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Gallbladder Liver Pancreas

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WHIPPLE'S PROCEDURE

THIS INFORMATION REFLECTS THE PERSONAL PRACTICE OF A/PROF KELLEE SLATER ONLY AND DOES NOT SUBSTITUTE FOR DISCUSSION WITH YOUR SURGEON.

YOUR ADMISSION DETAILS:

Your admission date is: _____

On your arrival to hospital, present to Admissions at the designated time. From the main entrance of the hospital, there is a pharmacy on the left. At the end of the pharmacy, there is a lift. Take this to Level 1. This is Admissions.

You will need to stop eating food from: _____

Drink the 2 DEX between: _____

You can drink CLEAR fluids until: _____ **then it is NIL BY MOUTH.**

Your operation date is: _____

The Rooms will call you a day prior to when you are due to enter the hospital to confirm your admission time and when to start fasting.

Register your admission to confirm your personal details and health history.

This must be done at least 48 hours prior to your admission. It can be done in two ways:

You can complete the admission form online at:

http://www.greenslopesprivate.com.au then click on the ONLINE ADMISSION button

OR

Call Greenslopes Private Hospital Admissions on phone 1800 777 101.

Monday to Friday 8am – 7:30pm or Saturday 8:15am – 12:45pm.

WHY DO I NEED THIS OPERATION?

The most common reasons to have this operation are for issues in the head of the pancreas: cancer of the pancreas, bile duct, duodenum or ampulla. The Whipple's operation offers the only chance of cure for many of these problems.

There are also many non-cancerous conditions that are treated with this procedure: e.g. cysts of the head of the pancreas and bile duct, pancreatitis, pre-cancerous tumours, trauma and rarely for gallstones lodged in the head of the pancreas.

It is often difficult to obtain an absolute diagnosis of cancer either before or during the surgery. Cancers in this area are often right in the middle of the pancreas and are not easily or safely biopsied. The pancreas also tends to develop a great deal of scarring or reaction that interferes with interpreting a pre-operative needle biopsy. It is common to biopsy a cancer in this region and obtain a benign result. It is up to the surgeon's judgment to decide whether a patient would benefit from a Whipple's Procedure.

The presence of cancer in the piece of tissue removed is determined by the pathologist when they look under a microscope. A result from the pathologist can take anywhere from 2 – 7 days after the operation. Occasionally what might look like a cancer on all the pre-operative tests will turn out to be benign in the final pathology. This should be considered good news.

The decision to proceed to this type of surgery is very complicated. This is the reason that it is important to be operated on by a surgeon with a great deal of experience in surgery for cancer of the pancreas and bile duct. His/her judgment will be valuable in determining whether a tumour is present and if it is removable.

Sadly, it may not be possible to remove the cancer during the surgery. This might be because there is a secondary cancer in the liver. Sometimes this is not visible on scans before the operation. Another reason may be the cancer's relationship to important blood vessels supplying the liver and bowel. These blood vessels cannot be removed without a threat to your life. If the cancer is not removable, we may elect to perform a biliary bypass procedure to permanently drain away the bile duct and prevent jaundice. If the cancer is not removable, unfortunately there is no chance of cure. This will be discussed fully with you and your family after the surgery.

WHAT DOES THE PANCREAS DO?

The pancreas has two purposes.

1. It produces insulin to prevent diabetes.
2. It produces digestive juices to help your body absorb food.

It is a soft, elongated, yellow coloured organ, shaped roughly like a fish and accordingly, it has a head, neck, body and tail. It lies in the upper abdomen, running from one side to the other. The head is on the right just underneath the liver. The lower end of the bile duct runs through the head of the pancreas. The first part of the small bowel called the

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duodenum is attached to the head of the pancreas. The tail of the pancreas is intimately related to the spleen and is on the left high up under the ribs.

HOW DO I KNOW I HAVE A PROBLEM WITH MY PANCREAS?

1. Jaundice:

   Bile is made in the liver. It is carried out of the liver by the bile duct and enters the bowel. Bile is very important in the bowel as it helps you absorb fat from your food. Bile is golden in colour and it is what gives the brown colour to your faeces. Problems in the head of the pancreas like cancer may block the bile duct, resulting in the development of jaundice or yellowness. When the bile cannot get out of the liver, it is forced into the bloodstream, giving the characteristic yellow colour of the skin and eyes. Your family may notice it before you do.

   Jaundice may be accompanied by:

   - severe itch that might come before the jaundice
   - dark urine – like tea
   - pale or white bowel movements
   - fever or shivers and shakes

2. There may be a new onset of diabetes.
3. Pain is unusual and often only occurs when cancer is advanced.
4. No symptoms at all. Frequently, a problem with the pancreas is found during a scan for another reason and there are no symptoms at all.

WHAT IS IT LIKE TO BE JAUNDICED?

For some, the only thing you may notice is a change in your skin and urine colour. In many however, jaundice is accompanied by a terrible itch. You might not be able to sleep. The only treatment that will stop this itch is unblocking the bile duct. As soon as this happens, the itch will disappear quite quickly. Try not to scratch because it will cause skin irritation and bleeding. Sometimes calamine lotion helps to sooth the itch. If it is debilitating, a sleeping tablet at night, can help you get some rest.

When someone is jaundiced, they are usually admitted to the hospital because jaundiced patients can get infections and become dehydrated very easily. Being jaundiced means you will not be able to absorb Vitamin K and your liver will not be able to make the factors needed for blood to clot. You may bruise easily.

In the hospital you will be given intravenous fluids and intravenous Vitamin K. Your blood tests will be checked regularly.

Jaundice needs to be fixed within a few weeks of its onset because permanent liver damage will eventually occur. This may be done with a procedure called an ERCP (see below).

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WHAT TESTS MIGHT I HAVE BEFORE AN OPERATION IS CONSIDERED?

Planning for a Whipple's procedure requires several tests. These can usually be completed within a week. These invasive and non-invasive tests must be performed before any decision can be made regarding an attempt at curative surgery. After each one, the situation is re-assessed. The decision not to offer an operation can occur after any one of these investigations. The final decision about the feasibility of surgery is made at the actual time of the operation. You will be included in the decision making up to this point.

You must be medically and physically fit to undergo an operation of this caliber. Generally, we are reluctant to perform a Whipple's operation in people over 80 years of age because even if you are healthy you may not have enough reserve to recover from the surgery and its complications.

Some of the tests you can expect to have may include but are not limited to:

1. **Blood Tests**

   Full blood count, Kidney and Liver function tests.

   Tumour markers (Ca19.9): it is important to remember, blood tests for cancer are not helpful in some people. They can be normal in 30% of patients. They are used only as a guide and not for diagnosis. These tests can be elevated in anyone with jaundice even if they don't have cancer.

2. **CT scan of the chest and abdomen**

   Scans are performed to look for cancer outside the pancreas or bile ducts, i.e. distant spread to the lungs or liver. It also gives vital planning information about the arteries and veins around the pancreas and their relationship or involvement with the tumour. To perform successful, curative surgery, the cancer must not have spread away from the pancreas.

