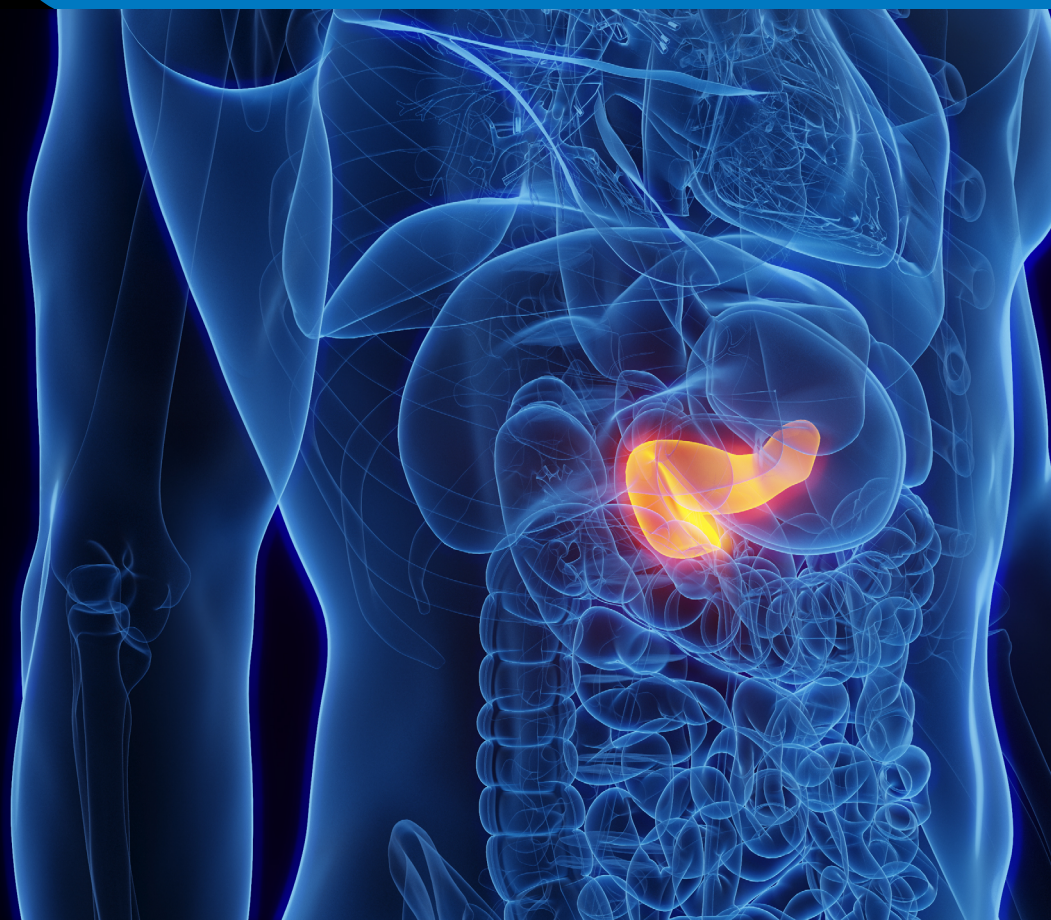


The Whipple's procedure

Information for patients



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Welcome to the hepatobiliary surgical unit

We have given you this booklet because you are due to have an operation on your pancreas called a pancreaticoduodenectomy. This is also known as 'The Whipple's procedure'.

This booklet explains your operation in detail and aims to help you and your family know what to expect before, during and after your operation. We hope that this information will help you to feel better prepared.

This booklet also introduces the enhanced recovery pathway (PD ERP) which you will follow after your surgery. This is an evidence-based approach that helps people recover from a Whipple's procedure more quickly. Research has shown that the earlier a person gets out of bed and starts walking, eating, and drinking after an operation, the shorter their recovery time will be. We hope that having information about the ERP will help you to take an active part in your recovery.

