

In a 24 hour period a normal pancreas would produce the equivalent of approximately 150,000 units of Creon when someone is eating normally. Creon comes in three strengths, 10,000, 25,000 and 40,000 enzyme units. Most people need to take 10,000 – 30,000 units with each snack/milky drink and 30,000 – 50,000 units with a main meal. We recommend that people use the 10,000 or 25,000 unit capsules.



The advantage of this is that if one of the capsules doesn't open properly or is destroyed by stomach acid, you do not lose the whole dose but just a proportion of that dose. On the other hand, if you take just one 40,000 capsule and it is ineffective, then you will have lost the whole dose you have just taken and you may get troublesome symptoms.



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**A Guide to Exocrine Pancreatic
Insufficiency and Taking
Pancreatic Enzyme
Supplements**

What does the Pancreas Do?

The pancreas is an organ located behind the stomach. A healthy pancreas produces juices (enzymes) that enables the body to absorb and digest the fats, proteins and carbohydrates. Every time we eat or drink anything except water, black tea or black coffee the pancreas releases enzymes to help digestion. The main enzymes that the pancreas produces are:

- *Lipase* – helps to break down fats
- *Protease* – helps to break down proteins
- *Amylase* – helps to break down carbohydrates

What is Pancreatic Insufficiency?

Exocrine pancreatic insufficiency means that the pancreas is not working correctly and not enough enzymes are produced for proper digestion to take place. This prevents proper breakdown and absorption of food and drinks and can cause:

Bloating, diarrhoea, belly ache, weight loss, pale, greasy, floating, offensive stools – this is called Steatorrhoea and offensive wind

Any combination of these symptoms

This may happen for many reasons but common reasons why people with neuroendocrine tumours (NETs) have this problem include:

- Surgery of the pancreas or pancreas
- Surgery that results in a shortened bowel
- Medication called Somatostatin Analogues commonly given for NETs
- Some types of radiotherapy treatment
- Some types of chemotherapy treatment

What are Pancreatic Enzyme Supplements?

If you can't make enough of these enzymes yourself, the missing enzymes can be taken in capsule form by mouth. There are several brands available but the most commonly used enzyme supplement is Creon. This booklet will discuss how to use your Creon effectively. Creon capsules contain the three enzymes that the pancreas would normally produce. It also contains smaller quantities of other enzymes which our body needs when we eat a meal.

Most brands of pancreatic enzyme supplements are made from pigs. Beef

origin enzymes can also be obtained but are not used routinely. Vegetarian based enzymes have been available on the market from time to time but not recently. They usually work less well than pancreatic enzymes of animal origin. Creon is a pork based enzyme replacement and has been approved for use by Jewish patients by the Chief Rabbi. Muslim patients may also use this medication.

More about Creon...

For Creon to work properly, enough of the enzymes need to be taken and need to reach the right place in the bowel at the right time to digest what is eaten and drunk.

To take sufficient amounts of the enzymes in capsule form to digest carbohydrate and protein is not usually a problem, but the enzymes which digest fat are sensitive to the acid in the stomach and may be destroyed in the stomach before they have time to do their work. For this reason, as the three types of enzyme come in a single capsule, it is very important to take these capsules containing enzymes supplements correctly.