3. **EUS – Endoscopic Ultrasound**

   This is done under a light anaesthetic by a skilled gastroenterologist. A flexible telescope with an ultrasound mounted in the head is inserted via the mouth into the stomach. Because the pancreas is behind the stomach, an excellent view of the pancreas can be obtained. A fine needle can be inserted into the area of concerns and a biopsy can be taken. This is the most common way to get a biopsy of the pancreas. If the diagnosis is clear from the CT scan however, this test may not be performed.

4. **ERCP – Endoscopic Retrograde Cholangiopancreatography**

   ERCP gives an X-ray picture of the bile duct. It is also used to place a plastic tube in the bile duct to relieve jaundice. This is done under a light anaesthetic by a skilled gastroenterologist. A flexible telescope is inserted via the mouth into the stomach. It is not performed in every patient and has some serious risks including pancreatitis, perforation of the bowel and bleeding.

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5. **Heart and lung tests**

   These are performed to assess your fitness for major surgery. This will depend on your age and other health problems. The tests may be an ultrasound of the heart (Echocardiogram), lung function tests and exercise tests.

6. **MRI**

   If there is some doubt about the diagnosis an MRI can sometimes be of benefit.

7. **Key hole surgery or diagnostic laparoscopy**

   This is done under general anaesthesia in the operating theatre. A small cut is made in the belly button and the abdominal cavity is blown up with gas. A camera is inserted. There may be one or more additional cuts made to move things around. This test is done to look for small lumps of cancer that may have spread around the abdominal cavity. This is relatively common in advanced pancreas cancer and if present, is not curable. This type of advanced cancer is not seen well on scans.

   If all these tests prove to be favorable for surgery, we will talk to you about undergoing a Whipple's Procedure.

WHAT CAN I DO WHILE I AM AT HOME WAITING FOR MY OPERATION?

If these tests all check out and show that an operation is possible, you will be scheduled for surgery. You may be at home for a short period before your surgery. You may still be mildly jaundiced.

I recommend the following:

- Try and eat healthy, fresh food. A high protein diet is especially good. This means lots of meat, fish, eggs along with fruit and vegetables. If you feel unwell, you may not feel like eating much, so it is important to pay attention to this as though you were training for a marathon.
- Take a simple multivitamin daily (purchased from the chemist or supermarket).
- Drink at least 3 litres of water per day. Being jaundiced is very hard on the kidneys and dehydration may lead to infections and kidney failure.
- Try to avoid hot weather and use the air conditioner in the summer if possible. Hot weather makes dehydration more likely.
- Try and do some light activity each day, like a short walk in the cool of the day.
- Try to decrease your intake of caffeine, because it is quite common to have caffeine withdrawal headaches in the days after the operation.

THINGS YOU NEED TO TELL ME ABOUT WHEN YOU ARE AT HOME BEFORE THE OPERATION

Fevers or shivers and shakes

This may be a sign of an infection in the bile ducts. This is very common after a stent has been put in the bile duct. You may feel extreme fatigue and headaches during one of these infections. If it happens you must call the office and come to emergency or if you are out of town, go to your nearest emergency department. It is likely you will need to be admitted to the hospital and given intravenous antibiotics. The stent in the bile duct may need to be changed.

OTHER THINGS TO BE AWARE OF BEFORE THE OPERATION

Hospital admission process

The hospital will contact you before your operation to confirm your personal details and medical history. This is usually done on-line. They will also let you know about any hospital excess you may have to pay. You may be admitted the day before or the day of the operation. My anaesthetist will call you the night before or see you on the morning of surgery to discuss the anaesthetic and post-operative pain relief.

Fasting

You must have nothing to eat or drink for six hours prior to surgery. I may give you two carbohydrate drinks to have two hours before the operation. You must take your usual medications with a sip of water. You must not smoke on the day of the operation.

Shaving and showering

You do not need to shave any body hair from your abdomen before the surgery. If needed, I will do this with sterile clippers after you are asleep and just before the surgery commences. Doing this reduces the chance of infection.

There is no evidence to suggest that having a shower in antiseptic prior to surgery decreases infection rates, so just shower normally on the morning of surgery. Do not use any perfume.

Belly buttons

You need to remove any belly button piercings. You can put the ring back in a few weeks after the operation.

For people with very deep belly buttons, there is frequently a buildup of lint and old skin hiding in there. This can be very smelly. Try and clean your belly button with a cotton bud and water a few days before the surgery to decrease the risk of a wound infection.

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Make up, nail polish and jewelry

I understand that some people feel quite anxious about going without their makeup. Because most of your body will be covered during the operation, it is important that the anaesthetist can see your face clearly. Your colour is a good indicator of how much oxygen you are receiving. For this reason, it is best to come to theatre with a clean, make up free face.

Nail polish is OK with me but try and use a clear varnish on your fingernails. Coloured nail polish can interfere with the device we use to measure the oxygen in your blood. For many people, having a pedicure the day before the surgery can be a good way to relieve anxiety and feel better after surgery.

Any jewelry you are comfortable with removing should be left at home, so it does not get lost. If you would like to leave your wedding ring on, you may, but this will be covered with tape for the duration of the surgery.

Glasses and contact lenses

You should remove your contact lenses prior to coming to the hospital. You don't need to bring your glasses to the operating theatre. Just put them with your belongings and they will be given back to you in the ward.

False teeth, caps, crowns

Do not take your teeth out before you come to the operating theatre. They will be removed by the anaesthetist after you go to sleep. Keeping your teeth in will help the anaesthetic doctor get a good seal on your mouth with the oxygen mask. Your teeth will be well taken care of during your operation and returned to you in recovery before anyone can see you.

Preparations at home

Ensure that you have someone available to care for small children, partners or elderly parents for a little while to take the pressure off your recovery. If you are handy in the kitchen, try to cook and freeze some easy meals to have on hand for when you do not feel like cooking. If you aren't a good cook, you might want to give this a miss. Another option for those who are challenged in the culinary department, is to consider ordering precooked meals or ingredients from companies like Lite'n Easy, Marley Spoon or Hello Fresh.

Consider hiring some help around the house for a few weeks after the surgery or enlist willing (or unwilling) relatives to help out. Make sure all your bills are paid ahead or on automated payments to reduce the things you have to think about in the recovery period.

Medications

- If you are on blood thinners such as Aspirin, Warfarin, Plavix, Iscover, Clopidogrel, Pradaxa, Dabigatran, Rivaroxaban or anti-inflammatory drugs (Brufen, Mobic, Voltaren, etc), they can cause bleeding during surgery. I will advise you about what to do with these drugs prior to surgery. You must let us know about these drugs as the decision to stop them is based on each individual patient's needs.

- Diabetic medications: we will give you advice on whether to take your diabetic medications on the morning of surgery or not. Some diabetics will be admitted the night before the operation.
- If you are on Prednisone, you should not stop this drug suddenly.
- Cholesterol lowering medication should not be taken when you are fasting.
- If you are taking any alternative medications e.g. St John's Wort, fish oil or garlic, you should stop these tablets one week before surgery as they may result in excess bleeding.
- You may continue to take a multivitamin.
- Continue to take all other medications, even on the morning of surgery with a small sip of water.