If you have any questions about anything covered in this booklet, please speak to your HPB specialist nurse who will be happy to help you.

Why am I being treated at University Hospital Southampton (UHS)?

University Hospital Southampton (UHS) is a specialist centre for pancreatic surgery serving the whole South Coast. Here you will be looked after by our team of specialists who carry out around 100 pancreatic operations each year. Studies have shown that being treated at a specialist centre can mean better outcomes and lower rates of complications for patients.

What does the pancreas do?

The pancreas is part of the digestive system. It lies at the back of the upper abdomen, behind the stomach. It has two very important functions.

Production of enzymes (pancreatic juices)

Enzymes are released into your intestine to support the breakdown and absorption of fats, proteins and carbohydrates from the foods you eat.

Production of hormones (insulin and glucagon)

Insulin is key in controlling blood sugar levels. Maintaining blood sugar levels are crucial to the function of key organs, including the:

- brain
- liver
- kidneys

A lack of insulin causes raised blood sugars. If your blood sugars are too high this is diabetes.

About your operation

What is the Whipple's procedure?

The Whipple's procedure is major surgery to remove the head of the pancreas and surrounding organs, including:

- part of the bile duct
- the gallbladder
- part of the stomach
- the duodenum (the first part of the small intestine)

The remaining pancreas, bile duct and stomach are joined to the intestine so that digestion can continue, but you may notice some changes.

Why do I need to have the Whipple's procedure?

The Whipple's procedure is usually performed to treat:

- cancers (tumours) in the head of the pancreas
- cancers of the bile duct, the duodenum, or in the joining between the pancreatic duct and the bile duct (known as the ampulla)
- non-cancerous (benign) disorders such as chronic pancreatitis
- benign lumps in the pancreas

Your surgeon will be able to explain the exact reason this surgery is being recommended for you.

Benefits of the surgery

The aim of the Whipple's procedure is to remove the mass or cancer to increase your life expectancy. Your surgeon will be able to give you more specific information on this, based on the underlying reason for your surgery.

You should be able to eat and drink normally (with enzyme supplements to help your digestion) and enjoy a better quality of life than you would have done without the operation.

It will take time for you to recover from the operation, but most people who have this surgery are gradually able to get back to their normal routine within six to twelve weeks.

Possible risks and complications

As with all surgery, there are some risks and complications associated with the Whipple's procedure. Most of these complications are minor and may only slow down your recovery. However, some complications are more serious and can be life-threatening.

Approximately half of patients have complications associated with the operation.

Minor complications

Minor complications after surgery include:

- a chest infection and problems breathing (the physiotherapy team will support you with chest physiotherapy and we will give you nebulisers to help reduce this risk)
- wound infection (your wounds will be re-dressed regularly while you are in hospital to help reduce this risk)
- delayed gastric emptying, where food passes through the stomach slower than usual (you may need hydration and nutrients via a drip in your arm)

Major complications

Major complications after surgery include:

Bleeding

You may experience bleeding during and after the operation. You may need a blood transfusion if you lose too much blood.

Blood clots

After your operation we may need to give you a daily injection until you leave hospital. This injection thins your blood and reduces the risk

of developing blood clots in your legs. You may also need to have the daily injections for 28 days after leaving hospital.

It is important to wear the compressions stockings we give you for the whole of your hospital stay. We will also advise you to continue wearing these when you leave hospital until you are back to your usual level of mobility.

Anastomotic leak

Occasionally, one of the joins between the pancreas, stomach, small bowel and bile duct can leak after the operation. This can cause an abscess or damage blood vessels close to the pancreas. This is the most serious complication and can be life-threatening.

We will discuss your individual risk with you before your surgery. If we think the risk is too great, we will advise against surgery.

