Flu</u></p> <p>MH updated the group. The first batch of vaccines arrived on Monday and were directed to Primary Care. The next batch will arrive in the middle of October then</p>	

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	<p>all received by the end of October. Each Directorate has a flu lead and they coordinate their flu champions.</p> <p>In previous years there has been a financial incentive for the Clinical Board that gets the most staff vaccinated, however this year a different approach has been taken and each Board will receive £3,000 to spend on whatever they feel will support the update of flu vaccinations. MH has spent £1,000 so far on stands. Each flu champion has their own stand. T-shirts, pens, badges are other ideas on what to spend the money on.</p> <p>There will be a Flu Stand at the Celebration of Practice Event on the 24<sup>th</sup> October. RP will disseminate all the corporate information on flu. The Clinical Board had an uptake of 64.4% last year so trying to increase this number this year. There will be 200 vaccines available in Occupational Health for the over 65 for any staff that need it. There could be a supply problem after the 31<sup>st</sup> October due to Brexit. SG noted that there is a national contingency plan in place.</p>	
2.7	<p><u>Healthcare Associated Infections</u> <u>HCAI Report</u> CMah updated the group. IP&amp;C figures are showing an improvement on last year's apart from Pseudomonas. However in terms of meeting reduction goals still over on staph aureus with 14 cases.</p> <p>SC noted that she had met with WAST with Carys Fox and Hywel Roberts and any cannulas placed without ANTT should now be Identified with a sticker and likewise so will those cannulas placed using ANTT. It may take a while for WAST to make this routine practice but they are committed.</p> <p>SC showed a poster to the group which had been discussed in the UHB IP&amp;C meeting. SC will find out where the poster came from.</p>	SC
<b>PART 3: GOVERNANCE, LEADERSHIP AND ACCOUNTABILITY</b>		
3.1	<p><u>Health Care Standard 2.9 Medical Devices</u> CG updated the group. If Directorates have any issues in relation to replacement of medical devices please raise with CG and he will raise them at the equipment group. If a capital bid is being put forward please let him know in advance so that he is briefed ahead of meeting.</p>	
3.2	<p><u>Long waiting patients not on RTT waiting lists</u> CF requested feedback from Directorates on any patients waiting for treatment not on a waiting list and asked how we monitor these patients.</p> <p>LS noted that in Neuro these patients are monitored every week and are tracked the same way as the reportable ones.</p> <p>KN noted that there has been changes in Cardiothoracics – 11 or 12 reported now. Mike Henson the Service Manager monitors them closely. 99% of patients are RTT measured.</p> <p>CM noted that in N&amp;T there are a small group of RTT patients and then others are monitored by computer systems. 2 week wait normally. Reviewed by Consultant and Registrar every week.</p> <p>GJ noted nothing to report in Haematology. Most patients don't wait a long time. BMT monitored by BMT Consultants and also do not wait long.</p>	

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	RB raised concern regarding the Rookwood patients waiting for their Urology review. The question was asked, who is monitoring these patients? RB to discuss with RC.	<b>RB</b>
3.3	<p><u>Update on Cardiac Surgery waiting list</u>  KN provided a Cardiac surgery update.  Current wait is 260 patients on open RTT clocks within Cardiac Surgery. 66 are in the outpatient stage. 5 patients awaiting diagnostics. 169 IP waiting list. 20 waiting for a follow up. The list number is coming down. Theatre time and beds are issues impacting adversely.</p> <p>All C&amp;V patients awaiting surgery have regular follow ups with a Cardiologist. Each patient is given a letter to explain where to go if experiencing certain symptoms. The Clinical Workstation flags any of these patients on the waiting list if they are admitted anywhere. Should have 22 cardiac surgery sessions and we average 16/17 due to theatre staff and shortage of anaesthetists. NG noted that this is a bigger issue than the Directorate and needs Clinical Board support. A meeting is starting on Monday with representatives from Cardiac and Theatres. There has been a weekend working offer from Swansea which Directorate and CB are looking at. RS will speak to Alun Tomkinson, CBD for Surgery, as well re the cardiac surgeons.</p>	<b>RS</b>
3.4	<p><u>Risk Register Update</u>  CF and RP have met with Nicola Foremen, Lead for Governance and the risk register template is going to be changed slightly. The way the scoring works will be different. Directorates to send their updated risk registers to RP and then he will meet with each area once the new template is ready.</p>	<b>Diris</b>
3.5	<p><u>Feedback from UHB QSE Committee</u>  Deferred to the next meeting.</p>	
3.6	<p><u>Exception reports and escalation of key QSE issues from Directorate QSE groups</u>  None.</p>	
<b>PART 4: ITEMS TO BE RECORDED AS RECEIVED AND NOTED FOR INFORMATION BY THE COMMITTEE</b>		
4.1	<u>None</u>	
<b>PART 5: ANY URGFENT BUSINESS</b>		
5.1	<p><u>Any Urgent Business</u>  <u>Swansea</u>  NG noted that there had been a contamination in the medical physics lab which meant that they had to stop the production of a radiopharmaceutical drug which is administered during cardiac nuclear (MPI) scans. In order to continue the service they had to obtain support from Swansea for 3 weeks which has now stopped. Now getting support from Bristol.</p> <p><u>Syringe Drivers</u>  HR noted that there was an issue on Monday which could have led to the whole UHB running out of syringe driver giving sets. There was a supply issue with getting them, an alternative is available but not the same specifications. Not DTP free. HR confirmed that he made the decision to order the alternative as to not completely run out. Will go back to the original as soon as possible. Ian Sidney has confirmed they have ordered the alternative. CF asked that Ian Sidney does</p>	<b>HR</b>