Other things to know

- You must bring all relevant x-rays/scans to the hospital with you.
- If you smoke, it is time to stop. See your GP for alternatives or call Quitline (131 848) if you wish to seek advice. You will save a lot of money.
- You should also abstain from drinking alcohol 24 hours prior to any surgery.
- Bring all your current medications with you to the hospital.
- You will be wearing hospital gowns for the first few days, but bring comfortable pyjamas, personal toiletries, small change for newspapers etc.
- Bring something to do - DVDs, books, laptops. Alternately you can use hospitalisation as an opportunity to rest completely without distractions of the outside world.
- Do not bring large amounts of cash or valuables.

Income Protection Insurance and Centrelink

If you have insurance, start doing the paperwork required to claim before the operation. Centrelink claims take many weeks to process. It is difficult to recover well when you are worried about finances. Before any major surgery, it is wise to get your affairs in order including an Advance Health Directive, Will and Power of Attorney.

Queensland Cancer Council

Call the Queensland Cancer Council 13 11 20 as they have a number of general support financial assistance programs in place if needed.

Family

This is the time to rely on family and friends for support. If you receive offers of home cooked meals and household help, accept them happily. That way you can concentrate on getting better.

HOW DO WE DO A WHIPPLE'S PROCEDURE?

The Whipple's procedure is a major operation that can take between 4 - 8 hours. It is performed in two stages.

1. Removal stage

The gall bladder, the common bile duct, the head of the pancreas, duodenum, part of the stomach, part of the small bowel and the lymph glands in the area are removed.

2. Reconstruction stage

The pancreas, then bile duct and finally the stomach are each reconnected to the bowel to allow food to pass through.

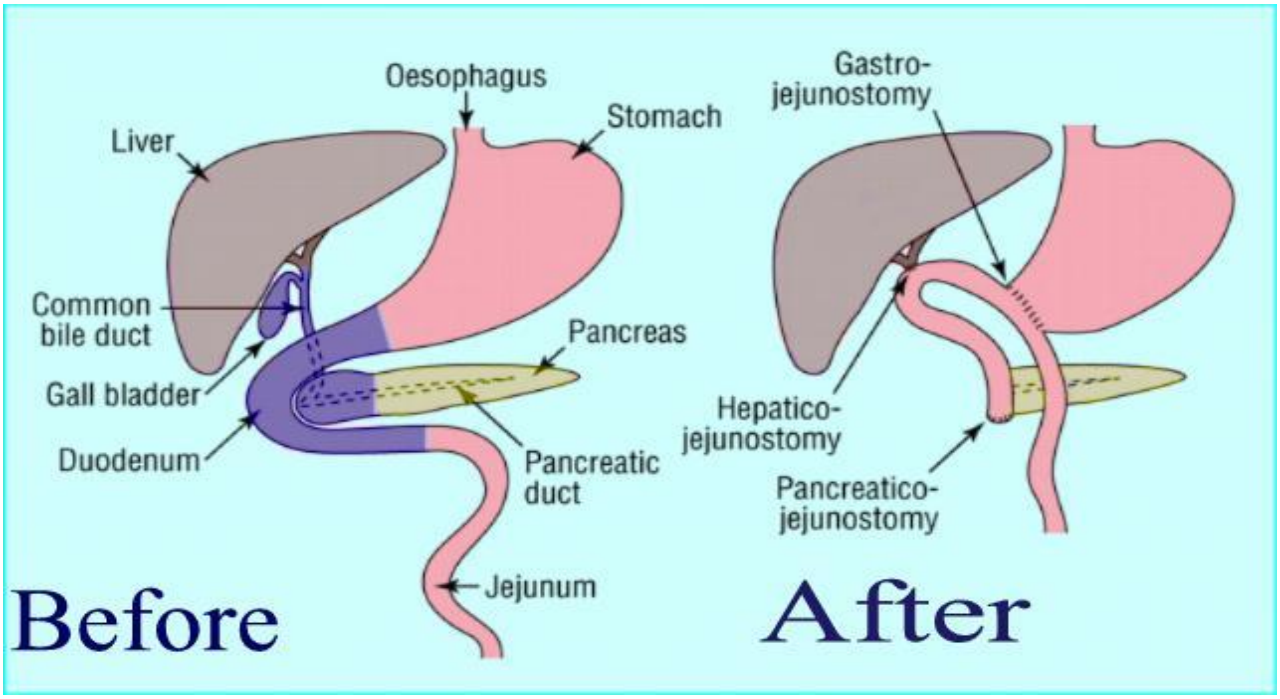

Figure 1. How your pancreas looks before and after the surgery. Everything in the purple shaded section will be removed in the operation.

WHAT TO EXPECT IMMEDIATELY AFTER SURGERY

Pain Relief

In the first few days after surgery there may be a moderate amount of discomfort. All efforts will be made to ensure you are not in terrible pain. You will have a number of tubes you are attached to that will make things reasonably uncomfortable.

You will have some form of pain relief. There will usually be a choice of:

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- Patient Controlled Analgesia (PCA) and a “Pain buster” - a button you will press that results in strong pain killers (like morphine) running straight into your IV line. This is combined with a tiny catheter placed in the wound that dispenses local anaesthetic. These devices are very safe and have locking mechanisms to prevent overdose.

  IT IS VERY IMPORTANT THAT YOUR RELATIVES DO NOT PUSH THE PAIN BUTTON FOR YOU. THIS WILL RESULT IN AN OVERDOSE OF MEDICATION THAT MAY STOP YOUR BREATHING.

- Epidural (if medically suitable) – this is a fine tube placed in the back that delivers local anaesthetic to the nerves around the spinal cord. It is a highly effective pain reliever. There are small risks associated with its use and your anaesthetist will discuss this with you at length. The epidural will be in place for three to four days after surgery and you will be able to stand up and walk while it is in.

Your anaesthetist will discuss the pros and cons of each with you prior to surgery and it is your choice in conjunction with what your anaesthetist feels is in your best interest. Either option may not be suitable for every person.

Every effort will be made to minimise the discomfort and make it bearable. Your nurses will be monitoring your level of pain frequently. When you are eating, you will be converted to oral pain relief.

Drain tubes

You will have a number of plastic tubes in your body following the surgery. They will vary a little depending on your particular medical needs. The tubes will be removed at variable times following your surgery under my direction. All tubes except for an IV in your hand will be put in once you are asleep in the operating theatre.

1. IV line: central venous line placed in your neck (done under anaesthesia) to give you fluids and pain relief after surgery.
2. Urinary catheter: tube placed in your bladder so you don’t have to get up to pass urine.
3. Arterial line: a fine catheter inserted into the artery of the wrist to monitor your blood pressure.
4. Abdominal drain tubes: one or more soft plastic drains coming out of your abdomen that are placed around the pancreas to drain any fluid, bile or pancreatic juice, so it does not collect in your abdomen.
5. Nasogastric tube: all patients require a tube that goes from their nose into their stomach for a variable time after the operation.

