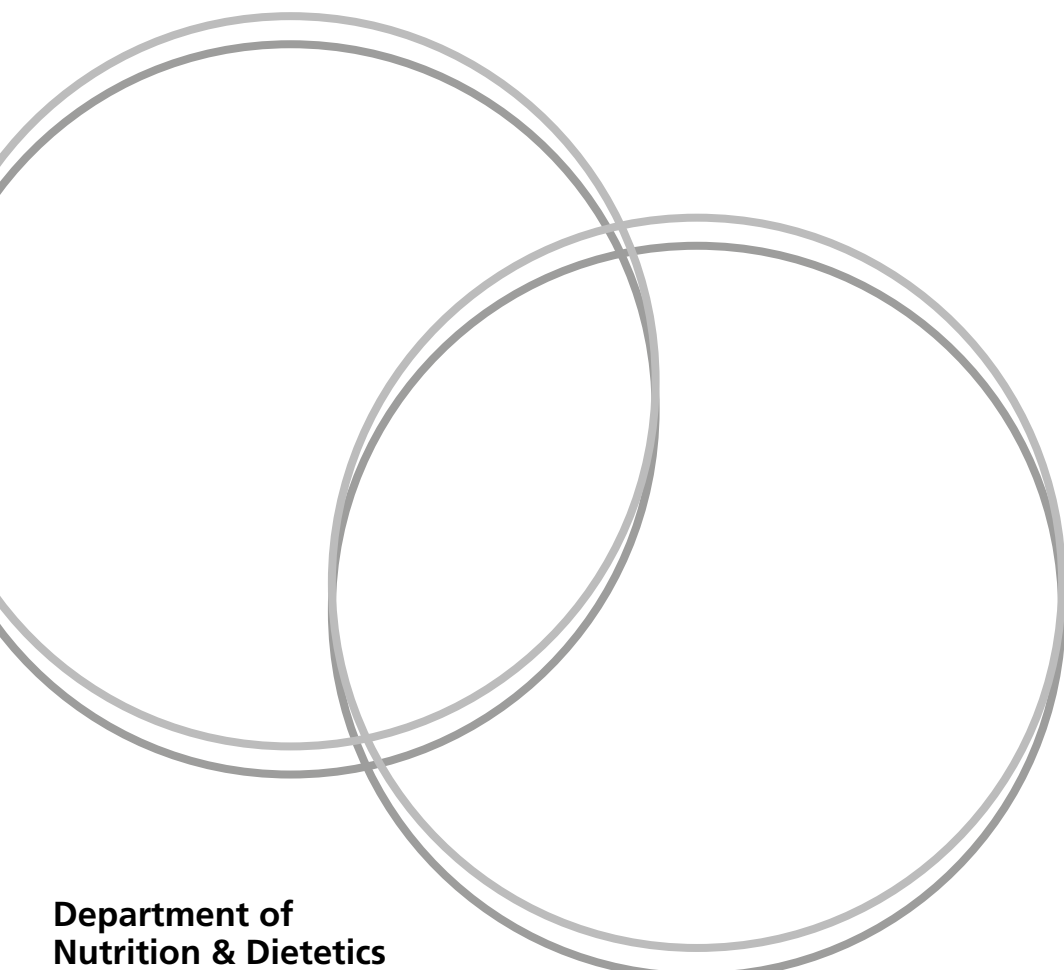


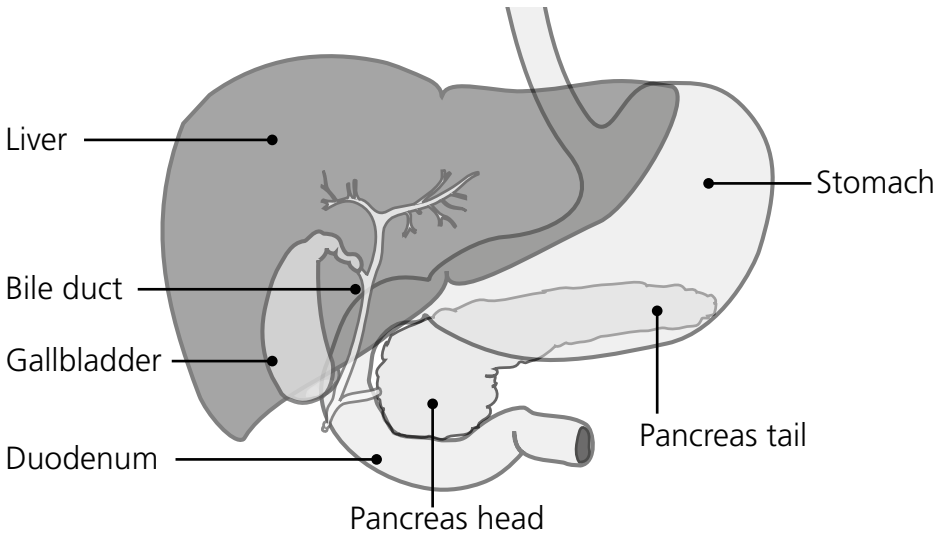
Pancreatic Surgery – Nutrition Advice

**Nutrition information for patients who
have had surgery involving the partial or
complete removal of their pancreas.**



The Pancreas

The pancreas is an organ that produces **digestive enzymes** to help break down and absorb fat, protein and carbohydrates in food & drink. It also produces **hormones (including insulin)** to help control blood sugar levels.



Pancreatic surgery includes procedures such as Total Pancreatectomy, Whipple's Procedure, Pylorus-Preserving Pancreaticoduodenectomy (Modified Whipple's), and Distal Pancreatectomy.

Depending on which type of pancreatic surgery you have, **some or all of the following nutrition information may be relevant to you**. Your dietitian, doctor or specialist nurse will help to guide you with this.

- Pancreatic enzyme replacement therapy
- Malnutrition risk
- Type 3c diabetes

Pancreatic Enzyme Replacement Therapy

Following pancreatic surgery, you may no longer produce enough digestive enzymes to help absorb the food and drinks you are consuming. Therefore, **you may need to take pancreatic enzyme capsules when you eat and drink.**

Your dietitian has recommended the following as your pancreatic enzyme capsule starting dose:

- With meals/ nutrition supplement drinks =
- With snacks/ puddings/ milk drinks =
- With large/ high fat meals =

This dose should be adjusted based on the type and size of your meal.

This may sound like a high amount, however your pancreas would usually produce more than 700 000 units of digestive enzymes for a small meal (e.g. more than x28 capsules of Creon 25 000®).

Symptoms of not taking enough pancreatic enzyme capsules may include:

- Diarrhoea
- Passing stools that are pale/ greasy/ float in the toilet