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University Health Board

**Specialist Services Clinical Board**  
**Quality, Safety & Experience Committee**  
**Date and time: 8am, Friday 11th October 2019**  
**Venue: Critical Care Resource room, A3/B3, UHW**  
**MINUTES**

**Attendance:** Carys Fox (CF), Director of Nursing (Chair)  
Hywel Roberts (HR), QSE Medical Lead and Critical Care Consultant  
Richard Skone (RS), Clinical Board Director  
Jessica Castle (JC), Director of Operations  
Suzie Cheesman (SC), QSE Facilitator  
Richard Parry (RP), Clinical Board QSE Facilitator  
Colin Gibson (CG), Clinical Engineer, ALAS  
Steve Gage (SG), Pharmacy Lead  
Sarah Williams (SW), Interim Senior Nurse, Critical Care  
Judith Burnett (JB), Interim Senior Nurse, Critical Care  
Fiona Kear (FK), Service Manager, Haematology  
Jennifer Proctor (JP), Lead Nurse, Haematology, Immunology  
Ceri Phillips (CP), Lead Nurse, Cardiothoracics  
Kevin Nicholls (KN), Service Manager, Cardiothoracics  
Sian Williams (SW), Senior Nurse, Cardiothoracics  
Lisa Higginson (LH), Senior Nurse, N&T  
Sarah Matthews (SM), Senior Nurse, N&T

**Present:** Gemma Williams (GW), Personal Assistant, Specialist Services (Note Taker)  
Maggie Hill (MH), Cath Lab Lead, Cardiac  
Laura Ricketts (LR), CNS, Haematology

<b>PART 1: PRELIMINARIES</b>		<b>ACTION</b>
1.1	<u>Welcome &amp; Introductions</u> The group introduced themselves one by one.	
1.2	<u>Apologies for absence</u> Ravindra Nannapaneni, Rachel Barry, Tessa Northmore, Craig Spencer, Beverley Oughton, Carol Evans, Orla Morgan, Claire Mahoney and Claire Main.	
1.3	<u>To review the Minutes of the previous meeting 19th September 2019</u> The minutes were agreed as an accurate record, subject to; page 6 Item 2.7 the meeting with WAST was with SC, CF and HR. GW to amend.  <u>Matters Arising</u> <ul style="list-style-type: none"> <li>Item 1.3 <ul style="list-style-type: none"> <li>Blood Transfusion sampling change – LD was meeting with the Nurse Practitioner and CNS to check. LD was not present at the meeting. Follow up at next meeting.</li> </ul> </li> </ul>	<p align="center"><b>GW</b></p> <p align="center"><b>LD</b></p>