Intensive Care

After the operation is finished, you will be transferred to Intensive Care. This is a ward where you will have one-on-one nursing care. You may be kept asleep (induced coma) for a short time after the operation. You may also be woken up straight away. There are many factors that go into making this decision and your family will be told whether you will be awake or left asleep. You will spend at least one night in Intensive Care. When you are stable you will be moved to the ward.

Eating

You will not have anything to eat or drink for a short time after a Whipple's operation. This may be several days. An intravenous infusion will provide you with the necessary fluids. You will have a nasogastric tube (NG) in your nose that helps drain the fluid out of the stomach. I will frequently remove this on the first day after the operation. You will be started on small sips of liquid and slowly graduate to solids. If you are unable to eat adequate amounts of food after a few days, or are troubled by frequent vomiting, I will supplement your feeds by using intravenous food or a tube in your nose.

You may lose your taste for food as your taste buds will go on strike after a big operation. They will recover within a few months.

It is normal to have a sore throat for a few days after the surgery because of the anaesthetic tube and the nasogastric tube. It is also common to get thrush (a thick white coating) on your tongue when you have been sick. This can affect your swallowing and is easily treated with anti-fungal drops.

People who drink more than two cups of coffee a day may notice caffeine withdrawal headaches and irritability a few days after surgery.

Urinating/Bowel Movements

In the first few days after the surgery, a tube placed in your bladder will drain your urine. As your bowels start to wake up, you will pass increasing amounts of urine. This is a good sign. You will probably not have a bowel movement until 5 - 7 days after the surgery. Many patients worry about this, but it is normal. You will pass wind a few days before your bowels work. I will ask you about this. Many people worry about being caught short with their bowel and messing their pants or bed. This doesn't happen as often as you may think, but if it does, there is nothing to be embarrassed about. The nurses are there to help you.

Activity

You can expect your nurse and physiotherapist to help you get out of bed right from the first day. You will be able to walk short distances even with all of the tubes and intravenous lines. As each day passes your tolerance for walking and sitting in a chair will increase. Being out of bed is extremely important to prevent pneumonia, clots in the legs and loss of general condition. You will probably only feel comfortable lying on your back when you are in bed, but make frequent changes to your position in bed to prevent pressure areas on your skin.

Other Medications and Preventative Measures

You will be given a blood thinner as a small injection under the skin, once or twice a day. This helps to prevent clots in the legs (DVT) that may travel to the lungs and be life-threatening. If you are high-risk patient for DVT (previous history, family history) you may be sent home with this injection for several weeks after the operation. You or a family member will be taught how to give the injections. You will be asked to wear TED stockings throughout your hospital stay. These prevent clots in the legs. You may stop wearing these when you are able to get up and walk easily by yourself.

You may be given a medication called Octreotide for around 5 days after the surgery. This is an injection given three times a day under the skin. It helps to dry up pancreatic secretions and may have a role to play in reducing pancreatic leaks.

You will be given an antibiotic tablet called Erythromycin three times a day. This tablet has the curious ability to increase the propulsion of the stomach and may help to stop vomiting. This medication will stop when you are eating well.

You may be given laxatives to help your bowels work. Strong pain medication can cause constipation.

You will be given a medication to decrease the acid secretions in the stomach. This prevents stomach ulcers that may occur after all major surgery. This will continue life long.

You must not smoke at all.

Your Incision

You can expect to have a dressing over your incision for the first 5 days. I will remove the dressing before you go home. The dressing is like a second skin and is completely waterproof. The beauty of this is that you can shower with it on. It is normal for a small amount of fluid to collect under the dressing.

There will be no stitches to remove. They are all under the skin and they will dissolve in 6-8 weeks.

Other Important Information

You can expect to see me every day. On weekends or in times when I am operating elsewhere, you will see one of the practice partners. All of us are very experienced in this type of surgery and usually assist each other in the operating theatre.

We will make every effort to keep you informed of your progress. We are always honest and open with you and your family. Feel free to ask questions.

Length of Stay in Hospital

On average, most Whipple's patients will expect a 10 to 14-day hospital stay. This differs greatly for individual patients. Some stay shorter, some stay much, much longer. You will not be discharged before you can walk unaided, care for yourself and eat enough to maintain nutrition.

WHAT ARE THE COMPLICATIONS THAT MAY HAPPEN IMMEDIATELY AFTER A WHIPPLE'S OPERATION?

The Whipple's operation is a complex surgery with many potential complications and risks. In the hands of surgeons who are experienced, the complication rate is quite low.

The most serious and specific complications that may be seen after this operation include:

Pancreatic Fistula

After the head of the pancreas is removed, the remaining cut end of the pancreas is stitched onto the bowel. This allows the pancreatic juices into the bowel to mix with food. The pancreas is a very soft and sometimes fatty organ. In some patients, this stitching may not hold. If this happens, then pancreatic juice may leak freely into the abdomen and cause a collection that can be very corrosive and lead to infection. A significant pancreatic leak occurs in about 10% of patients.

A pancreatic leak will usually become clear 1-2 weeks after surgery. There may be increasing pain or fever. It is diagnosed by a CT scan.

This leak may be controlled by the soft plastic drain inserted at the time of the surgery and no further intervention will be required. Provided the leak is controlled by the drain, it will eventually stop. Sometimes, the drains do not do a good enough job and a new drain needs to be placed by the X-ray doctors using local anaesthetic.

Occasionally, the leak cannot be drained by these methods and the patient will need to be re-operated on to drain the pancreatic juice. This re-operation occurs in 1 – 4% of patients undergoing the Whipple's procedure. If this happens, the patient is usually critically ill.

Occasionally, the best treatment of a pancreatic leak is to remove the rest of the pancreas. This is done if the leak is a threat to the patient's life. This will mean insulin dependent diabetes is a certainty, but in many ways, the recovery may be quicker.

Gastroparesis – paralysis of the stomach

More than 50% of people having a Whipple's operation will experience a stomach that does not work well for a variable time after a Whipple's operation. The stomachs job is to grind up the food, add acid to it and move it on. This may stop happening for a while after the surgery. The small bowel however, begins to function in the first 1 – 2 days after surgery. The stomach will usually wake up within the first week and you will begin to eat better.

It about 10% however, it may take up to **4 – 6 weeks** for the stomach to wake up. This means that everything you eat, you will vomit. Even if you don't eat, you will vomit because your bowel makes up to 8 litres of liquid a day, all by itself.

If you are frequently vomiting, you will have to remain in the hospital. It may also mean that you may require continuous drainage of your stomach to prevent vomiting. (This is done with a tube in the nose or a tube through the skin of your abdomen into your stomach). Most people hate this tube and will just prefer to vomit. You will often feel better after you do.

I will be giving you food via an intravenous line.

