

# Dietary Information following Whipple's Procedure

Information for patients

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You have had major Gastro-intestinal surgery, and it is not uncommon to experience some nutritional problems following this. One of the most common side effects is weight loss so it is important to develop new eating habits to minimise this.

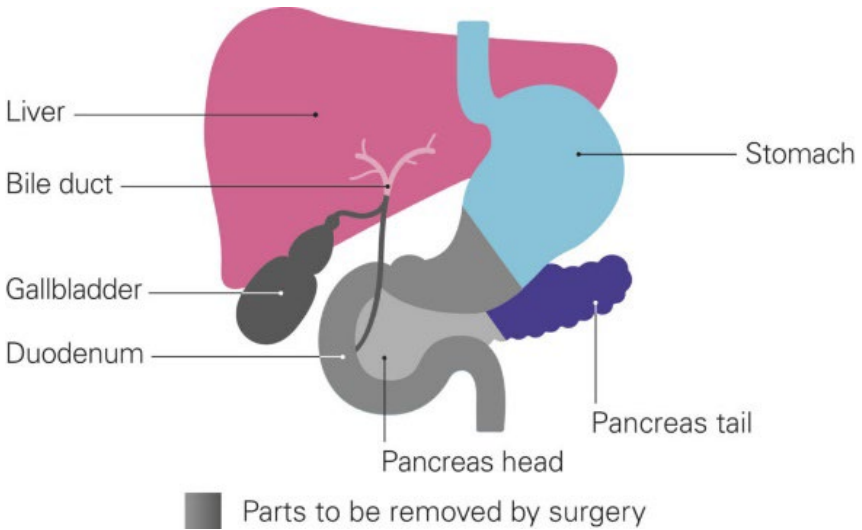
## What is a Whipple?

Whipple's is a procedure used to treat tumours and disorders of the pancreas, duodenum or bile ducts.

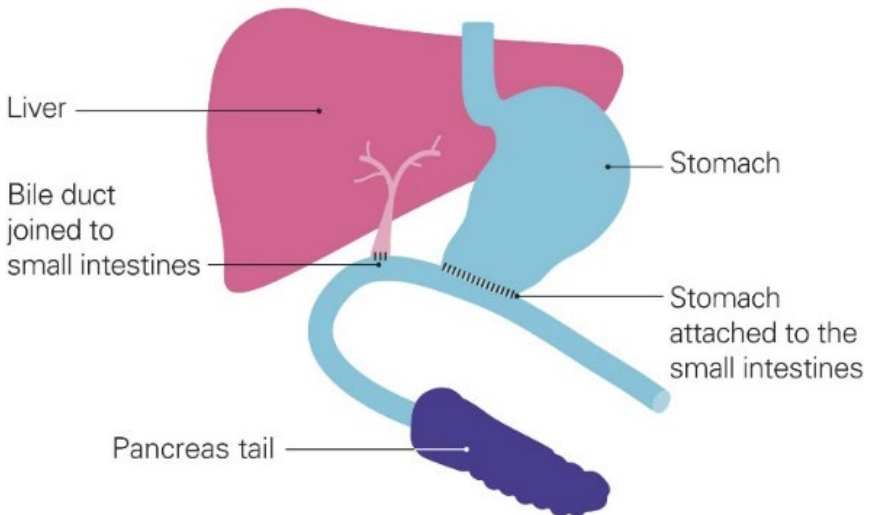
The surgeon will remove:

- Part of the pancreas
- Lower end of the stomach
- Duodenum (first part of the small intestine)
- Gallbladder (which stores a fluid called bile that helps digestion)
- Part of the bile duct (which carries bile from the liver to the duodenum).

## Before surgery



## After surgery



## What is the pancreas?

The pancreas is a small gland which has a very important role in digestion. It sits near the stomach and small intestine. It's two main functions are:

- Producing digestive enzymes
  - these enzymes break down fats, protein and carbohydrates in the food we eat so they can be absorbed
- Producing hormones e.g. insulin
  - to regulate blood sugar levels.