	<ul style="list-style-type: none"> <li>○ Healthcare Associated Infections – JC noted that she did speak to the labs asking if they can increase the number of test samples each day (in relation to the VRE Outbreak). David Hayburn replied to say the volume of testing was too low and they will increase it.</li> <li>○ Increased incidences of staph aureus for Critical Care in July – the meetings went ahead and the report showed no correlation between cases. CMah was asked to send the minutes to CF. GW will follow this up as CMah not present at the meeting.</li> <li>○ Traceability Report July 2019 – CF sent the update from N&amp;T on their non-compliances to Steve Curry's office. CF noted that she received another batch of non-compliances this week which she also sent to the Directorates for investigation. SC spoke to Sue Bailey yesterday and she agreed that it doesn't work running the reports at the moment as you have to pick one Directorate even if four named on the incident. It was agreed that they will run the reports by Directorate now instead.</li> <li>● Item 1.4 Patient Story re Self Cannulation – GW will circulate the presentation once received.</li> <li>● Item 2.1 Open Serious Incidents (SIs) – SC hasn't had the improvement plan from Neuro as yet re the neurosurgical patient who lost her sight. SC will pick this up with Mathew Price and Sarah Lloyd.</li> <li>● Item 2.2 Serious Incident IN61929 – Directorates confirmed that they had reviewed the form and any action taken/lessons learnt. Incident is closed.</li> <li>● Item 2.4 Safeguarding Update – Report on medical mandatory training compliance required. CF will ask LED.</li> <li>● Item 2.5 <ul style="list-style-type: none"> <li>○ Health and Safety Update – it was re-iterated that attendees were required to be 100% compliant with their mandatory training by the next meeting on the 31<sup>st</sup> October. JC informed the group that dates had been circulated for mandatory November.</li> <li>○ HSE "Well at Work" Audit – CF met with SC, Gareth Jenkins and Rachel Sykes.</li> <li>○ Clinical Board H&amp;S Meetings – GW confirmed that she had re-circulated the dates for the rest of the year. Directorates need to make sure their reps are attending these meetings.</li> </ul> </li> <li>● Item 2.7 HCAI Report – SC agreed to find out where the poster came from so that Directorates could order it. The poster was originally discussed in the UHB IP&amp;C group.</li> <li>● Item 3.2 Long waiting patients not on RTT waiting lists – RB raised concern regarding the Rookwood patients waiting for their Urology review. Who is monitoring these patients? CF noted that this issue also came from the HIW inspection on wards 4 and 5; HIW raised this as one of their concerns. JC has raised this with Mike Bond again. It was noted that although Shibs Datta was providing some input it isn't covering the totality of what is required. The Surgery Clinical Board have not come forward with any alternatives at the moment. JC, CF and Richard Skone need to meet with the Surgery Clinical Board again. GW to arrange.</li> <li>● Item 3.3 Update on Cardiac Surgery waiting list – RS to speak to Alun Tomkinson, CBD for Surgery regarding the cardiac surgeons.</li> <li>● Item 3.4 Risk Register Update – Directorates sent all of their updated Risk Registers to RP. Update from RP later on in the meeting.</li> <li>● Item 5.1 Syringe Drivers – Directorates were asked again to check their stock of their syringe driver giving sets as the alternative that had been ordered was causing issues in Critical Care. If some areas have a large</li> </ul>	<p><b>GW/CMah</b></p> <p><b>GW</b></p> <p><b>SC</b></p> <p><b>CF</b></p> <p><b>Dir's</b></p> <p><b>SC</b></p> <p><b>GW</b></p> <p><b>RS</b></p>
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	<p>amount they have been asked to give some to Critical Care. JB to check if this will be a longstanding issue and to let CF know.</p> <ul style="list-style-type: none"> <li>New Rookwood - JC noted that she had met with Estates and that they were on track with the build and would be looking to handover at the end of 2020. Should be in by Spring 2021.</li> </ul>	JB
1.4	<p><u>Patient Story – Cardiac</u> SW provide a patient story for the group. The story described the experience of a young 22year old patient who suffered from a number of conditions who recently had 2 admissions into the Health Board. One procedure was undertaken in the Cardiac Day Case Unit and another one in the Surgical Day Unit UHL. The story highlights themes of poor communication, lack of support for the patient and relative from admission through to discharge.</p> <p>The patient visited the CDCU for the removal of her implantable loop recorder. The Directorate were contacted by the Concerns team and the patient was managed through the “putting things right process”. The patient was very keen to share her experience.</p> <p>Patients experience was discussed with the group;</p> <ul style="list-style-type: none"> <li>Patients mum was allowed to stay in the waiting room but no-where near the patient</li> <li>This age group is stuck in the middle as not a child but wouldn't say a full adult – still very reliant on parents to have all of their medical information.</li> <li>Expected a booklet or advice of pain relief or what to do if experiencing problems.</li> <li>Ward policies need to be more lenient in this age group.</li> </ul> <p>Outcomes and Actions were discussed, such as:</p> <ul style="list-style-type: none"> <li>Patient story shared within the Directorate</li> <li>Staff engaged to look at ideas/ways to improve practices and environment</li> <li>Collaboration work is being undertaken with patient experience focusing on Carer friendly accreditation.</li> <li>Working closely with the charity “Daring to dream” to improve the emotional health and wellbeing for patients within the Cardiac setting.</li> </ul>	
<b>PART 2: SAFE CARE</b>		
2.1	<p><u>Open Serious Incidents</u> SC updated the group. 7 SIs in total with 3 new.</p> <ul style="list-style-type: none"> <li>In101399 - JB updated the group. This relates to a patient who had an injurious fall on the Intensive care unit at UHL with bilateral # ankles. The patient has had a new plaster and is comfortable. Should be able to close this one as currently no need for another x ray or surgery.</li> <li>In101022 – this relates to a patient who was administered potassium directly into their central venous line in error in CITU. SW investigating this incident.</li> <li>In87624 – period of increased incidence of patients with VRE bacteraemia on the haematology ward at UHW. JC asked if this incident can now be closed. SC noted that a meeting was taking place soon and she would feed back.</li> <li>Death on cardiac waiting list covered below.</li> </ul> <p><u>Open Inquests</u></p>	