Diabetes

There is a risk you may develop diabetes after this operation. This is because removing part of the pancreas affects its ability to produce insulin and glucagon. We will monitor you for diabetes during your time in hospital. The following symptoms may be signs of diabetes:

- increased thirst
- increased urination
- unexplained weight loss in the weeks after your surgery

If you develop diabetes after the operation, we will teach you how to check your blood sugar levels at home with a finger-prick blood glucose meter. The hospital diabetes team will give you more information about this.

When your appetite returns and your food intake improves, you may find that your blood sugar levels begin to rise, particularly if your

pancreatic enzyme supplement medication has been adjusted. If your blood glucose level is regularly outside the range suggested to you or if you are concerned, you should seek advice from your GP.

If you are not diabetic after surgery, your GP will monitor your blood glucose levels on a yearly basis.

If you have diabetes before your operation, your medication will need to be reviewed after your surgery by the hospital diabetes team. We may need to make changes to your medication.

The Whipple's procedure for people with cancer

If you are having the Whipple's procedure to treat cancer, we may suggest that you have radiotherapy or chemotherapy first. This may help to shrink the tumour.

Scans are completed before surgery. We will make another assessment of the tumour during surgery, where we will decide whether to go ahead with the Whipple's procedure. If the Whipple's procedure is not possible, your surgeon may perform a bypass operation. This will prevent your stomach or bile duct becoming blocked in the future.

If you are having a Whipple's procedure for cancer, you will also need to have chemotherapy after you have recovered from this operation. We will give you more information about this at the time.

Alternative treatment to surgery

If you are diagnosed with cancer, chemotherapy is the main alternative treatment to surgery. Chemotherapy may be able to shrink the cancer or delay its growth. However, chemotherapy does not act as a cure.

If chemotherapy is recommended, we will need to take a sample (biopsy) of the tumour. If the biopsy confirms cancer, you will be referred to see an oncologist (a doctor specialising in treating cancer). They may give you chemotherapy as an injection, drip, or tablets.

Before your operation

Multidisciplinary team meeting (MDT)

A group of healthcare professionals managing your treatment will work together in what is known as a multidisciplinary team (MDT), to agree the best course of treatment for you. The MDT may include:

- surgeons
- oncologists
- radiologists
- physicians
- pathologists
- specialist nurses

We will talk through your options with you at your clinic appointment.

Clinics

Before your operation, we will invite you to attend some appointments to help you get ready for the surgery.

Surgical clinic

You will meet your surgical team who will explain the operation, along with the expected benefits, any potential risks, and the alternatives to surgical treatment. You will also have the opportunity to ask any questions you may have. This will be discussed again the day before or on the day of surgery when you sign the consent form.

Pre-assessment clinic

At the pre-assessment clinic, we will take your medical history and discuss your current home circumstances. If you have any concerns about how you will manage at home after the operation, it is important to let us know so that we can help you make the right arrangements.

We will also do some tests, including:

- blood tests
- height and weight measurements
- an electrocardiogram (ECG - a heart tracing test)

We will also talk to you about any medications that you take. We will give you written information to remind you which medications to stop and when to stop taking them before the surgery.

People with pancreatic disease are particularly at risk of malnutrition (when your body doesn't get the nutrients it needs). You may lose weight because of a decreased appetite, an inability to eat and digestion problems resulting in problematic bowel movements.

Your pre-assessment appointment and clinic appointment are good times to highlight any concerns regarding your weight. If you have experienced weight loss, please speak to your consultant or specialist nurse.

They will refer you to a dietitian before the surgery. The dietitian will be able to advise you on suitable foods and the best eating pattern for your symptoms. They may also recommend nutritional supplement drinks to help you to build up your strength and weight before surgery.

Cardiopulmonary exercise testing (CPET)

CPET is sometimes needed before surgery. The test involves being monitored while cycling on an exercise bike. It provides useful information about your cardiac (heart) and respiratory (breathing) functions.

Preparing your body for surgery

Having pancreatic surgery can be a major physical challenge. It is important to prepare your body to cope with this.