I give all my patients an antibiotic called Erythromycin. This sometimes works as a stimulant for the stomach. In some people it reduces the risk of the stomach not working by 20%. There is no other treatment other than waiting it out.

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If you experience a prolonged period where your stomach does not work, it can be a very difficult time for you and your family emotionally. It is easy to lose spirit and feel quite "down". Rest assured, the stomach will start working again in its own time and when this occurs it usually does so overnight and you will go home shortly after.

Other immediate complications of this surgery

Like all major surgery there are several complications that may occur. These must be dealt with on a case by case basis. These complications are:

- Death from any cause: approximately 1% (1/100) of all patients having this type of operation.
- Bleeding: either in the first 1 – 3 days requiring a return to theatre or delayed bleeding from a ruptured artery some weeks after surgery. This delayed bleeding is more common after a leak of pancreas juice. You may be asked to stay in Brisbane as an outpatient for several weeks after a leak of pancreatic juice to ensure you are close to the hospital, should this life threatening problem occur.
- You may require a blood transfusion (approximately 20% of patients having this surgery).
- Damage to the artery that supplies blood to the bowel during the operation. This is usually fatal.
- Damage to or clotting of the portal vein that may be fatal.
- Other blood vessel problems: heart attack or stroke that may be fatal.
- Damage to the hand from the arterial line including numbness and chronic pain.
- Development of diabetes requiring insulin injections.
- Infections: wound, pneumonia, urine, bile duct, intra-abdominal, epidural related, IV line related, related to the gastrostomy tube.
- Paralysis secondary to a bleed or infection around the epidural.
- Punctured lung or damage to blood vessels secondary to the IV line in your neck.
- Clots in the legs that may travel to the lungs.
- Stomach ulcers that may bleed. This can present as a vomit of blood or black bowel motions.
- Damage to your teeth from the anaesthetic.
- Severe life-threatening allergy to medications.
- Urinary catheter complications: unable to pass urine after the catheter is removed especially in men.
- Permanent or temporary damage to nerves in the arms, legs and neck due to prolonged immobilisation on the operating table. This may result in loss of feeling or movement.
- Wound pain and permanent numbness under the wound.
- Hernia through the wound or internal organs.
- Bowel obstruction secondary to scar tissue. This risk is life-long and may require further surgery.
- Pancreatitis in the remaining section of the pancreas.

GOING HOME

How will I know when I am ready to leave the hospital?

Most people feel nervous about leaving the protective cocoon of the hospital. At the same time, you will be happy to leave. Strangely, there is very little rest in the hospital and you will be looking forward to the comfort of your own home.

I will not be sending you home until you are walking unaided and able to care for yourself. You should feel ready. You may need to have assistance at home preparing meals and cleaning because you will be tired for many months. This is a time to rely heavily on family and friends. It is a good idea to have someone at home with you for the first week or two.

Occasionally, a period in the rehabilitation unit is a good idea to help get you back on your feet.

Your medications

I will let you know which medications you should take at home. If needed, you will be discharged with a prescription for pain medicine to take by mouth. You can also expect to go home with a stomach medication to prevent ulcers and you might have to take this life long.

AFTER YOU GO HOME

WHAT ARE THE LONG-TERM COMPLICATIONS OF A WHIPPLE'S OPERATION?

Generally, within 6 months of this operation, life will resume some semblance of normalcy. Most Whipple's patients will return to a normal and active life. Some of the long-term consequences of the Whipple's operation include the following:

Poor absorption of food

The pancreas produces a substance (enzyme) that digests food. In some patients, removal of part of the pancreas during the Whipple's operation can lead to a decreased production of this enzyme. This causes diarrhoea that is very oily and is difficult to flush away. The solution is to take oral pancreatic enzyme pills (Creon) and this usually provides excellent relief from this problem. About 50% of all Whipple's patients may require these supplements.

Diabetes

The other job the pancreas does is produce insulin and control blood sugar levels. During the Whipple's operation the head of the pancreas is removed, meaning less insulin is made. Therefore, there is a risk of developing diabetes in about 50% of people.

In general, patients who are diabetic before surgery or who have an abnormal blood sugar level controlled with a low sugar diet prior to surgery, have a good chance of their diabetes becoming worse. This will mean you may need insulin injections. On the other hand,

patients who have completely normal blood sugar prior to surgery with no history of diabetes and do not have chronic pancreatitis or morbid obesity, may not develop diabetes after the Whipple's operation.

Alteration in diet

After a Whipple's operation there is a significant change in the amount of food you might be able to eat in one sitting. Because the stomach is a little smaller and its propulsion is affected for a while, it is easy to feel full very quickly and not take in enough calories. This is part of the reason for the weight loss experienced after this operation.

It is also very common to have an occasional vomit at home. If the vomiting occurs every day after discharge, this is not normal and you should let me know.

You should eat smaller meals and snack in between to let your stomach empty and to minimise the symptoms of bloating, heartburn or fullness. This means eating small amounts of food 6-8 times per day.

I also recommend the use of high calorie drinks like Ensure, Sustagen or Resource. They are relatively low volume and pack in a lot of calories.

It is also a good idea to take an inexpensive over the counter multivitamin each day leading up to and after the operation.

If you experience diarrhoea, you should let me know as this can be a sign that the body needs pancreas supplements. This irritating problem is very treatable.

Loss of weight

It is common for patients to lose up to 5 to 10% of their body weight after this surgery. The weight loss usually stabilizes within a month or two of surgery and most patients will regain this weight in the six months after surgery. As you recover, you may suddenly be very hungry, this is a good sign.

Attacks of pancreatitis

Some Whipple's patients may get recurrent attacks of inflammation of the pancreas. This is a difficult problem to treat and will result in episodes of abdominal pain.

Narrowing of the bile duct

Patients having a Whipple's operation may develop a narrowing of their bile duct. This will usually occur in the first year and may present as altered blood tests, jaundice or fever. It will need further surgery to correct the problem.

Can I drink alcohol?

Alcohol can be very toxic to the pancreas. It is also just generally bad for you. After pancreas surgery, alcohol should be avoided for at least three months. Beyond that, I would recommend no more than an occasional drink. Some people may get pancreatitis with even one glass.

How you may feel

You will feel weak or "washed out" when you go home. Even simple tasks may exhaust you and you might want to nap frequently. It is likely you will lose the taste for food for several weeks. You might have trouble concentrating or difficulty sleeping. You might feel depressed.

These feelings are usually transient and can be expected to resolve but they may last many months after this tremendously arduous operation.

Go easy on yourself and allow time to rest and recover.

Your incision

It is common to have discomfort, pulling and numbness of the wound for many months after the operation. This may become more pronounced about a month after surgery. It is not agonising, but it can be annoying if you don't understand that it is normal. These feelings go away with time. It takes a full year for a wound of this nature to settle completely.

Your dressing will be removed before you leave the hospital and if it is not leaking it will be left open to the air. You may wear clothes over the top of it.

It is very common to have a small or even large leakage of clear fluid from one of the drain sites, several days or weeks after the operation. If this occurs at home, do not panic. Put a pad over the leaking area and call the surgery the next day for advice.