	Not discussed.	
2.2	<p><u>Closure Forms for Serious Incidents:</u> <u>In73577</u></p> <p>A patient presented to Emergency Unit and was transferred to the care of Nephrology due to acute kidney injury. Whilst under the care of Emergency Unit a chest X-ray was undertaken. Following central line insertion under the care of Nephrology, a further chest X-ray was undertaken. The radiologist compared the 2 x-rays and noted that there are a small nodular shadowing in the left upper lobe on the initial image which couldn't be seen on the subsequent one. Repeat imaging in 3-4 weeks was suggested. Repeat imaging was not undertaken. The patient re-presented to hospital with extensive pain, a large malignant lesion with secondaries was discovered and the he passed away.</p> <p>This has now gone to a Health Board group as it involves every Clinical Board. Need a robust process to ensure that the report is reviewed. HR noted that all imaging should be reviewed by a senior radiologist in a timely fashion, he isn't clear whether this is the case with portable x-rays. If radiologists find something then the onus is on them to flag/transfer this information.</p> <p>It will be closed from N&amp;T/CB point of view</p>	
2.3	<p><u>Patient Safety Alerts</u></p> <ul style="list-style-type: none"> <li>MDA 2019 030 syringe pumps – updated cleaning advice and maintenance requirements due to the risk of fluid ingress. SW noted that she had shared the MDA with her Directorate. All Directorates to share if relevant. Make sure action being taken.</li> <li>ISN 2019 003 – it has become apparent that formal checking of the contents and operational functionality of Resuscitation Trolleys is not being undertaken within the correct timescales. All Directorates confirmed that they were following the correct procedure.</li> </ul> <p><u>Brexit</u> Not discussed.</p>	<b>Dirs</b>
2.4	<p><u>Healthboard Opinion on FDA Investigation into Zantac</u></p> <p>SG noted that all of our stock here is generic but looking for decisions around alternatives we could be using. Patients and healthcare professionals are advised to continue using their medicines as normal taking into account recommendations in the product information. Consideration needs to be given as to where we are using them. The recall so far is not at patient level so stops at the ward. Important to review the prescription in the first place to see why it has been prescribed. CF noted that this needs to go to all of the Directorate Q&amp;S meetings. The level of risk for patients is very small. SG recommended that staff discuss with their prescriber instead of stopping the drug straight away.</p> <p><u>Flu Vaccines for long stay patients</u> Vaccine still restricted to only long stay patients at the moment.</p>	<b>Dirs</b>
2.5	<p><u>LocSSIPs update from Directorates</u> <u>Cardiac</u></p> <p>MH updated the group. They benchmarked against two English Centres (Liverpool and London) who had already carried out a large amount of work on NatSIPPs. As Cardiac were interested they kept in contact via the working group. MH noted that some units have gone ahead and written the LocSIPPs</p>	

	<p>but not changed anything on a practical level. Liverpool did change things and this is the approach Cardiac has taken. The approach is to change things at a clinical level and to change as you go along. They have had funding from endowment money and suppliers to support an integrated IT system in Cath labs. This follows 13 standards in NatSIPPs and within that system they are writing the LocSIPPs. The first implementation meeting is on Monday. They are looking at the logistics of getting the live screens in the labs with all the patient details on. Icons will be on computer desktops so that ward staff will be able to see what is happening with the planning of the list and the patients pathway through the labs. There is a traffic light system so that when the patient is ready it goes green. LocSIPPs will be set nationally for Cath lab settings which they will then tighten up in the Directorate to meet internal systems. Engagement could be a problem as all disciplines need to engage. Richard Anderson is keen to implement Care Cube so is leading on this. CF asked that they let her know when they are up and running so that they can visit and see it. The benefits of this system were discussed. Increased number of admissions through improved efficiency.</p> <p><u>Haematology</u> LR provided a short slide presentation to the group. Haematology have produced a LocSIPPs for each procedure to start. They will be signing off the LocSIPPs in their next QSE meeting. They have small teams doing each procedure, RP suggested a medical lead as well to help.</p> <p><u>Critical Care</u> Craig Spencer is the lead who has written up the LocSIPPs for Critical Care. The LocSIPPs have been agreed by their QSE group. Provisional LocSIPPs have been in use for the last 4 months and have gone through several PDSA cycles. Invasive procures/LocSIPPs will feature in Junior Doctors programme. Need to get documents in relevant procedure packs and further nurse education around their role in relation to LocSIPPs.</p> <p><u>N&amp;T</u> SM noted that they were writing one LocSIPPs for the procedure room. They have worked with the registrars to write a page which is the checklist for pre procedure checks, peri-procedures and one page of instructions post procedure. All in paper form to make sure it is correct and then it will go on Vitaldata. The LocSIPPs will be taken to Q&amp;S next week and will be shared there.</p>	
2.6	<p><u>Healthcare Associated Infections</u></p> <ul style="list-style-type: none"> <li>• HCAI Report</li> <li>• Q&amp;S Newsletter 4<sup>th</sup> Edition</li> </ul> <p>For information.</p>	
<b>PART 3: GOVERNANCE, LEADERSHIP AND ACCOUNTABILITY</b>		
3.1	<p><u>Health Care Standard 2.9 Medical Devices</u></p> <p>CG referred to the Q&amp;S newsletter – section on the role of the MDSO and new regulations with regards to medical devices. The question has been raised, how many staff are aware of the UHB medical equipment strategy. The underlying vision is that the right device is available to the right person at the right time and that it is fit for purpose, effective and safe. Implementation of the strategy is via the IMPACT Programme the first work package of which is underway. Idea is to address these issues so that there is no need to try to borrow devices etc.</p>	

