

Nutrition and Dietetics

Diet advice after a Whipple procedure (pancreaticoduodenectomy)

A Whipple procedure is an operation usually done to remove a tumour from the head of the pancreas.

A Whipple procedure involves removing part or all your:

- pancreas
- duodenum (small intestine)
- gallbladder
- bile duct
- jejunum (small intestine)
- lower end of your stomach

The pancreas

The pancreas is a gland near the stomach and duodenum (small intestine). The pancreas has two important roles:

- making enzymes (digestive juices)
- producing hormones such as insulin



Patient Information

Enzymes

Enzymes are released from the pancreas. They mix with the food you eat when it reaches your gut. Enzymes break down the carbohydrate, fat, and protein in your food so your food can be absorbed by your body.

Insulin

Insulin controls the levels of sugar in your blood. Not having enough insulin can cause diabetes.

Only a small number of patients have problems with high blood sugars after this type of operation.

After the operation

The night after the operation, you can drink what you want.

After that, you can eat what you feel like without restrictions. You might feel full earlier and return to your usual eating habits for a couple of weeks.

Pancreatic enzyme capsules

After the operation, you'll be started on pancreatic enzyme capsules (Creon®, Nutrizym®, Pancrex V®, Pancrease HL®). These replace the enzymes your pancreas usually makes.

Take the pancreatic enzyme capsules with your meals, snacks, and supplement drinks to help your body absorb the nutrients from food.

Your dietitian will give you more information about pancreatic enzyme capsules. They'll suggest how much to take with your food.

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Side-effects

You may experience side effects after your operation, such as:

- malabsorption
- feeling full
- poor appetite
- weight loss

Not everyone experiences these side-effects. But you should be aware of the symptoms and how to manage them.

Malabsorption

The symptoms of malabsorption are:

- diarrhoea (loose stools) or having more than 3 bowel movements a day
- stools that are pale/yellow, oily, smelly, and difficult to flush away
- weight loss despite eating well
- abdominal bloating and excess wind (farting)

Speak with your specialist nurse or dietitian about increasing your dose of pancreatic enzymes. These symptoms indicate you aren't taking enough pancreatic enzymes with your meals or snacks.

You do not need to follow a low-fat diet.

You may need some anti-diarrhoeal medicine. Your doctor will advise you on this.

If you are constipated, take a laxative. Do not stop taking the enzymes.

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Feeling full

Your stomach may also take longer to empty its contents with food moving slowly through the digestive tract. This may result in a condition known as gastroparesis (delayed emptying of the stomach).

Symptoms

You may experience:

- nausea (feeling sick)
- vomiting
- feeling of fullness after eating
- heartburn
- abdominal discomfort

Treatment

Do:

- Try to eat little and often. Aim for 5 to 6 small meals per day instead of 3 larger meals.
- Use a smaller plate.
- Try to eat slowly. Take your time with your meals.
- Save your pudding for when you feel less full.

Do not:

- × Do not finish everything on your plate if you feel full.
- × Do not eat very high fibre foods. These may make you feel uncomfortably full.
 - high fibre foods include wholemeal bread, wholemeal pasta, green salads, beans, pulses.
- × Do not drink large amounts of liquids just before or with meals. Large quantities of liquids can fill your stomach and make you less hungry.

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If you feel very sick or queasy:

- Try to eat something dry such as plain biscuits (digestives or rich tea).
- Keep away from the smell of cooking - this can trigger nausea.
- Cold foods may be best - these have less smell.

You may be prescribed medicine to help your stomach empty more quickly.

Poor appetite

Good nutrition is important to help you recover from the operation.

You may have a smaller appetite after the operation and have little interest in food.

To improve your appetite:

- Try to eat little and often. Aim for 5 to 6 small meals per day instead of 3 larger meals.
- If your appetite is better at certain times of the day, move your meal to that time. For example, have a cooked breakfast or move your main meal to lunchtime. Save your pudding for when you feel less full.
- If you feel tired, make larger amounts, and freeze individual portions. Or try frozen ready meals from your supermarket.
- Do not drink large amounts of liquid before or during meals.
- Try to have as varied a diet as possible. Include your favourite foods.
- Get some fresh air or exercise before mealtimes.

To eat extra nutrients:

- Fry foods where possible. If you grill, brush oil over your portion before and during grilling.