It is very common to have a prickly end of a stitch poking out of the wound. This happens as the stitches dissolve. If it bothers you, you may snip it off with a pair of scissors. Otherwise it will disappear about 8 weeks after the surgery. If you are very thin, you may be able to feel the deep stitches that are not dissolvable if you push hard along your wound with your finger. If this bothers you, it is relatively easy to remove the offending stitch several months after the operation.

Your incision may be slightly red along the cut. This is normal. You may gently wash dried material around your incision and let water run over it. Pat the wound dry with a towel. Do not rub soap or moisturiser into your incision for at least 4 weeks or until it is fully healed. After this, you may rub Vitamin E cream along the wound.

It is normal to feel a ridge along the incision. This will go away. It is normal to have a patch of numbness under the wound. Over the next few months your incision will fade and become less prominent.

Passing drain tubes with a bowel motion

During surgery, I may place several soft pieces of plastic tubing to hold open your bile duct and pancreatic duct. These may pass with your bowel motion at any time after your surgery. It is usual not to notice them. If you do see them in the toilet, it is completely normal. DO NOT retrieve them from the toilet bowl. You DO NOT have to call and let us know they have passed. When these tubes are still inside you they will be seen on an X-

ray. It is possible that some tubes remain in the bile and pancreas duct forever. If they are there for a prolonged period of time, I will try and retrieve it with an endoscopy.

Activity

Listen to your body if it is hurting do not continue with the activity. You may start some light exercise when you feel comfortable. Your wound is built to withstand the pressure of coughing and moving your bowels. Do not lift heavier objects that put undue pressure on your abdomen for at least six weeks. This also applies to lifting children.

Do not drive until you have stopped taking narcotic pain medication and feel you can respond in an emergency. There is no specific time for this, but you must feel safe to drive.

You may climb stairs and go outside. Sitting in the sun for a short time or having an outing can improve your mood.

You cannot fly home for 10 days after a Whipple's operation, but I would like you to stay longer for a couple of weeks after the surgery in case there are problems. If you need to fly home after the surgery, you may need a travel clearance.

You may swim when your wound is fully sealed – usually about four weeks. Strenuous exercise can be undertaken after this, but you will have to build up to this as your energy returns. Use common sense and go slowly.

You may resume sexual activity when you feel ready.

WHAT WILL THIS SURGERY COST ME?

I largely work as a 'no-gap' doctor. This means that the surgeon fee for your operation will be sent to your health fund and there will be no 'gap' or extra amount of money to pay. There are always exceptions and decisions regarding this are made on a case-by-case basis.

If you do not have private health insurance or if you have overseas insurance, you will be given a quotation for surgeon, assistant, anaesthetic and hospital fees which **must be paid in full *prior* to the operation.**

This surgery is technically demanding. We are usually assisted by another consultant surgeon from the group. The remuneration for the assistant is very low for the expertise required and as a consequence there may be an out-of-pocket charge for the assistant.

If your Body Mass Index is >35, i.e. you are morbidly obese, the surgery is far more difficult. The risk of complications including pancreatic leak and death is higher. If it is medically suitable, I may recommend a period of weight loss with a program called INTENSIV (http://www.intensivweightloss.com/) before contemplation of this operation so it can be done more safely. This will incur an extra out of pocket expense.

Outpatient consultations are not covered by the health funds and there will be a charge for these meetings. You will get a proportion of this money back from Medicare. There is no fee to be paid for the first post-operative outpatient visit.

There may be other out-of-pocket fees from your anaesthetist and any other specialists who are asked to look after you. Many of them will also be no-gap doctors but this cannot be guaranteed. You should ask them ahead of time about any out-of-pocket costs. Ask us who will be performing your anaesthetic and you can make enquiries with them about any expenses.

I use a drug after your surgery called Octreotide to slow down the juices made by the pancreas. It incurs an out-of-pocket cost of $300 - $400. This may decrease the risk of pancreatic leak. Please let me know if you do not want me to use this drug.

There may be extra costs for x-ray, pharmacy and pathology. Intensive Care is usually billed straight to your health fund with no more to pay.

You have a right to gain 'Informed Financial Consent'. Fees from other practitioners are beyond our control and you should ask for the costs from each person who is asked to look after you. Patients have a choice when it comes to paying for their health care and you are fully within your rights to negotiate and shop around.

If you do not live in Brisbane, you will be responsible for all accommodation, hotel, meal and transport costs for you and your family. There is some monetary assistance available for private patients through the Patient Travel Subsidy Scheme (PTSS) providing assistance to patients and in some cases their carers, to enable them to access specialist medical services that are not available locally. Please see Queensland Health's Patient Travel Subsidy Scheme site for details: http://www.health.qld.gov.au/iptu/html/ptss.asp.

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YOUR JOURNEY THROUGH THE OPERATING THEATRE

HOW YOU MAY FEEL BEFORE SURGERY

Having a general anaesthetic (being fully put to sleep) can very scary for some people. It brings up issues about loss of control. People worry about what may happen when they are asleep.

Having an anaesthetic involves a lot of trust and in the end you will have to take a leap of faith and believe that you have chosen a team that will look after every part of your body. You should read this article if you would like to know exactly what goes on just before, during and after an anaesthetic for major surgery. For some people, understanding precisely what happens in the operating room brings a sense of calmness.

CHECKING INTO THE OPERATING THEATRES

You will be greeted at the front desk by one of our friendly executive staff who will do the administrative paperwork. They will also collect any hospital excess you may have to pay. Please bring your health fund and Medicare cards. They will also want to know about your next of kin. With your permission I will call a nominated family member at the end of the surgery and the recovery nurse will also let them know when you are ready to go to the ward.

For major surgery, it is best that you remove ***all*** your normal clothes including your underpants and bra. This is so we don't lose them or mess them up with blood or antiseptic fluid during your surgery. You will meet one of the pre-op nurses who will help you change into your glamourous theatre gown and paper underpants. For abdominal operations, it is very common that you will wake up completely naked i.e. without your paper underpants. We often remove them in the operating theatre to keep them away from the area we are operating on. Your modesty will be protected as much as possible. Contrary to what you see in the movies, your bottom will not be on view out the back of your gown. Hospital robes wrap around your rear.

You will be measured and fitted with white, knee high stockings to prevent clots in the legs. For some operations, you may have a pair of pneumatic leg warmers placed on your calves to gently massage your legs while you are asleep. This prevents clots in the legs. The look is complete with a puffy paper hat. Any jewelry you would like to keep wearing, like a wedding band will be covered with tape.

You will be weighed and your temperature, blood pressure and pulse will be checked. You will be asked about your allergies and will be given an ID band that will stay on for your entire stay. The nurse will ask you if there are any implants or metal in your body. We ask this because we need to place an earthing plate on your body during the surgery and need to place it away from any internal metal.