3.2	<p><u>Guidance for registered medical practitioners on the Notification of Deaths regulations 2019</u></p> <p>CF referred to the two embedded documents “Guide to notifications of death regulations” and “Guidance for medical registered practitioners on the notification of deaths regulations 2019”. For dissemination as appropriate.</p> <p>HR noted that the guidance was displayed in the Drs’ office. HR has emailed the Coroner’s office for clarification as notifiable diseases has dropped off of the list. HR will feed back when he has had a response.</p>	<p><b>Dirs</b></p> <p><b>HR</b></p>
3.3	<p><u>Feedback from UHB QSE Committee</u></p> <p>SC updated the group:</p> <ul style="list-style-type: none"> <li>The patient story about the conjoined twins under that care of Posture and Mobility Service was presented in the meeting, along with the Clinical Board report.</li> <li>It was noted that as part of the patient safety day they will be starting a quality clinic and the first one will be next Thursday. It’s a drop in session re any questions around patient safety.</li> </ul> <p>GW will circulate the minutes from SC.</p>	<p><b>GW</b></p>
3.4	<p><u>Exception reports and escalation of key QSE issues from Directorate QSE groups</u></p> <p><u>Death on the Cardiac Waiting List</u></p> <p>CF noted that there had been a death on the cardiac waiting list. Aortic stenosis is the biggest risk group with mortality in 2 years ~ 50%, the cardiologists want to look at the pathway for AS patients and that there is a meeting next week. JC noted that Chris Jones has written to the Health Board looking for assurance on how we are managing these patients. JC has emailed the letter to Peter Callaghan and Richard Wheeler. The UHB including Clinical Board and Directorate are meeting next week with Swansea WHSSC. They will be looking at whether Swansea can help Cardiff with the waiting list as has previously been postulated. CF noted that the Health Board has already had notification from WHSSC that they will be following up on a visit they carried out in February and will be back in November. RS asked for a list of things being done to improve efficiency from the Cardiac Directorate.</p> <p><u>Critical Care Problem with Infusion Line Availability</u></p> <p>CF asked again that Directorates help Critical Care and pull these lines from stock if some areas have a supply.</p>	<p><b>Cardiac</b></p>
<b>PART 4: ITEMS TO BE RECORDED AS RECEIVED AND NOTED FOR INFORMATION BY THE COMMITTEE</b>		
4.1	<p><u>For information:</u></p> <ul style="list-style-type: none"> <li>Ministerial ratification of AWMSG recommendations – Sept 2019</li> <li>Traceability Non-Compliance for (August 2019)</li> </ul>	
<b>PART 5: ANY URGENT BUSINESS</b>		
5.1	<p><u>Any Urgent Business</u></p> <p><u>Risk Registers</u></p> <p>CF noted that the Risk Register format has changed. RP has received all of the up to date registers and he will try to move some of them onto the new format to see how the risks fit with the new categories. He will try it in</p>	

	<p>Haematology and Cardiology to transpose them over. The way risk is categorised has changed so 5s in relation to patients dying every day from the highlighted issue. The CBs top 3-5 risks need to be sent to Corporate Governance by 4<sup>th</sup> November. RP will visit each Directorate to discuss further.</p> <p><u>HSE Audit</u> The HSE is auditing all Health Boards in Wales. They need to give the Health Board 4 weeks' notice of their inspection; no notification has been received as yet. They will specifically be looking at V&amp;A, Manual Handling and Asbestos. They will go to high risk areas. Directorates need to ensure that H&amp;S risk assessments are up to date. There are generic risk assessments on the H&amp;S pages of the intranet, these can be used and amended if necessary to make them accurate for each area.</p>	<p><b>RP</b></p> <p><b>Dirs</b></p>
<b>PART 6: DATE OF NEXT MEETING</b>		
6.1	Thursday 31 <sup>st</sup> October 2019, 8am, in the Critical Care Resource Room, UHW.	



**GIG**  
CYMRU  
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Bwrdd Iechyd Prifysgol  
Caerdydd a'r Fro  
Cardiff and Vale  
University Health Board

**Specialist Services Clinical Board**  
**Quality, Safety & Experience Committee**  
**Date and time: 9am, Friday 22<sup>nd</sup> November 2019**  
**Venue: Critical Care Resource room, A3/B3, UHW**

