

Advice about taking pancreatic enzyme replacement capsules

Dietetic and Nutrition Service
Information for patients

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What does the pancreas do?

The pancreas is part of your digestive system. It is a gland (an organ that releases chemicals for use in the body) that lies underneath your stomach. It produces insulin and glucagon to control your blood sugar levels and digestive enzymes that are important to help you break down the food you eat.

If your pancreas has been damaged or inflamed by disease (for example, cancer of the pancreas or pancreatitis), or if you have had some of your pancreas removed, it may not produce enough enzymes to help break down the food you eat.

Without these important enzymes, food will pass through your digestive system without being broken down and absorbed. This is known as malabsorption.

The three main types of enzymes that the pancreas produces to help break down different parts of your food:

- Protease breaks down protein
- Amylase breaks down carbohydrate
- Lipase breaks down fat

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What are the symptoms of malabsorption?

If you are not fully digesting and absorbing some of the food you eat, you may have symptoms including:

- bloating
- wind and cramping
- unintentional weight loss despite eating well
- loose and frequent bowel pattern
- pale, orange or yellow coloured stools, which may float and be difficult to flush away. They may also be oily and foul smelling.

If you have any of the above symptoms you may be suffering with malabsorption.

What are pancreatic enzyme supplements?

We treat malabsorption by replacing the enzymes that your body is not producing effectively. You will be prescribed one of the following medications:

- Creon®
- Nutrizym®
- Pancrease®
- Pancrex®

Most come in capsule form, however some also come in powder or granule form. All of the preparations contain a mixture of the three pancreatic enzymes amylase, protease and lipase, which your pancreas is unable to produce. The enzyme replacement therapy comes in different strengths: for example Creon 25 000. The number shows the amount of lipase in each capsule. The enzymes are mainly pork-based: please discuss with your doctor if you are allergic to pork or have concerns because of your religious beliefs.

How do the enzymes work?

PERT is short for Pancreatic Enzyme Replacement Therapy.

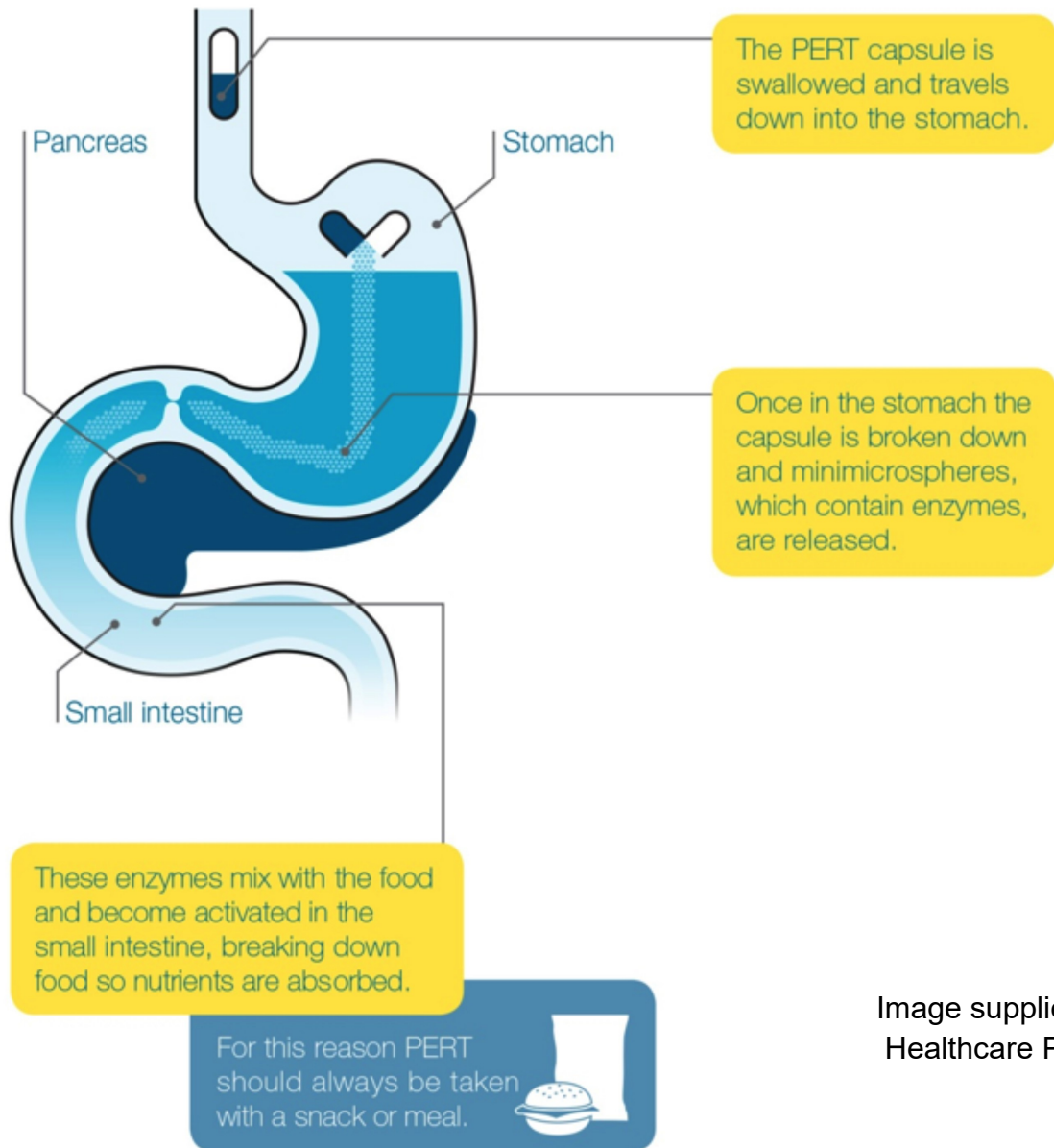


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How do I take the pancreatic enzymes?