You will then go through many repetitive identification processes to make sure we have the right patient and that everyone agrees on the operation you are having done. You will be put on a bed and you will wait and wait and wait until it is your turn to be called into

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theatre. This waiting can be quite stressful, and you will feel hungry. You may want to bring something to do during this time. There is also a TV to watch and magazines to read. Rest assured we are moving as fast as we can and because unexpected events happen all the time, delays in hospitals are inevitable. It is possible to develop a headache due to caffeine withdrawal. This is not harmful, and you may have two Panadol with a sip of water to help.

Your clothes, glasses, valuables will be put into a bag and your belongings will be put into a locker whilst you are in theatre. You will be reunited with them when you return to your room in a ward or intensive care. If you have come to theatre from the ward, your belongings will stay in your room and await your return. If you are going to intensive care after the surgery, your belonging will travel with you.

Why do I have to starve before surgery?

For an arranged operation, you must have absolutely nothing to eat or drink for six hours before you go to sleep. When you have an anaesthetic, all the muscles in your body relax. If you have food in your stomach, it can reflux back up into your mouth and even worse, your lungs. This can produce a life-threatening pneumonia. You must also not chew gum prior to surgery as this increases the fluid in your stomach. You may drink clear liquid up until 2 hours prior to your operation. I may give you a sugary drink two hours prior to surgery to help you feel less thirsty and speed up your recovery. It is OK to take your normal medications with a sip of water any time before surgery. It is also fine to brush your teeth.

Special circumstances

There are a few instances where certain precautions take place.

Latex allergy:

Please let the admission nurses know if you have a latex allergy. We need to remove all the latex products from the operating theatre to protect you.

If you take certain medications:

If you have recently had chemotherapy or take immune suppressing drugs like azathioprine or methotrexate, special measures will be taken to protect staff members against coming into contact with these drugs.

If you have certain bacteria on your skin:

Many people have bacteria living on their skin that have been given special names by hospitals. It is likely you will know this from a previous hospital admission. This does not mean you have an infection. We all have bacteria living in and on our bodies, some just have special names and some have a higher chance of being resistant to some antibiotics. It is best if these bacteria are not passed onto other patients as it promotes antibiotic resistance. If you are MRSA “golden staph”, VRE, CRE or MRAB positive, then isolation precautions will be taken throughout your stay in the hospital.

If you have false teeth or plates:

Please leave these in. It makes it easier for the anaesthetist to help you breathe as you go off to sleep. If needed, the anaesthetist will remove them after you are asleep and they will be returned to you in recovery.

TAKING YOU INTO THE OPERATING THEATRE

You will be wheeled around to the operating room by one of the theatre orderlies or a nurse. This is where you will say goodbye to your relatives. They will be next able to see you when you return to the ward. Because there are other patients in the recovery unit, relatives are not permitted.

The next stop is the anaesthetic room. This is a small cubicle adjoining the main operating theatre. The orderly will hand you over to the nurse assisting the anaesthetist. You will then have another identification check (you will be very good at reciting your name by this point).

Then the anaesthetist will arrive. They are the person with the good drugs that will make you relaxed, so be nice to them! If they have not met you earlier, they will go through your medical history again and what to expect. They may also explain some risks of anaesthesia, but because you have read this book, you will be aware of them already. This is not meant to scare you. It is our job to tell you about the good and bad aspects of surgery.

The only thing that will go into your body while you are awake is a small plastic tube in your hand called a cannula, drip or IV. This is a small needle and will hurt for a second or two. When it is in the vein, the needle is taken out and a soft plastic tube is all that is left. Once in, you should not be able to feel it. It is secured with tape and you may move your arm. The drip is used to give the medication that will put you off to sleep. If you are having an epidural for post-operative pain relief then this will be done prior to going off to sleep.

Occasionally, some patients have a severe needle phobia. This one small needle can create terrible anxiety. If this is the case, we can sometimes give the anaesthetic without a needle at the beginning. This is done by asking you to breathe on gas for a few minutes. You will drift off to sleep. The IV is placed once you are fully out and you will know nothing about it. This is a slower way to go off to sleep, but for some people avoiding a needle while awake makes a big difference.

Once the IV is in, you will be taken into the main operating theatre. This can be a confronting place too. There are usually 5 - 10 people in the room, all wearing masks and talking. We are all there to look after you. Most operating theatres are set up in a predictable way. There will be an anaesthetic machine with all the monitors to ensure you are safe. There will be several tables filled with surgical instruments ready to perform your surgery. There will also be nurses preparing this equipment and counting each and every instrument to ensure that nothing is missing at the end of your operation. There may also be junior medical staff and orderlies. The operating table is in the middle of the room under big lights. They will not be turned on until you are asleep. The table is narrow and cold. It is narrow because we need to stand close to you to operate and it won't be cold for long because during the surgery you will covered with a heating blanket.

The trolley you are on will be placed beside the operating table and if you are mobile, you will be asked to move yourself across onto it. The nurses will make sure you are not lying on your gown as it will usually need to be moved aside to expose the area we need to operate on. If you are in pain or not mobile, we will slide you across to the operating table on a special board or float you over on a noisy hover mattress. A lot of activity will then

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happen around you. We will place padded boards on the side of the bed for you to rest your arms on. Your leg massagers will be hooked up and switched on and you will feel a gentle compression on your calves.

You will have three stickers placed on your forehead. This helps the anaesthetist monitor how deeply asleep you are. Sticky dots to monitor your heart beat will be placed on your chest. Fluid will be hooked up to your IV line and a clip that reads your pulse placed on your finger. A blood pressure cuff will be wrapped around your arm and the first time it takes your blood pressure, it will inflate very tightly. It will only do that once.

You may already be feeling happy, drowsy or talkative as the anaesthetist may have given you a relaxing medication via the IV. You will not go to sleep yet, but it is unlikely you will remember anything after this until you wake up in recovery even though you will continue to talk to us.

WHAT HAPPENS DURING AN ANAESTHETIC

Sometimes knowing what happens during an anaesthetic really helps you relax and realize that you are well taken care of while you are asleep. Many people's greatest fear is the anaesthetic. They worry about vomiting afterward, being aware during surgery and not waking up. Whilst these things very, very rarely occur, having an anaesthetic is actually far safer than anything you have already done that day, like driving into the hospital.

General anaesthetic consists of three phases

1. **Going to sleep – similar to taking off in a plane**

   Just before you go to sleep, the anaesthetic nurse will ask you to breathe into a mask and fill your lungs with oxygen. This makes sure that you have the maximal amount of oxygen in your blood. This does not put you to sleep. A white medication called Propofol is then given through your IV. The anaesthetist will ask you to keep your eyes open. As this medication goes into your veins, it can cause a stinging sensation in your arm. This is normal and does not damage you. After this injection you will be asleep in about ten seconds. Your breathing will temporarily stop and the anaesthetist will take over your breathing for you by blowing oxygen into your lungs. As soon as you are asleep and if you are having abdominal surgery, the anaesthetist will give a medication that stops your muscles moving. This has many functions. It allows your throat to relax so the anaesthetist can safely place the breathing tube into the windpipe. It also relaxes your abdominal muscles and makes surgery on the abdomen easier. If you have false teeth, they will be removed at this point and returned to you in recovery.

