

## Department of Nutrition and Dietetics

# Dietary advice following a Pancreaticoduodenectomy (Whipple Procedure)

### What is a Pancreaticoduodenectomy (Whipple Procedure)?

This type of operation involves the removal of part or all of the pancreas and part of the duodenum (small intestine), the gallbladder, bile duct and part of the jejunum (small intestine) and lower end of the stomach too. This is normally performed to remove a mass which may be causing a blockage (obstruction).

### What does the pancreas do?

The pancreas is a gland lying near to the stomach and duodenum (small intestine). It has two very important functions:

- Making enzymes (digestive juices): enzymes are released from the pancreas and mix with food once it reaches your gut. It then breaks down the carbohydrate, fat and protein contained in the food so they can be absorbed by the body.
- Producing hormones such as insulin: insulin controls the levels of sugar in the blood; not having enough insulin can cause diabetes. Only a small number of patients have problems with raised blood sugars after this type of operation.

### How does the diet differ after the operation?

The night after the operation, you will be able to drink what you want. After



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that, you will be able to eat what you feel like without restrictions, though it is expected that you might feel full earlier and not be able to return to your normal eating habits for a week or two.

After the operation, you will be started on pancreatic enzyme capsules (Creon®, Nutrizym®, Pancrex V®, Pancrease HL®) to replace the enzymes your pancreas makes. These should be taken with your meals, snacks and supplement drinks to help your body absorb the nutrients from the food. Your Dietitian will give you more information about this and suggest how much to take with your food.

### **Symptoms that may occur after the operation**

You may experience particular side effects after your operation. Not everyone experiences these problems but you should be aware of the following symptoms and how to manage them:

#### **Malabsorption**

If you are having any of the following symptoms:

- Diarrhoea (loose stools) or having more than three bowel movements per day;
- Stools that are pale/yellow, oily, smelly and difficult to flush away;
- Weight loss despite eating well;
- Abdominal bloating and excess wind – belching and flatulence.

This may indicate that you aren't taking enough pancreatic enzymes with your meals or snacks; speak with your specialist nurse or Dietitian about increasing the dose. You do not need to follow a low fat diet; the enzymes should be taken to help the body absorb the nutrients.

Sometimes anti-diarrhoeal medication may be necessary – your doctor will advise you on this. If you are constipated, you should take a laxative rather than stop taking the enzymes.

Further information can be found in the booklet 'Diet and cancer care: diarrhoea' which can be requested from a member of staff who will be able to print this information for you.

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### **Feeling full**

As a result of the operation 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 include:**

- Nausea (feeling sick);
- Vomiting;
- Feeling of fullness after eating;
- Heartburn;
- Abdominal discomfort.

#### **How is it treated?**

- Try to eat little and often, aiming for five to six small meals per day instead of your usual three larger meals.
- You do not have to finish everything on your plate; listen to your stomach. You may want to use a smaller plate. Try to eat slowly, taking your time with your meals.
- Save your pudding until later when you feel less full.
- Very high fibre foods may make you feel uncomfortably full; for example, wholemeal bread, wholemeal pasta, green salads, beans, pulses.
- Avoid large quantities of liquids just before or with meals as this can fill your stomach and make you less hungry.
- If you are feeling particularly sick and queasy, try something dry such as plain biscuits (digestives or rich tea). Keep away from the smell of cooking as this can trigger nausea. Cold foods may be best as these have less smell.
- Sometimes medication may be prescribed to stop the feeling of sickness and bloating by helping your stomach to empty more quickly.

### **Poor appetite**

It is very common to have a reduced appetite after the operation and to have little interest in food. However, good nutrition is important to help you recover from the operation.

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### Try:

- Try to have smaller meals or snacks more frequently rather than trying to have 3 larger meals per day. See meal and snack ideas;
- Add extra nutrients to your food and drink by enriching them. See tips below;
- If you do not feel you can manage a pudding after your meal, save it for later;
- If your appetite is better at certain times of the day, e.g. having a cooked breakfast or moving your main meal to lunchtime;
- Try to have as varied a diet as possible and include favourite foods;
- Fry foods where possible, or if you grill, brush oil over your portion before and during grilling;
- If you feel tired, make larger quantities and freeze individual portions or try frozen ready meals from your supermarket;
- Try not to fill up on drinks before and during eating;
- If possible, try to get some fresh air or exercise before meal times.

### What if I am losing weight?

If your appetite is poor or you are not able to maintain your weight the following ideas may be useful:

- Make sure you use full cream milk rather than a low fat variety. Milk can be fortified further by adding 2 to 4 tablespoons of milk powder to a pint of full cream milk. This can then be used 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.
- Biscuits, full fat yoghurt, custard, cheese, cakes, crisps, dried fruit, ice-cream, chocolates and sweets are useful high calorie snacks. Take care with sweet foods if you have high blood sugars.

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- Drink nutritious beverages between your meals. Try milk, Build ups, Complan, (available from the chemist or supermarket) or Ovaltine, Horlicks, hot chocolate and 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.
- It is important to 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 please contact your Dietitian.

### **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.

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### **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 e.g. avocado, mint yoghurt, humous;
- Wedge of pizza, pork pie, sausage roll, or quiche;
- Thick and creamy fruit yoghurt or fromage frais;
- Slice of cake, malt loaf or doughnut;
- Supermarket mini deserts e.g. mousse, mini trifle, custard, rice pudding, crème caramel;
- Sweet biscuits e.g. cream-filled, chocolate digestive, all butter short bread;
- Ice-cream or choc ices.

### **Once your weight has stabilised and you are feeling well, try the following:**

- Eat a balanced diet and include your usual foods. You should be able to eat any food now as no food should be avoided.
- Include a portion of either meat, fish, egg, cheese, lentils or beans in at least two meals daily.
- Aim to build up to five portions of fruit and vegetables daily.
- Eat at least one starchy food at each meal, e.g. one or two slices of bread, three to four egg size potatoes, pasta, rice, crackers, chapatti, crisp bread, or breakfast cereal.
- 600 ml (approx. 1 pint) of milk per day; if you do not like milk, 30 grams (1ounce) of cheese or 1 pot of yoghurt could be substituted for 200 ml (1/3 pint) of milk.

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### Vitamins and minerals

Some vitamins are absorbed by pancreatic enzymes and are therefore more difficult to absorb after the removal of part or all of your pancreas. During the operation, part of the duodenum is removed which plays a large part in vitamin and mineral absorption. It is therefore recommended that you take an A-Z multi-vitamin and mineral to prevent deficiencies.

There are many supplements available and it can be confusing to know which one to choose. Make sure that the supplement you choose is 'complete' and contains the full range of vitamins and minerals.

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.

### Further information is available from:

Coventry Dietitians: 024 7696 6161

Hepato-pancreatic and biliary Specialist Nurse: 024 7696 5618

Macmillan Cancer Information centre: [www.macmillan.org.uk](http://www.macmillan.org.uk)  
(Main entrance of University Hospital)

Cancer Research UK [www.cancerresearchuk.org](http://www.cancerresearchuk.org)

Pancreatic Cancer Charity: 024 7696 6052  
[www.pancreaticcancer.org.uk](http://www.pancreaticcancer.org.uk)

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

## Patient Information

The Trust has access to interpreting and translation services. If you need this information in another language or format please contact 024 7696 6161 and we will do our best to meet your needs.

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To give feedback on this leaflet please email [feedback@uhcw.nhs.uk](mailto:feedback@uhcw.nhs.uk)

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