## MINUTES

**Attendance:** Hywel Roberts (HR), QSE Medical Lead and Critical Care Consultant  
Suzie Cheesman (SC), Patient Safety Facilitator  
Judith Burnett (JB), Interim Senior Nurse, Critical Care  
Fiona Kear (FK), Service Manager, Haematology  
Claire Mahoney (CM), Clinical Nurse Specialist IP&C  
Rachel Barry (RB), Lead Nurse, Neurosciences  
Sarah Lloyd (SL), Directorate Manager, Neurosciences  
Beverley Oughton (BO), Lead Nurse, Critical Care  
Daniel Farr (DF), Deputy General Manager, Critical Care  
Lisa Davies (LD), Directorate Manager, N&T  
Claire Main (CM), Lead Nurse, N&T  
Craig Spencer (CS), Consultant, Critical Care  
Keith Wilson (KW), Consultant, Haematology  
Kevin Nicholls (KN), Service Manager, Cardiothoracics  
Sian Williams (SW), Senior Nurse, Cardiothoracics  
Lisa Higginson (LH), Senior Nurse, N&T

**Present:** Gemma Williams (GW), Personal Assistant, Specialist Services (Note Taker)  
Michael Bowers (MB), WCP Implementation Officer  
Nigel Roberts (NR), Laboratory Service Manager for Medical Biochemistry and Immunology

PART 1: PRELIMINARIES		ACTION
1.1	<u>Welcome &amp; Introductions</u>	
1.2	<u>Apologies for absence</u> Received from Carol Evans, Richard Parry, Colin Gibson, Sarah Matthews, Orla Morgan, Steve Gage, Gareth Jenkins, Ravindran Nannapaneni, Gemma Ellis, Jessica Castle, Richard Skone, Catherine Wood, Mary Harness and Rafael Chavez.	
1.3	<u>To review the Minutes of the previous meeting 11<sup>th</sup> October 2019</u> The minutes were agreed as an accurate record.  <u>Matters Arising</u>  <u>Item 1.3</u> <ul style="list-style-type: none"> <li>GW made the changes required to page 6 item 2.7 re the meeting with WHSSC.</li> </ul>	

	<ul style="list-style-type: none"> <li>Blood transfusion sampling change – LD was meeting with the Nurse Practitioner and CBS to check. LD not present at the meeting. Defer to next meeting.</li> <li>CM circulated the meeting notes from the increased incidences of staph aureus meeting.</li> <li>GW circulated the presentation given by Sarah McMillan re Self Cannulation.</li> <li>Open Serious Incident re the Neuro patient who lost her sight – one of the incidents to be discussed on the agenda.</li> <li>Safeguarding – report on medical mandatory training compliance required. CF to ask LED. Defer to next meeting.</li> <li>Clinical Board H&amp;S Meetings – Directorates need a rep to attend all meetings.</li> <li>WAST HCAI (specific to line placements) poster – SC circulated it to the group.</li> <li>Rookwood patients waiting for their Urology review - GW needs to arrange the meeting with Jessica Castle, Carys Fox, and Richard Skone with the Surgery Clinical Board.</li> <li>Cardiac Surgery Waiting list – Richard Skone was going to speak to Alun Tomkinson. Pick up at the next meeting.</li> <li>Syringe Driver giving sets – JB noted that the availability was an ongoing issue.</li> </ul> <p><u>Item 2.3</u></p> <ul style="list-style-type: none"> <li>Patient safety alerts – MDA 2019 030 syringe pumps – Directorates were asked to share at the previous meeting.</li> </ul> <p><u>Item 2.4</u></p> <ul style="list-style-type: none"> <li>Health Board Opinion on FDA Investigation into Zantac – SG had advised at the last meeting that staff discuss with their prescriber instead of stopping the drug straight away. Deferred to next meeting.</li> </ul> <p><u>Item 3.2</u></p> <ul style="list-style-type: none"> <li>Guidance for medical practitioners on the Notification of Deaths regulations 2019 – Directorates were asked to disseminate to their teams.</li> <li>HR was going to email the Coroner's office for clarification as notifiable diseases has dropped off of the list. Deferred to next meeting.</li> </ul> <p><u>Item 3.3</u></p> <ul style="list-style-type: none"> <li>Feedback from UHB QSE Committee – SC circulate the June UHB minutes to the group.</li> </ul> <p><u>Item 3.4</u></p> <ul style="list-style-type: none"> <li>Exception reports – death on the cardiac waiting list – RS asked for a list of things being done to improve efficiency from the Cardiac Directorate. Deferred to the next meeting.</li> </ul> <p><u>Item 5.1</u></p> <ul style="list-style-type: none"> <li>Risk Registers – RP was going to visit the Directorates to discuss their top risks. They needed to go to corporate governance by 4<sup>th</sup> November. Deferred to next meeting.</li> <li>HSE Audit – Directorates were asked to ensure that H&amp;S risk assessments were up to date. Deferred to next meeting.</li> </ul>	<p><b>LD</b></p> <p><b>CF</b></p> <p><b>GW</b></p> <p><b>RS</b></p> <p><b>Dirs</b></p> <p><b>Dirs</b></p> <p><b>HR</b></p> <p><b>Cardiac</b></p> <p><b>RP</b></p> <p><b>Dirs</b></p>
1.4	<p><u>Electronic Test Requesting in the Welsh Clinical Portal</u></p> <p>Nigel Roberts presented to the group.</p>	