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Small meal ideas

- Fish fingers
- Chicken, beef, or bean burger
- Boiled, scrambled, poached, or fried egg
- Baked beans or macaroni cheese
- Sardines or pilchards
- Omelette with ham, cheese, mushrooms
- Toast with peanut butter, pate
- Cheese or cream cheese and crackers
- Toasted tea cake, English muffin, crumpet, scotch pancakes, croissant with butter, jam, or honey
- Bagel and cream cheese
- Sandwich, wrap, batch or pitta with egg mayonnaise, ham, cheese, tuna mayonnaise, coronation chicken, bacon, sausage
- Jacket potato with cheese, beans, tuna, salmon, coleslaw
- Cereal with full cream or fortified milk
- Soup with bread
- Cornish pasty, cheese pasty, steak slice, individual filled pie

Snack ideas

- Crisps, nuts, mini cheese biscuits, bombay mix, chevda, gathia
- Chocolate
- Samosa or pakoras
- Chocolate éclair or profiteroles
- Scone with butter, jam, and cream
- Strawberries and cream or ice cream
- Banana and custard
- Bread sticks or nachos and dips such as avocado, mint yoghurt, humous
- Wedge of pizza, pork pie, sausage roll, or quiche

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- Thick and creamy fruit yoghurt or fromage frais
- Slice of cake, malt loaf or doughnut
- Supermarket mini deserts such as mousse, mini trifle, custard, rice pudding, crème caramel
- Sweet biscuits such as cream-filled, chocolate digestive, all butter short bread
- Ice-cream or choc ices

Weight loss

To help you regain weight:

- use full-fat milk rather than a low-fat variety.
 - you can fortify milk by adding 2 to 4 tablespoons of milk powder to a pint of full-fat milk - you can use this on cereal, in drinks and for making sauces.
- Add milk powder, grated cheese, butter, or margarine to mashed potato or soup.
- Add milk powder or double cream to sauces and custards.
- Add milk powder, double cream, evaporated milk, honey or jam to milk puddings and porridge.
- Sprinkle cheese onto baked beans, scrambled eggs, cooked vegetables, and main meals.

Between meals

High calorie snacks:

- | | |
|--------------------|---------------|
| • Biscuits | • crisps |
| • full-fat yoghurt | • dried fruit |
| • custard | • ice-cream |
| • cheese | • chocolates |
| • cakes | • sweets |

Take care with sweet foods if you have high blood sugars.

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Nutritious beverages

Drink nutritious beverages between your meals. Try:

- milk
- build-ups
- Complan (available from the chemist or supermarket)
- Ovaltine
- Horlicks
- hot chocolate
- cocoa

These may be useful as a snack between meals or as an occasional meal replacement if you do not feel up to a main meal.

Brush your teeth twice a day to prevent tooth decay, especially if you make these changes to your diet.

If you continue to lose weight, contact your dietitian.

Once your weight is stable:

- Eat a balanced diet and include your usual foods. You can eat any food now.
- Include a portion of either meat, fish, egg, cheese, lentils, or beans in at least 2 meals a day.
- Build up to 5 portions of fruit and vegetables a day.
- Drink 600ml (1 pint) of milk per day. If you do not like milk, 30g (1 oz) of cheese or 1 pot of yoghurt could be substituted for 200ml (1/3 pint) of milk.
- Eat at least 1 starchy food at each meal, such as:
 - one or two slices of bread
 - three to four egg size potatoes
 - pasta
 - rice
 - crackers
 - chapatti
 - crispbread
 - breakfast cereal

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Vitamins and minerals

Some vitamins are absorbed by pancreatic enzymes. These are more difficult to absorb after part or all of your pancreas is removed.

During the operation, part of your duodenum is removed. The duodenum is important for absorbing vitamins and minerals.

Take an A-Z multi-vitamin and mineral supplement to prevent any vitamin or mineral deficiencies.

Make sure that the supplement you choose is 'complete' and contains the full range of vitamins and minerals. Some examples of suitable supplements are:

- Sanatogen A-Z Complete
- Forceval or Forceval Soluble
- Lloyds Pharmacy A-Z Complete
- Tesco A-Z Multivitamin and Mineral
- Superdrug A-Z Multivitamin and Mineral
- Boots A-Z Multivitamin and Mineral

More information

Coventry Dietitians - 024 7696 6161

Hepato-Pancreatic and Biliary Specialist Nurse - 024 7696 5618

Macmillan Cancer Information centre (Main entrance of University Hospital) - www.macmillan.org.uk

Cancer Research UK - www.cancerresearchuk.org

Pancreatic Cancer Charity - 024 7696 6052

www.pancreaticcancer.org.uk

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

Patient Information

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