Taking some simple steps in the weeks before your operation can help you recover more quickly. The most important ones are:

- stopping smoking
- reducing your alcohol intake
- eating a healthy, balanced diet
- taking regular exercise (for example, swimming or walking)

We will talk to you about this in more detail when you come for your appointments.

Fit for Surgery school

Before your operation you will be invited to take part in our Fit for Surgery school.

This is a two-hour online session for you and your family. It explains the things you can do to help improve your wellbeing and fitness before your operation in order to help you recover quickly afterwards.

Medications

What medications should I bring into hospital with me?

You should bring all your usual medications with you when you come into hospital. It is very important that you keep them in their original packaging, as we cannot use them if they have been transferred into other containers.

We will always try to make sure that you have enough medication when you leave hospital. However, please make sure you have plenty of your usual medications at home.

Eating and drinking before your operation

Day before surgery

Eat and drink as normal on the day before your surgery.

Morning of surgery

Please only drink water after 2am on the day of your surgery.

You must drink two cartons of pre-operation drink between 5.30am and 6am (unless you are diabetic). These drinks contain nutrients to help your body recover after the operation. However, they are not suitable for people with diabetes. If you are coming into hospital on the day of your operation, we will give you the drinks at your pre-assessment appointment.

After 6am, you should have nothing more by mouth.

On the day of your operation

Arriving and checking in

We will ask you to come to hospital after 3pm the day before your operation. When you arrive at hospital, the nursing staff will fill out your admission paperwork. A doctor will check that your blood tests are up to date and make sure everything is in place for your operation the next day.

After this, we will either admit you to stay in hospital for the night, or you may be able to go home or stay in a local hotel before returning for surgery the next day. We will ask you to have a shower either at home before you come in or on your arrival to hospital.

Consent

Your surgeon or a member of their team will discuss your operation with you.

It's important that you understand the benefits and risks involved in the operation before you sign the consent form. If you have any questions or concerns, please ask the surgeon or nurse before your operation.

During the operation

We will give you a theatre gown and surgical stockings. Wearing the stockings will help prevent deep vein thrombosis (DVT) or blood clots.

Your nurse will go through a checklist with you before taking you to the operating theatre. The operation usually takes between six and eight hours.

After your operation

After the operation, we will move you to a recovery room until the general anaesthetic has worn off.

We will then transfer you to the surgical high dependency unit (SHDU) or to the intensive care unit (ICU). You will stay there for one to two days so that you can receive specialist care and monitoring.

It is important that you can breathe properly after the surgery, as this will prevent a chest infection from developing. We will encourage you to cough to clear your chest. If you are in pain, please tell a nurse. They can give you additional pain relief.

When your consultant surgeon and the ICU/SHDU consultant are happy that you no longer need intensive nursing care, we will move you to the surgical ward. Patients typically stay in hospital for around seven to ten days after surgery, but this will depend on your recovery and can be longer.

Pain relief

During your operation we will give you pain-relieving infusions into the surrounding muscles. These supply a small amount of local anaesthetic to numb the surgical area. These stay in place for three to five days after the surgery. We will stop these when you no longer need them. We will then give you oral pain relief instead.

You will also have patient-controlled analgesia (PCA). This device allows you to give yourself a set dose of pain relief medication intravenously (via the vein in your arm) when you need it. We will stop this when you no longer need it and give you oral pain relief instead.

Mobilising (moving around) after surgery

After you wake up from your operation, it is important to start deep breathing exercises. These will help prevent a chest infection developing. The physiotherapy team will give you an information sheet and explain how to do the exercises. If you need further help, please speak to the nurse looking after you.

We will help you to get out of bed the day after your surgery. We will also help you walk on the spot to encourage blood flow around the body.

On the enhanced recovery programme, we encourage three to four walks a day with the assistance of a nurse. These will increase in length as your recovery progresses. By being out of bed in an upright position, and by walking, your lungs will work better and there is less chance of you developing a chest infection.