	<p>The problems with paper requesting were discussed e.g. the issue of illegible clinical details and contact details so can't track back. The reasons for the need for electronic test reporting was also discussed. Rejection figures for EU for August 2019 were discussed. 1045 patients needed to be re-bled. Benefits of Electronic test reporting were discussed. It was noted that Directorates must use the system if they have it.</p> <p>HR noted that it was a fair amount of work to get the system going i.e. IT and printing. Due to these barriers he estimated that Critical Care are running at 80% compliance. It was noted that using the computer can take longer than a hand written form. Batching on the computer is quicker.</p> <p>Support and advice is available from the project team email:  <a href="mailto:Who.project.cav@wales.nhs.uk">Who.project.cav@wales.nhs.uk</a></p> <p>It was noted that emergency paperwork is available if the network goes down.</p>	
<b>PART 2: SAFE CARE</b>		
2.1	<p><u>Open Serious Incidents</u>  SC updated the group. Only 3 open at the moment. One; In87624 VRE Outbreak, closed this month. Other 2 fairly new.</p> <p><u>Open Inquests</u>  One new open inquest noted by SC reports an 85 year old patient who lived alone, with a 3 x daily care package and was admitted to hospital from her dialysis unit on 19/10/19 with an infection in her haemodialysis line, with a staphylococcus growth from the discharge. Despite antibiotics and other treatment, she deteriorated further, passing away 30/10/19.</p> <p>Other inquests are all out of hospital events.</p>	
2.2	<p><u>Closure Forms for Serious Incidents:</u>  SC noted that she sent 5 closure forms to Welsh Government in October. Two were retrospective high value claims.</p> <p><u>Improvement Plan for Closure Form In61929 (19<sup>th</sup> Sept agenda)</u>  Not discussed – defer to the next meeting.</p> <p><u>In96935 – High value claim for sight loss</u>  This relates to a patient with a history of tuberous sclerosis and epilepsy who developed a squint. The patient didn't have a CT scan due to the belief that the risks of anaesthetising her outweighed the benefits, and she to remain under review. The patient's vision deteriorated and she suffered permanent sight loss. RB will discuss at their next Neuro Directorate meeting. Closure form sent to Welsh Government.</p> <p><u>In96933 - High Value Claim for missed Corda Equina</u>  This relates to a pregnant lady who had a prolapsed disc. Initial investigation concluded that there was no breach of duty in care however external experts disagreed and were of the view that earlier spinal surgery should have taken place. Significant compensation was rewarded to the patient. All actions have been completed except one – an electronic referral system has not yet been rolled out. KW asked if access to an MRI scan is now better than it was then (back in 2013). It was noted that there have been changes since then to improve access. SL noted that some work has taken place in neurosciences. Ravi or John Martin</p>	<p><b>GW</b></p> <p><b>RB</b></p> <p><b>SL</b></p>

	<p>to feed back at the next meeting. Need a quantitative answer to the question. HR will raise this with Carys Fox as well.</p> <p><u>In73577 – Missed radiology report</u></p> <p>A patient presented to emergency medicine and was transferred to the care of Nephrology due to acute kidney injury. Whilst under the care of emergency medicine a chest x-ray was undertaken. A further chest x-ray was undertaken and after comparing the 2 x-rays the radiologist noted that there was a small nodular shadowing on the initial image. Repeat imaging was advised in 3-4 weeks. Repeat imaging was not undertaken. The patient re-presented to hospital with a large malignant lesion in the same area of his lung and extensive metastatic disease. A discussion took place re it being the requester's responsibility to follow up. It was noted that the recommendations do not work in real life. A discussion took place regarding developing a possible IT solution to flag a potential cancer alert. SC noted that if x-ray results look urgent then radiology will contact the referrer however this patient didn't fall into the urgent category. It was felt by the group that the GP should also get an alert. HR raised concern re point 1 one of the recommendations in that he has reservations saying that the responsibility is all on the referrer as it's a shared responsibility. A group is to be established to discuss this further in order to find achievable solutions. HR happy to sit on the group. It was agreed that this x-ray issue was a UHB-wide issue.</p> <p>A further discussion took place with regards to discussing the closure forms once they have already been sent to Welsh Government. Concern raised that it is too late to make any amendments as the form has been sent off. SC noted that the closures will always have been signed off by the Directorate and CF. SC noted that the reason closures were being presented after they had been submitted to Welsh Government was due to the volume of SIs and pressure to submit within timescale and/or meet the CB monthly target. It was agreed that as the amount of cases is now more manageable, closures will be brought to this meeting to be presented and discussed before being sent to Welsh Government. SC will action this.</p> <p><u>In96720 - Pressure Damage CCD UHW</u></p> <p>A patient on the Critical Care unit developed unstageable pressure damage to his inner right nostril from a bridle device used to secure his nasogastric tube. The learning from this incident was to ensure that bridle devices are secured correctly and not too tight.</p> <p><u>In101399 – Injurious Fall</u></p> <p>A patient on the Intensive care unit sustained an injurious fall. She had a history of myotonic dystrophy and was being escorted by her carer to the toilet. Once in the toilet the patient fell and fractured both ankles. There was no learning identified from this SI. All measures had been put in place to reduce the risk of falls.</p>	<p><b>HR</b></p> <p><b>SC</b></p>
2.3	<p><u>Patient Safety Alerts</u></p> <ul style="list-style-type: none"> <li>• ISN 2019 005 - Oral formulations of ranitidine are expected to be out of stock – the action point was for Directorates to look for alternatives.</li> <li>• ISN 2019 004 patient identifiable information – message to take back to Directorates is that patient identifiable information must not be stored on unencrypted computers or laptops.</li> </ul>	<p><b>Dirs</b></p> <p><b>Dirs</b></p>
2.4	<p><u>Healthcare Associated Infections</u></p> <p><u>IP&amp;C Specialist Clinical Board Update</u></p>	

