

Pancreatic cancer nutrition

The pancreas is an organ which plays an important role in digestion. One of its main functions is to produce digestive enzymes to help breakdown the carbohydrate, protein and fat contained in food, so that it can be absorbed by the body. It also produces hormones such as insulin, which help to control blood sugars.

When the pancreas is not able to produce these enzymes as it usually would then your food will not be digested and absorbed properly, this is known as malabsorption. Treatments for pancreatic cancer such as surgery, chemotherapy or radiotherapy can further add to problematic symptoms.

Malabsorption can cause symptoms such as loose stools and something called steatorrhoea. This is when there is too much fat in the stools and they become oily, pale in colour and difficult to flush. Other digestive symptoms such as wind, bloating and pain are also common.

Weight loss can also occur as the result of malabsorption, even when people are eating well.

As the pancreas also produces insulin, diabetes can occur if the pancreas is not working properly.

Pancreatic Enzyme Replacement Therapy (PERT)*

PERT are capsules or tablets that you can take to replace the digestive enzymes usually produced by your pancreas.

They contain a mixture of the enzymes:

Lipase: To help breakdown fats

Amylase: To help breakdown carbohydrates

Protease: To help breakdown protein

There are a number of brands available but common ones prescribed are Creon, Nutrizym, Pancrease and Pancrex and they come in varying strengths such as 10,000, 25,000 or 40,000 unit capsules. Most adults take between 2-5 capsules with each meal and less with snacks, depending on the strength of the capsules. The dose will be prescribed by your doctor and will need to be adjusted according to meal size and symptoms. Just to put things into perspective, a healthy pancreas produces over 700,000 lipase units during each meal.

**All PERT are made from pork products and there is currently no suitable alternative to this.*

There are a few key things to remember and give the PERT the best chance of working:

- PERT needs to be taken with all meals and snacks, including milky drinks. (see 'When not to take PERT' for exceptions to this)
- 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
Pastries – pies, tarts, pasties, quiche
Cheese based meals – cauliflower/macaroni cheese, pizza, lasagne
Rich puddings and cakes – suet pudding, crumbles, fresh cream cakes, muffins, doughnuts
Some high fat sauces – mayonnaise, Hollandaise sauce, cream sauces
Chocolate, fudges, toffees

- The capsules should be taken directly at the time of eating i.e. with the first mouthful of food. They will not work properly if taken after eating
- If you are eating a large meal (2 courses or more) or a meal lasting a long time (more than 20 minutes) then you may need to take half of your enzymes at the beginning of the meal and half in the middle
- Capsules should be swallowed with a cold drink prior to eating. Hot drinks can damage the enzymes and make them less effective.
- The capsules must be swallowed whole and not chewed or crushed
- You will need to take PERT with nutritional supplement drinks (unless juice style)
- Do not store PERT in a hot place as this can affect their effectiveness e.g. in a car or near a radiator

When not to take PERT:

- When you haven't eaten anything
- With drinks with only a splash of milk (tea and coffee), squash, fizzy drinks or alcohol
- Small amounts of fruit (except bananas and avocado)
- Small amounts of vegetables (except potatoes, beans and pulses lentils etc.
- Sugary sweets for example hard boiled sweets, marshmallows, gummies, mints or jelly babies
- With ice lollies or sorbets

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

Pancreatic cancer and diet

A common question asked is whether a low fat diet should be followed. The answer is NO. Weight loss is common due to poor digestion and absorption. You may need therefore to choose higher calorie foods which are often foods that are high in fat to help regain the weight. Your PERT dose may need to be increased to counteract a higher fat diet.

There are no foods that you need to avoid when you have pancreatic cancer. The priority is in keeping your weight stable and managing any symptoms.

- Try eating little and often – adding snacks in-between small meals such as;
 - Cake
 - Malt loaf
 - Crumpets
 - Samosas
 - Cheese and crackers
 - Biscuits
 - Crisps
 - Nuts
- Increase the calories in foods by adding extra cheese, cream, oil, sugar, jam, honey
- Try to drink a pint of whole milk each day fortified with skimmed milk powder:

Method: Mix 4 tablespoons of skimmed milk powder into 1 pint of full cream/semi skimmed milk (start with adding the powder to a small amount of the milk and whisk until it's a smooth paste before adding the rest of the pint of milk).

This increases the calories and doubles the protein content of standard milk. It can then be used as standard milk in drinks, cereal, sauces or puddings

- Try to include foods higher in protein such as;
 - Meat
 - Fish
 - Eggs
 - Cheese
 - Beans and lentils
 - Nuts
 - Yoghurt
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- Make drinks nutritious. Opt for milky drinks, smoothies, or juice but drink between rather than with so as not to fill up on them
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- Focus on foods you enjoy and can tolerate, when you feel able to eat them. Often people feel pressured to eat in a conventional way, having breakfast food at breakfast time for example. Eat whatever you fancy when you are hungry or feel able to
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Supplements

If changes to your diet don't help, you may be offered nutritional supplement drinks or puddings. These are products that can help you get extra calories, protein, vitamins and minerals in your diet.

There are many different types of nutritional supplements such as milkshake style, juice style, yoghurts, or soups, and they can be savoury or sweet. It's important to try different ones until you find one that suits your needs and tastes.