It is important that you understand how to take the supplements to make sure they work well.

- You will need to take your enzyme replacement whenever you eat, including meals, snacks, milky drinks and with nutritional supplements (if you have been prescribed these by your doctor or dietitian).
- Take them with the first mouthful of your food, with a glass of cold water, as they only work when mixed with food.
- If you have a particularly large meal or meal times lasting longer than 30 minutes, you may need to take half your enzymes at the beginning and the other half in the middle of your meal.
- It is important that you swallow the capsules with a cold drink like water, as swallowing with a hot drink (like coffee or tea) may make the tablets less effective.
- If you forget to take your enzyme replacement wait until the next time you eat.
- The capsules should not be chewed or crushed as this will destroy the enzymes. Ideally the capsules should be swallowed whole. However if you find this difficult you can empty the capsule and take the contents with a teaspoon of jam, yoghurt or fruit puree, but again do not chew.
- Drink plenty of liquid daily (about eight to ten glasses a day).

How do I know I am taking enough pancreatic enzymes?

The dose you need is individual to you. It depends on your condition and the types of food that you eat. If you are still having symptoms (pale, orange/yellow, greasy/oily stool or bloating) when you take your current dose, you may need to increase the amount of enzyme replacement that you take.

The dose may also need to be increased to help you digest very fatty foods (such as fried foods, takeaways, pastry dishes). Sometimes you may need to reduce your dose if you are eating smaller meals, or recovering from surgery.

Keeping a food diary can be very helpful in working out if you need a larger dose. Record your food intake, symptoms and enzyme replacement doses and speak with your dietitian.

If you need advice on the amount of enzyme replacement to take, please discuss this with your hospital doctor, GP, nurse specialist or dietitian.

Do I need to take enzymes with all foods?

You do **not** need to take your enzymes with some food because they are low in fat and protein. These include:

- Fruit (fresh, tinned, frozen or dried) except for avocado.
- Vegetables (except potato, avocado, beans and pulses).
- Sweets such as chewing gum, mints, jelly babies, dolly mixtures, marshmallows, fruit pastilles, wine gums.
- Fizzy drinks.
- Fruit juice or squash.
- An individual chocolate
- A small plain biscuit.
- Drinks that are less than half milk such as tea or non-milky coffee

How do I store the enzymes?

The enzymes can be damaged at high temperatures: do not keep them in warm places such as near radiators, in direct sunlight, or in the car. Please refer to the information leaflet enclosed with your enzymes for information on the maximum storage temperature.

Is it possible for me to take too much enzyme replacement?

Very occasionally this can happen, but it is not usually dangerous. If you do take too much enzyme replacement, you may get an itchiness and burning feeling around your bottom. Drink plenty of fluids and continue to take your enzymes with the next meal as usual. If you feel unwell, please contact your GP.

Do I have to restrict my diet?

No, you do not have to restrict your diet - it is important if you are underweight that you are receiving adequate calories and protein. Remember your dose of enzyme replacement therapy can always be adjusted.

You need to follow a balanced diet that will help you maintain your weight or if needed to put some weight on. Your dietitian can give you more information on this.

You do not have to follow a low fat diet

What about nutritional supplements?

If you have lost weight and/or have a poor appetite you may need to have high energy and protein supplement drinks. These supplements can help make sure you are getting enough calories, protein, vitamin and minerals. They are available through your GP, hospital consultant or dietitian.

It is very important that you take your enzyme with each supplement drink. Your dietitian will let you know if you need nutritional supplements.

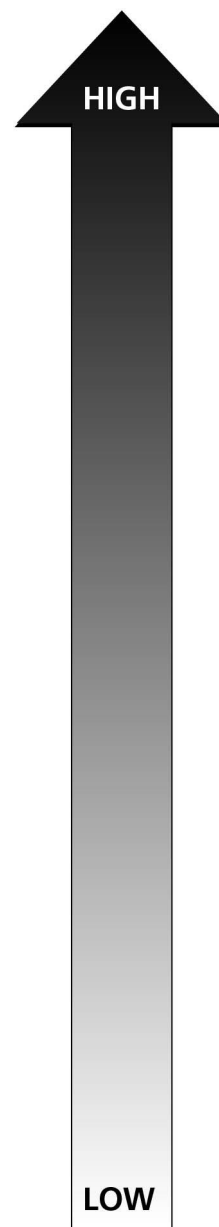
What about foods that are higher in fat?

You are likely to need more enzymes to digest very fatty foods such as fried foods and takeaways. There are some examples below of foods that are lower and higher in fat. Your dietitian or doctor will help you adjust the dose of enzymes to ensure your symptoms are under control.

Which foods contain the most fat?

Below are some of the common foods, the arrow indicates the lower and higher fat food options.

- Take away chicken curry and rice
- Beef pie and chips
- Chicken kiev
- Doner kebab
- Take away pizza
- Fish and chips
- Fried chicken pieces in breadcrumbs
- Quiche
- Sausage roll
- Pastie
- Cooked breakfast (bacon, eggs, toast and butter)
- Cheesecake
- Spaghetti bolognaise
- Chilli con carne with rice
- Milk shakes
- Grilled sausage
- Baked beans, scrambled egg on toast (with butter)
- Crackers and cheese
- Trifle
- Apple crumble
- Grilled fish
- Macaroni cheese
- Milk pudding
- Tin of soup with bread
- Pasta in tomato sauce
- Cornflakes
- Jaffa cakes
- Low fat yogurt
- Baked crisps



If you have any queries please contact the Dietetic and Nutrition Service

Telephone number 0116 258 5400

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