	<p>CMah updated the group. The Clinical Board position in relation to the Welsh Government reduction goals is; the Board won't achieve the C.Difficile target, Staph aureus is one case over which is fairly good, E. coli 7 over, Pseudomonas 2 cases over and Klebsiella 4 cases over.</p> <p>There have been substantial reductions in comparison to last year.</p> <p>Confirmed CPO case in Haematology. The patient had contact with 13 other patients. They will need weekly screening. Difficult as some patients are Out Patients.</p> <p><u>IP&amp;C Clinical Board Improvement Plan</u></p> <p>CM updated the group noting that she chaired the Clinical Board IP&amp;C group and took over the role from Orla Morgan. RP also links in with this work. At the beginning of the year they both met with Carys Fox and put together an Action Plan which was discussed in this meeting. The IP&amp;C meeting is used to look at the previous 12 months RCAs and looking at issues that need to be addressed. In particular fundamental areas of IP&amp;C such as Hand Hygiene, hotspots and types of patients. Renal, Haem and Critical Care are all high increase areas in terms of exporting infections. Looking at these patients primarily. In Renal they are now pre-screening prior to line insertion and screening for MSSA in the Dialysis Unit. Haem discussions are taking place re planned lines and community patients. Huge number of patients with lines in community. Critical Care adopted Chlorohexidine washes and are working through that. CM noted that they picked the largest volumes of infections and hot spots. CM noted that they will start again to have regular meetings with IP&amp;C now that she is back in the role.</p>	
2.6	<p><u>Health Care Standard 2.9 Medical Devices</u></p> <p>Colin Gibson not present at the meeting for an update. Rolling agenda item.</p>	
<b>PART 3: GOVERNANCE, LEADERSHIP AND ACCOUNTABILITY</b>		
3.1	<p><u>Feedback from UHB QSE Committee</u></p> <p>SC noted that the minutes were not available as yet.</p>	
3.2	<p><u>Exception reports and escalation of key QSE issues from Directorate QSE groups</u></p> <p><u>Linen Shortage</u></p> <p>DF raised concern regarding a shortage of linen on the wards and asked if this had been an issue across Directorates. It was noted that it was a hospital wide issue. HR will discuss with Carys Fox and ask her to raise it at the UHB Q&amp;S Committee meeting if it hasn't already been discussed. CM raised concern that some patients could end up with pressure damage as the current sheets don't fit the air mattresses properly. SC will raise this with the Deputy END. It was noted that a Linen group has been started for the Health Board. SW noted that it has been agreed that the sheets will now be made bigger so no damage to them. Tessa Northmore is our Clinical Board rep on the Linen group.</p>	<p><b>HR/CF</b></p> <p><b>SC</b></p>
3.3	<p><u>Feedback from UHB QSE Committee</u></p> <p>Duplicate agenda item.</p>	
3.4	<p><u>For information:</u></p> <ul style="list-style-type: none"> <li>Resus SBAR on 2222 call reporting – requirement within 30 mins of making the call to contact switchboard to provide the patient details and the outcome. KW and HR raised concern that this is not achievable as you</li> </ul>	

	<p>may not know within 30 mins. CF meeting with person who devised the SBAR. Solution won't achieve intended aim. Different solution needed.</p> <ul style="list-style-type: none"> <li>• Specialist Services report (Inpatients) Sept 2019</li> <li>• Specialist Services report (Outpatients) Sept 2019</li> <li>• Specialist Services National Report Oct 2019</li> <li>• Traceability Oct 2019 – pretty good for specialist. Compliance was 100%</li> <li>• Press Release – National Safeguarding Week</li> <li>• Accessing the Wales Safeguarding Procedures app</li> </ul>	<b>CF</b>
<b>PART 4: ANY URGENT BUSINESS</b>		
4.1	<p><u>Any Urgent Business</u></p> <p>CM introduced Lisa Davies as new Directorate Manager for N&amp;T to the group.</p>	
<b>PART 5: DATE OF THE NEXT MEETING</b>		
5.1	<p><u>Thursday 12 December 2019, 8am, in the Critical Care Resource Room, UHW.</u></p>	