

A Guide to Taking

Pancreatic Enzyme Replacement Therapy

Why do I need to take Pancreatic Enzyme Replacement Therapy (PERT)?

If your pancreas has been damaged by disease, or if you have had surgery to your pancreas, it may be unable to produce certain enzymes, which are needed to help you to digest your food. These enzymes are called:

- **Lipase**, which helps to break down fat
- **Protease**, which helps to break down protein
- **Amylase**, which helps to break down carbohydrate

If your pancreas is not producing these enzymes, you may develop a condition known as steatorrhea. This is where your stool (poo) has a strong smell and contains undigested fat. This can make it difficult to flush away. You can also have pains in your stomach after you have eaten certain foods, especially fatty or greasy foods.

These symptoms can be helped by giving medication that contains pancreatic enzymes which will help you to absorb your food. This medication comes in the form of capsules, granules, or powder and contains the three enzymes that the pancreas would normally produce itself.

When should I take the enzymes?

Enzymes need to be taken with all meals, snacks and milky drinks. It is best to take them with the first mouthful of your meal, snack or milky drink.

If you are eating over a long period of time, e.g. longer than 30 minutes, or are having multiple courses, it is worth trying to spread your dose of enzymes out throughout the meal. For example take half your enzyme dose at the start of your meal and half in the middle or between courses.

How much should I take?

When you first start taking pancreatic enzymes, it is not possible to advise you on the exact amount to take with each meal or snack. The amount of enzymes will vary from person to person and is dependent on:

- How much enzyme your body is still able to produce
- How much you eat and drink
- The types of food you eat and drink

The enzymes that are usually prescribed are known as 'Creon'. Creon comes in the following strengths: 10,000, 25,000 or 40,000 unit capsules. Your GP/consultant will decide on the particular strength that you need. Other enzyme preparations are called Pancrex, Pancrease and Nutrizym.

Below is an example of a starting dose for Creon:

- **One Creon 25000** unit capsule with a snack e.g. crisps or a supplement drink
- **Two Creon 25000** unit capsules with meals e.g. breakfast, lunch and dinner
- **Three Creon 25000** unit capsules with a restaurant dinner, especially if eating more than one course

A certain amount of trial and error is involved when finding the correct dose of enzymes to take. There is no maximum dose. If you have symptoms of steatorrhea (oily stools) or weight loss despite taking the enzymes you may need to increase your dose. Try increasing your dose by an additional 25000 units with each meal or snack. If increasing the dose does not help, contact your dietitian.

Your enzyme requirement at each meal will be affected by:

- The amount of food that you eat e.g. large meals will require more enzymes
- Whether the meal contains a pudding or dessert e.g. you may need to take an additional 25000 unit capsule
- The type of food eaten e.g. meals which contain a lot of fat such as fried foods will require more enzymes than food that has been steamed or boiled

Drinks which require enzymes include:

- Any milk-based drink e.g. milkshake, milky coffee, Complan, Meritene Energis, hot chocolate
- Prescribed supplement drinks, e.g. Fortisip, Scandishake, Ensure
- Soups with added cream or cheeses

Enzymes are **not** required with:

- Fruit juice, fizzy drinks and squashes
- Fruit and jelly
- Clear soup or consommé
- Sweets (NB chocolate and toffee need enzymes)

Fruit and vegetables do not require pancreatic enzymes if they are eaten alone. If they are included with other foods as part of a meal, snack or dessert, or you add cream, butter or dressings to them, you should take your enzymes as usual.

How should I take pancreatic enzymes?

Ideally, the capsules need to be swallowed whole with a cold drink. Swallowing the capsules with a hot drink (like tea or coffee) may damage the enzymes and make them less effective.

If you are unable to swallow capsules, the capsules can be opened, mixed with a small amount of cold food, e.g. a teaspoon of yogurt and swallowed. The enzymes should not be chewed.

Can I take too many enzymes?

No, the enzymes that your body does not require for digestion of food travel through your bowel and are excreted when your bowels are open. Although you may experience some burning around the anus, it is not possible to take too many enzymes.

Do I need to change my diet?

No, you do not have to restrict your diet. However, you may find that certain foods, especially those with a lot of fat in them, cause your stools to be loose and smelly. If this happens, you need to take a higher dose of enzymes.

You may have lost some weight prior to starting Creon because of your illness or surgery. If this is the case, foods high in fat are a good source of calories and will help you to put weight on. It is better to increase the fat content of your meals/snacks, and therefore increase your enzyme dose, than it is to restrict your diet.

For how long will I have to take enzymes?

If you have had surgery to remove your entire pancreas, or if it has been damaged by cancer, you will need to take enzymes for the rest of your life. If you have only had part of your pancreas removed, it is possible that, as it recovers from surgery, it is able to start producing enough enzymes again and you may be able to reduce or even stop the enzymes.

However, if you start to have symptoms such as loose, smelly stools, you will need to tell your doctor or nurse. You may have to restart the enzymes.

How do I store the enzymes?

The enzyme capsules should be stored at temperatures below 25°C. Do not keep them in your pockets or your car, particularly the glove box, because the temperature may often exceed this limit.

It is also important to check the 'use by' date. Over time the enzymes can start to degrade and therefore out of date enzymes may not work properly.

What happens if I don't take Enzymes?

It can be difficult taking the enzyme capsules with every meal but if you do not take them, your symptoms will continue and can become worse. If you stop taking them for a long time, you will not absorb some important nutrients including vitamins that your body needs (particularly vitamins A, D, E and K) and you may lose weight.

If you are unable to tolerate one brand it is useful to speak with your doctor to see whether it is suitable for you to trial any of the alternative brands.

Are there any interactions with other drugs?

There have been no reported interactions. You should always inform your doctor or nurse about any other drugs you may be taking.

Are there any side effects?

When you collect the tablets from pharmacy, you will be given a leaflet produced by the manufacturers which will contain information about possible side effects.

Other considerations:

You may find that although you are taking enough enzymes with your meals, you still experience some symptoms of malabsorption. If this is the case, see your GP or consultant. You may need some antacid medication, which will help to improve the effectiveness of the enzymes.

Please note that currently all enzyme replacement products are pork-derived and there are currently no alternatives available.

Please ensure that you have also read the patient information provided by the manufacturer.

Your Dietitian is: _____

Tel: _____