After your operation, we will encourage you to wear your own clothes as soon as you are able to. These are more practical for walking around in. Loose t-shirts and tracksuit bottoms are advised.

Tubes, drains and dressings

We will place some tubes and drains during the surgery. These will be made up of:

- tubes resting on your nostrils, or a plastic mask to give you oxygen
- a tube in your nose which is passed down into your stomach to drain excess acid and bile
- a thin tube in your neck for drips, medication, and monitoring
- drips in your arms or hands to keep you hydrated
- drain tubes to collect excess fluid from the operation site
- dressings over the wound site (for the first 48 hours) which will either have been closed with stitches, surgical clips, or invisible absorbable stitches
- a catheter (a tube into your bladder to collect urine)

These tubes and drains are usually removed by the end of your first week in hospital. Occasionally you may still have a tube coming out of your stomach when you first go home. If this is necessary, we will make sure that you understand why it is there and know how to look after it until we remove it in clinic.

Eating and drinking after your operation

Eating and drinking after your operation will help with your recovery. Your medical team will advise you how much you should eat and drink each day, as it is important to slowly build up your diet.

We can give you nourishing drinks (Fortijuices or Fortisips) after the operation. The drinks can be diluted with water or milk if you find them too rich.

Your ability to eat and drink may be affected by feeling sick (nausea). This is normal. Please tell the nurse looking after you and they will give you medication to help.

It may take several weeks or months before your dietary intake and general digestion returns to normal. You may find that you get fuller quicker, so try to have smaller meals with snacks in between to help reduce bloating or discomfort. There are no specific restrictions on what you can eat, unless you are diabetic or have become diabetic after surgery.

A dietitian will support and guide you throughout your recovery.

Pancreatic enzyme capsules

The pancreas produces enzymes which help digest food so that it is ready to be absorbed. Any disruption to the pancreas can affect the production of these enzymes. This can result in poor food digestion and absorption and lead to:

- loose, pale and greasy stools
- bloating
- excess wind

You may have already been started on pancreatic enzyme capsules before your surgery. If not you will be given these after surgery and to take home with you when you leave hospital. Your dietitian will give you advice on how and when you should take these capsules. We will also talk about diet and pancreatic enzyme replacement therapy with you and your family. We will give you information that you can take home for future reference.

After the operation you may find that your taste is affected for a while.

Leaving hospital

The ward nurses, doctors and pharmacists will try their best to have your paperwork and medications organised on time for you to leave before 3pm on the day of your discharge (the day you leave hospital). However, it is important that certain things are in place to enable this to happen.

Please make sure that you have:

- a clean set of clothes to change into for your journey home
- arranged transport home

There is a discharge lounge where you can wait for your medications to be processed by the pharmacy team. Your relative or friend can collect you from here and the nursing staff can direct them to its location (E Level, West wing).

Your nurse will give you a copy of your discharge summary. A copy will also be sent to your GP. Please keep this in a safe place as it contains useful information about your surgery and medications, in the event you are readmitted to hospital.

Follow-up

The enhanced recovery nurse practitioners will phone you at home after you leave hospital to check how you are and discuss any questions or concerns you might have relating to your surgery. This will be one to two days after you leave hospital.

A follow-up clinic appointment will be sent to you in the post within two weeks of you leaving hospital. If you do not hear anything, please contact your consultant's secretary using the details at the end of this booklet.

Looking after yourself at home

Wound care

Your surgical wound may have dissolvable sutures or clips and be covered by a waterproof dressing when you go home. You will need to arrange a practice nurse appointment with your GP surgery to have your wound reviewed, redressed and when necessary have your clips removed. We will give you a clip remover so that your clips can be removed 10 to 14 days after your surgery.

Drain

You may go home with a surgical drain in place. We will teach you how to empty the drain. We will ask you to record the amount and colour of the output. Your consultant will assess the drain at your face-to-face clinic appointment. We will remove the drain at the appropriate time.

