

Department of Nutrition and Dietetics

Diet and cancer care: Pancreatic enzymes (after Whipples Surgery or palliative pancreatic cancer)

This information is part of a series of suggestions for adults to help relieve the symptoms caused by cancer or its treatment, and enable you to eat.

The Pancreas

The pancreas is a gland lying near to the stomach and duodenum (small intestine). It has a number of roles in the digestion of food. When food enters the gut, the pancreas releases a juice which contains enzymes. These enzymes break down the carbohydrate, protein and fat contained within food so it can be absorbed by the body.

When your pancreas is not able to produce enough enzymes, your food is not digested and absorbed properly; this is called **malabsorption**. This is why you may have experienced stools that are pale/yellow, offensive smelling, oily and difficult to flush away. Weight loss is also a common side effect; other symptoms can include excess wind, belching and flatulence.

How can malabsorption be treated?

The treatment for malabsorption is to replace the missing pancreatic enzymes. You will usually be prescribed capsules, e.g. Creon, Pancrex, or Nutrizym, which contain a mixture of enzymes:



Patient Information

- Lipase – to help digest fat;
- Amylase – to help digest carbohydrate;
- Protease - to help digest protein.

How and when to take your enzymes

Your Doctor, Dietitian or Specialist Nurse will instruct you as to how much to take and the quantity may change if your symptoms don't improve on the starting dose. Everybody is different and so are your enzyme needs. The amount you require will depend on the size and content of the meal. Main meals will require a larger dose than snacks.

If you are taking the right amount of enzymes your stools should be of normal colour and consistency.

Recommended Dose:

_____ **With main meals**

_____ **With snacks**

Enzymes only work when they mix with food so they should be taken **at the start** of meals and snacks. If you are having a large meal, several courses or you are a very slow eater you may need to take half of your enzymes at the start of the meal and the other half in the middle.

The capsules work best when swallowed whole however if you are having difficulty swallowing the capsules, they can be opened and the granules can be mixed with yoghurt or apple puree and swallowed immediately **without** chewing. If you are opening the capsules, rinse your mouth out with water to make sure there are no granules left in your mouth.

Avoid mixing the granules with very hot food or drinks as excess heat can stop the enzymes working.

Patient Information

Some foods are particularly high in fat and may need you to take more enzymes; for example:

- Fried foods – battered/breaded fish, chips, breaded chicken;
- Fatty meats - burgers, sausages, faggots;
- Pastry – pies, tarts, pasties, quiche;
- Cheese based meals – cauliflower/macaroni cheese, pizza, lasagne;
- Rich puddings and cakes– suet pudding, crumbles, fresh cream cakes, muffins, doughnuts;
- Sauces – mayonnaise, Hollandaise sauce, cream sauces;
- Chocolate, fudges, toffees.

Your Dietitian can provide more information about this.

Snacks that do not require enzymes:

- Fruit, salads and vegetables;
- Fruit juice, fizzy pop;
- Ice lollies, sorbet;
- Boiled sweets, rock, mints, candy sweets such as dolly mixtures, chews;
- Jelly or jelly sweets such as jelly babies.

The levels of fat-soluble vitamins A and D in your blood should also be monitored and you may be asked to take a vitamin and mineral supplement to prevent any deficiencies.

Should I follow a low fat diet?

No; it is likely that you have already lost weight as you have not been digesting and absorbing your food properly for some time. You may need therefore to choose higher calorie foods which are often foods that are high in fat to help regain the weight.

If your stools do not return to normal with the pancreatic enzymes, contact your Dietitian who can help you to adjust your pancreatic enzyme dose accordingly.

Patient Information

If you are already taking medication to help control stomach acid (Omeprazole or Lansoprazole), it is important that you take this as prescribed as this will help the enzymes to work more effectively.

If you have any queries or concerns on how to take pancreatic enzymes please contact:

Dietitian: _____

Specialist Nurse: _____

This leaflet was produced by Coventry Macmillan Dietitians at University Hospitals Coventry & Warwickshire NHS Trust.

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