- Nausea/ feeling ill
- Stomach aches
- Bloating
- Weight loss

If you suspect you are not digesting food well, you may need to increase your pancreatic enzyme capsule dose by 1 capsule per meal & snack until your symptoms resolve. Your dietitian or doctor can help guide you with this.

Top tips for taking pancreatic enzyme capsules

When to take?

- Take the enzyme capsules with all meals, supplement nutrition drinks, snacks, puddings and milky drinks.
- Do not take the pancreatic enzyme capsules without food or milky drinks as this will not be helpful.
- You do not need to take enzyme capsules with squashes, fizzy drinks, tea or with sugary sweets (e.g. jelly babies).
- You do not need to take enzyme capsules with small amounts of fruits and vegetables (except for with avocados, bananas and potatoes).

How to take?

- Split the dose between the start and half way through the meal or drink (e.g. take 1 capsule at the beginning and 1 halfway through).
- Swallow the capsules whole with a couple of sips of a cool drink. Hot drinks will damage the enzymes.
- Do not sprinkle the granules directly on a plate of food as the enzymes will not work and may cause mouth ulcers.
- You may be advised to take an antacid, this helps to neutralise stomach acid to support the function of the pancreatic enzymes, examples of this are Omeprazole and Lansoprazole.

How to store?

- Do not store the capsules in hot places (e.g. do not leave them in your car, direct sunlight or in your pocket).

Malnutrition Risk

You might find that you have a small appetite or are unable to eat as much as usual following your pancreatic surgery. **It is important to get enough nutrition to help your body heal and to maintain your strength.** The following strategies may be helpful to increase your nutrition intake:

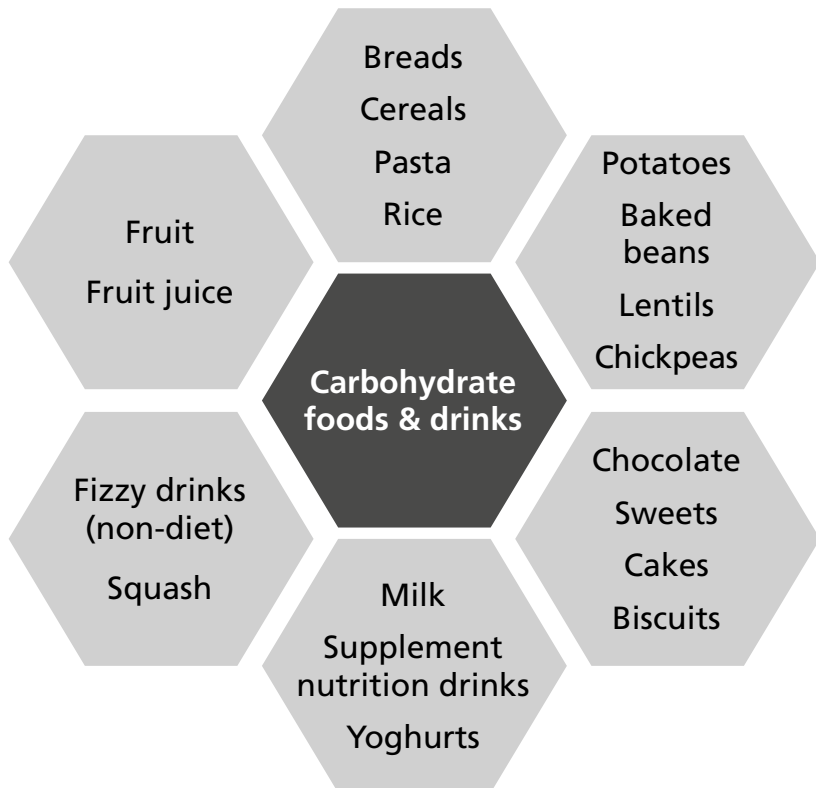
- Have 5-6 small meals and snacks spread over the day
- Prioritise eating the protein portions of your meals (e.g. meat, fish, chicken, vegetarian alternatives, eggs, cheese, yoghurt)
- Drink fluids with more nutrition such as milk drinks and supplement drinks (e.g. Ensures®, Fortisips®, Aymes Shakes®, Complian®)

Following pancreatic surgery your body is less able to digest food. Therefore it is recommended that you take a **daily A-Z complete multivitamin & mineral tablet** to prevent any deficiencies in the long term.

Type 3c Diabetes

Following pancreatic surgery you may no longer produce enough of the hormones that help control your blood sugar levels (e.g. insulin). Therefore you may develop a type of diabetes called type 3c diabetes. If this is the case for you then the diabetes team will review your medication needs.

Foods containing carbohydrate affect your blood sugar levels. Sugar and starch are both types of carbohydrate. If you have developed diabetes, **it is important to eat moderate amounts of carbohydrate foods spread over the day** to avoid your blood sugars levels spiking too high or dropping too low.



Meat, eggs, most vegetables (other than potatoes), salads, butter & oils contain very little carbohydrate and therefore will have little effect on your blood sugar levels. **If eating a meal without a carbohydrate food included then your blood sugar levels may drop too low which can be life threatening.** This may also occur if you skip a meal.

You can also help control your blood sugar levels by choosing to eat moderate amounts of carbohydrate foods that your body digests and absorbs into your bloodstream more slowly:

- Cereals based on oats, barley and bran
- Granary bread, wholemeal pitta, sour dough, rye, multigrain & pumpernickel breads
- Fresh fruit
- New potatoes & sweet potatoes
- Basmati rice and all types of pasta
- Beans and pulses
- Milk and all types of yoghurt

Eating carbohydrate foods alongside foods high in protein, fibre and fats also slows down your rate of digestion and further helps to control your blood sugar levels.

If you are prescribed a nutritional supplement drink then sip this slowly to help control your blood sugar levels.

If you have lost or are losing weight it is important to manage any high blood glucose levels with medication rather than limiting your nutritional intake. The diabetes nurse or your GP can advise on Insulin.

Further information and support

Pancreatic Cancer UK services

For information and support regarding pancreatic cancer.

<https://www.pancreaticcancer.org.uk/>

Phone: **0808 801 0707**
(weekdays 10am-4pm)

Diabetes UK

For information on managing different types of diabetes.

www.diabetes.org.uk

Phone: **0345 123 2399**
(weekdays 9am-7pm)

Macmillan Cancer Support

For practical, medical and financial support for anyone affected by cancer, including family members.

www.macmillan.org.uk

Phone: **0808 808 0000**
(weekdays 9am-8pm)

OUH dietitian:

Contact number:

Further information

If you would like an interpreter, please speak to the department where you are being seen.

Please also tell them if you would like this information in another format, such as:

- Easy Read
- large print
- braille
- audio
- electronic
- another language.

We have tried to make the information in this leaflet meet your needs. If it does not meet your individual needs or situation, please speak to your healthcare team. They are happy to help.

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