Washing

Avoid getting your wounds wet for five days after your operation. When showering or bathing at home, cover your wounds with a waterproof dressing.

Avoid using talcum powder or highly perfumed soaps as these may irritate the area. Pat the area dry after showering to avoid damaging the wound.

Medication

We will give you pain relieving medication to go home with. You should continue to take this regularly as prescribed so that your pain levels are manageable while you increase your mobility.

The nurses will explain to you when you should be taking pain relief, as some must be taken with food.

We will also give you other medication to take home, which may include:

- laxatives
- anti-acid medication
- anti-sickness medication

We will send a list of these to your GP.

Complications

Before you leave hospital, your nurse practitioner will discuss potential complications that may develop at home with you.

Possible complications may include:

- a raised temperature (above 38°C)
- feeling hot to touch
- feeling shivery or shaky
- constipation (not opening your bowels for more than three days)
- unable to keep diet and fluids down
- bleeding from the drain sites or surgical wounds
- redness spreading from the surgical wounds
- surgical wounds becoming:
 - painful
 - swollen
 - leaking fluid

If you have any questions about possible complications, please ask.

Abdominal pain

It is normal to experience griping pains during the first few weeks after surgery. The pain usually lasts for a few minutes and will go away completely in between spasms.

If you have abdominal tenderness which improves with pain relief, this indicates normal post-operative healing. If you have a pain, including back pain, that does not improve with pain relief, please call us. This may mean you do not have the correct pain relief medication or that

there is an underlying complication developing.

Your bowels

Your bowel movements are likely to change after your operation, but they will settle with time.

You may develop constipation during the first two weeks. We will give you laxatives to try to prevent this, but you should also:

- eat small, regular meals (three or more times a day)
- drink plenty of water
- mobilise regularly

Passing urine

You may experience a feeling that your bladder is not emptying fully. This usually resolves in time. If it does not, or if you experience stinging when passing urine, contact your GP as you may have a urine infection.

Rest, mobility and activity

It is normal to feel tired and anxious when you first go home. You may feel frustrated if you are not able to do all the things you could do before your operation. It is important to gradually reintroduce activities into your daily routine.

At first, you should avoid tasks which involve lifting, stretching and pulling (such as pushing a shopping trolley, lifting and carrying children or carrying laundry). You should also avoid anything which may cause strain on your abdominal muscles, as these have been weakened by surgery.

It is often helpful to plan a rest period during the day at a time when you will not be disturbed. You may need to accept some help from family, friends and neighbours until you have regained your strength.

Rest is a vital part of the recovery process, but activity is also important to help you regain your previous level of independence.

Not moving after surgery can often be harmful and cause complications such as blood clots. Try to walk regularly, as this is a good form of exercise to help you recover after surgery. Start with a short distance and go a little further each day, without exhausting yourself.

Driving

You should not drive until your level of concentration, strength and mobility have improved enough for you to drive safely. This is usually four to six weeks after surgery. It is important to ensure you are able to perform an emergency stop. You should practice this on a quiet road when you feel ready. If you cannot do an emergency stop confidently, you cannot drive a car.

You should check with your insurance company and doctor before starting to drive again.

Intimacy

There is no correct time to return to sexual activity after your operation. You may find that your libido (sex drive) is different. This may be because of:

- your medication
- your hormones
- chemotherapy
- how you feel after surgery

If you experience problems or have questions, please ask your specialist nurse or GP

Returning to work

Returning to work will depend on:

- the type of surgery you have had
- whether you need chemotherapy after surgery
- the type of work that you do

It is normal to get tired very quickly in the first few months after surgery. Your concentration and decision-making may also be affected during this time. When you do return to work, we would advise you to ask if you can work part-time or on light duties for a few weeks, so that your body can get used to this. It can be between three to six months before you are well enough to go back to work.