## Malabsorption

The most important function of pancreatic enzymes is the digestion of fat. As some of your pancreatic tissue has been removed, without supplementing these enzymes, poor digestion and absorption of fat will result in diarrhoea and weight loss.

Other signs of malabsorption include:

- Abdominal distension/bloating and stomach pain after eating
- Loose stools
- Pale/sandy coloured stools
- Stools that float and are difficult to flush
- An oily film on the toilet water.

Pancreatic enzyme replacement therapy (PERT) allows fat taken in your diet to be absorbed and avoid these unpleasant symptoms along with improving your overall nutritional status.

Typically, you will start on 25,000u enzymes with snacks and 50,000u with meals. Your dietitian will discuss how and when you take these and explain if your dose needs to be increased.

Please note you do not need to follow a low-fat diet.

## Vitamins and minerals

Some vitamins are absorbed with the help of pancreatic enzymes. After your surgery these can be more difficult to absorb following the removal of part of your pancreas. Your duodenum (first part of your small intestine) is also removed and is important for vitamin and mineral absorption.

To limit the chances of any vitamin and mineral deficiencies it is important you take an A-Z multivitamin. These can be bought in any pharmacy or supermarket.

## Eating and drinking after surgery

You will have gradually introduced food and fluids after your surgery as per the surgeon's advice. There are no dietary restrictions following this operation; however, it is not uncommon to find your appetite is reduced and you may feel full more quickly into eating than normal.

## Feeling full

You may find that your stomach takes longer to empty following surgery, this is due to food moving more slowly through the digestive tract. Your doctors may start you on some medication but there are some dietary changes you can try to help manage symptoms:

- Adopting a little and often meal pattern (5-6 smaller meals per day instead of 3 larger ones)
- Use a smaller plate/smaller cutlery
- Chew food well and take time eating
- Avoid large quantities of liquids prior to meals
- Large portions of high-fibre foods (such as whole meal bread/rice/pasta, salads, beans and pulses) can delay your stomach emptying after pancreatic surgery. It may be helpful to reduce intake of these in the recovery phase.

## Poor appetite

If you find that your appetite is poor after surgery this is not uncommon, however it is important you still get the energy and protein from your dietary intake to help with healing and recovery.

- Adopting a little and often meal pattern (5-6 smaller meals per day instead of 3 larger ones)
- Try and pre-plan your meals and snacks along with what time you will eat so you are not relying on your appetite/cravings
- Try some light movement ahead of mealtimes
- Don't fill up on liquids ahead of meals
- If you find your appetite is better at one time of the day move your main meal to that time.

## Weight Loss

You will be weighed on the ward after your operation, but we would recommend all patients continue to monitor their weight at home following discharge. If you find that you are struggling to maintain your weight some food fortification ideas may be helpful:

- Using full fat dairy products e.g. milk, cheese, yoghurts
- Adding additional calories into your meals, e.g. cream into soup, butter or cheese into scrambled eggs, thick spread of butter onto toast.

See the 'NHS Lothian Food First' booklet for more ideas.

Utilising the little and often approach as described above and including some calorie and protein rich snacks can also be really helpful in adding extra energy into your daily intake. Some examples could be:

- Cheese and crackers
- Full fat yoghurt/custard/rice pudding/mouse

- Trifles/individual puddings
- Hot chocolate with cream and marshmallows
- Crisps and dip (e.g. sour cream and chive/hummus)
- Toast with butter and marmalade/jam/peanut butter/spreading cheese.

It is important to be careful with higher sugar foods if you are monitoring blood sugar levels.

If you are still struggling to maintain your weight even when utilising the above advice, your dietitian may start you on some Oral Nutritional Supplement drinks (ONS). These are energy and protein dense milkshakes or juice style drinks that help boost your intake.

## **Bloods Glucose Monitoring**

Your blood glucose levels may be checked on the ward as following pancreatic surgery there is a chance you may not produce enough hormones that control your blood sugar levels (e.g. insulin). The symptoms of elevated blood sugar levels are new extreme thirst, increased urinary frequency, weight loss or increased fatigue. If you are experiencing these symptoms contact your GP/specialist nurse or GP to arrange a blood test.