Our nurses can give you a sickness certificate which will cover the time spent in hospital and the first few weeks at home. If you need another sickness certificate after this time, you will need to talk to your GP.

Financial concerns

Your diagnosis may have an impact on your financial circumstances, particularly if you are still working. Your specialist nurse can advise you or can refer you to a social worker at the Macmillan Centre who specialises in financial assistance. All patients diagnosed with cancer do not need to pay prescription charges.

Contact us

If you would like to contact your consultant or have any questions about a follow-up clinic appointment, please telephone their secretary (Monday to Friday, 8am to 4pm) on the numbers provided:

Secretary for Mr Armstrong, Mr Hamady, Mr Arshad, Miss Tanno and Professor Primrose

Telephone: **023 8120 6796**

Secretary for Mr Takhar, Mr Karavias and Mr Pike

Telephone: **023 8120 6977**

Enhanced recovery programme

If you are started on the enhanced recovery programme, we will give you a contact number you can use for two weeks after you have gone home.

Enhanced recovery nurse practitioner

Telephone: **07500 975 734** (24 hours a day, seven days a week)

Urgent queries (out of hours)

Surgical ward E8

Telephone: **023 8120 6510** (weekends and evenings)

Dietitian

If you were already seeing our hospital dietitian while you were an inpatient, you can phone the dietetic department:

Telephone: **023 8120 3456** or **023 8120 6072**
(Monday to Friday, 9am to 5pm)

Specialist nurse contact details

You may have been given contact details for a hepatobiliary (HPB) specialist nurse who will provide continual support and advice throughout your patient pathway.

Telephone: **023 8120 4374** (Monday to Friday, 9am to 5pm)

If you need hospital treatment in the future

If you need medical advice after your surgery, remember that NHS 111, emergency departments and walk-in centres will not be familiar with your diagnosis or the surgery you have had. You should keep the copy of your discharge summary in a safe place so you can show them your recent history.

You can call our hospital for telephone advice, but please bear in mind that if you are unwell in the future you may need to be admitted back into University Hospital Southampton (UHS) for specialist assessment. If you are admitted to a different hospital, please ask them to inform University Hospital Southampton of your admission.

If you have been referred to our hospital from another hospital, you will be given details of your local clinical nurse specialist (CNS). They will be told about your surgery and discharge from hospital by the Southampton specialist nurses.

Further information

We have a wide range of information booklets available. Please ask the ward, pre-assessment or specialist nurses if you would like to see one.

You may find it helpful to talk to a patient who has been through the Whipple's procedure. Please ask your specialist nurse if you would like to do this.

Useful contact details and links

The Macmillan Cancer Information and Support Centre, B Level,
Southampton General Hospital

Telephone: **023 8120 6037**

Email: **macmillancentre@uhs.nhs.uk**

Maggie's Southampton, 101-103 Tremona Road, Southampton

Telephone: **023 8212 4549**

Email: **southampton@maggiescentres.org**

Pancreatic Cancer UK

Telephone: **020 3535 7099**

Email: **support@pancreaticcancer.org.uk**

Pancreatitis Supporters Network

Telephone: **012 1449 0667**

Email: **info@pancreatitis.org.uk**

PLANETS Cancer Charity

www.planetscharity.org

Pancreatic Cancer Action

www.pancreaticcanceraction.org

Liver and Pancreatic Research & Development Cancer Charity

www.lapcancercharity.com

University Hospital Southampton NHS Foundation Trust

Tremona Road
Southampton
Hampshire
SO16 6YD

Main switchboard: **023 8077 7222**

If you are a patient at one of our hospitals and need this document translated, or in another format such as easy read, large print, Braille or audio, please telephone **0800 484 0135** or email **patientsupporthub@uhs.nhs.uk**

For help preparing for your visit, arranging an interpreter or accessing the hospital, please visit **www.uhs.nhs.uk/additionalsupport**

www.uhs.nhs.uk