   As soon as the muscle relaxer has worked, the anaesthetist will use a special tool called a laryngoscope. This is a smooth spatula with a light that is inserted over your tongue and deep into your throat. The anaesthetist will be able to see your vocal cords and beyond this is your trachea or windpipe. A specially designed hollow tube is placed down the spatula and into the wind pipe. A balloon on the end of the tube is inflated by the nurse to fully occlude your airway and stop any vomit or secretions from entering your wind pipe.

This is often the trickiest part of the anaesthetic and your life can depend on it. There are many signs the anaesthetist will look for before you go to sleep to predict whether getting this tube down will be difficult or not. If you have a small jaw, previous difficulties with intubation, neck problems, difficulty opening your mouth, the anaesthetist will be ready with a different strategy to get the tube down your throat safely. Because your breathing is our number one priority, occasionally putting the breathing tube down can result in damage to your teeth or cuts to your lips. All care is taken and this is uncommon. Having a tube in your throat can leave it sore and dry for a day or too. This is transient. You may also have a swollen uvula (the dangly bit at the back of your throat) for a few days.

Before the surgery starts, if appropriate, you will be given a dose of antibiotics via your drip to help lessen the risk of wound infection. Soft tape will be placed over your eyes to keep them closed and protected. There are other devices we use to monitor your wellbeing during surgery. Tubes like urinary catheters and IV lines will now be placed. Your arms and legs will be padded to protect your pressure areas and you will be positioned for surgery.

2. Staying asleep during the surgery – cruise control

You will be kept asleep by anaesthetic gas piped in via the tube in your windpipe or by a continuous infusion of Propofol in your drip. The anaesthetic machine will steadily and precisely breathe for you. Your anaesthetist will never leave your side and constantly monitors your vital signs. They will give you small doses of medications and fluids to keep everything steady.

3. Waking up – landing the plane

As the surgery comes to an end, the anaesthetist will give you strong dose of pain killer, so you will wake up in comfort. They will turn the gas off and give a medication to reverse the paralysis. While you are still asleep, you will be transferred onto your bed. When you are breathing by yourself, the anaesthetist will remove the breathing tube and suction your throat. Patients rarely remember this. An oxygen mask will be placed on your face and you will be wheeled out to recovery.

APART FROM THE SURGERY, WHAT ELSE HAPPENS WHEN I AM ASLEEP

If you have body hair on the area having surgery, it will be clipped off. Often a larger area that is needed will be shaved. An earthing plate will be placed somewhere on your body, so the electrocautery device can be used to stop bleeding as required. This will be removed before you wake up.

Just before surgery, everyone in the theatre will stop what they are doing and check once again your identity and the operation we are performing.

WHAT SOME PEOPLE WORRY ABOUT BUT WERE TOO AFRAID TO ASK

What if I have my period on the day of surgery?

This makes no difference to you or us. Having a period is a normal part of life. I would suggest that you use a pad and not a tampon as it may be some time before you can change it. If you have any questions about this, ask the nurse who checks you in.

My bladder feels full – will I wet myself?

Just before you go into the operating theatre, many people feel like they need to pass urine. This is usually anxiety. If you have gone to the toilet in the waiting area, it is very unlikely that you will need to go again.
For big operations, we will put a tube in your bladder that will catch all your urine. If you are having a smaller operation and still need to go once you reach the theatre, the nurse will take you to the bathroom.
It is a fact of life that some people occasionally wet themselves during the operation. It does not bother us and you will be cleaned up before you go to the recovery room.

What if I think I am pregnant?

You must let us know at check in, even if you are only suspicious. If you are pregnant it is likely we will delay the surgery. If you are not sure, there are quick pregnancy tests available to check. It is essential that we know because the surgery and anaesthetic drugs can harm your unborn child and even lead to miscarriage.

I always vomit after an anaesthetic

Nausea and even vomiting can happen after an anaesthetic. It is such an unpleasant feeling that it may be an enduring memory of previous surgery. Post anaesthetic nausea is more common if you suffer with motion sickness. Your anaesthetist will discuss this with you and there are many strategies to avoid this troubling side effect.

What if I am breastfeeding?

Breast feeding should not stop you from having a surgery you need. Very small amounts of anaesthetic and pain relieving drugs will pass into your breast milk. Theoretically, this is low risk for your baby. Anaesthetic guidelines suggest you pump and discard breast milk for 24 hours after an anaesthetic. Your baby will need to be fed with previously pumped milk or formula. It is almost certainly perfectly safe however to feed your baby less than 24 hours later. Whether you are up to it of course is another matter. Occasionally, surgery may cause a decrease or even cessation of your milk supply.

Who will be in the operating theatre with me?

It is necessary for your safety for a number of staff, both male and female to be in the operating theatre both before and during you surgery. In addition to your surgeon and anesthetist, there may be junior doctors, a number of nursing staff, theatre orderlies and x-ray technicians. As this is a teaching facility there may be medical students present.

All of these staff are highly professional. There are definitely moments where you will be exposed whilst preparing you for surgery, but extreme efforts are made to preserve your modesty.

Do you play music while I am asleep?

No. We are concentrating on your care. Music tends to be a distraction. There are many sounds of machines and monitors in the operating theatre and we are listening to those. We also need quiet to enable communication between staff.

What if my bowels work while I am asleep?

This is quite uncommon. If it does occur however, you will be cleaned up prior to moving to recovery.

I am worried about waking up during the operation

Awareness during anesthesia is exceptionally rare. Making sure you are fully asleep is the anaesthetists' main objective. There are a number of monitors and alarms that you will be hooked up to absolutely ensure that this doesn't occur.

I am on the oral contraceptive pill

There is a medication given as the end of some anaesthetics that can interfere with the effectiveness of the pill. Please tell your anaesthetist if you are on the pill. If the medication is used, then you will need to use an alternate contraception for two weeks to avoid pregnancy.

I am worried about my memory after the anaesthetic

There is no doubt that a condition called post anaesthetic cognitive disorder is a real thing. It is more common on patients over 60 and it can result in memory loss that may be permanent. It is not fully understood. If you have concerns, your anaesthetist would be happy to discuss it with you.

RECOVERY – THE WAKE-UP ROOM

When you wake up, is likely that you will be wearing a gown but be completely naked underneath. You will be covered with a blanket.

The recovery room is the first thing most patients will remember after going to sleep. It will almost be like no time has passed.

You will have a nurse by your side monitoring your vital signs. You will stay in recovery until you are fully awake and your observations are within normal limits. The nurse will monitor your pain and keep you comfortable.

If you have a catheter in your bladder, you may feel a need to pass urine. This feeling will go away.

As you wake up you may have a tube in your throat that the nurse will remove. It is unlikely you will remember this.

If you snore you may have a small tube in your nose or mouth to help you breathe until you are fully awake.

If you have false teeth, they will be returned to you in recovery.

Your family is not allowed in recovery so we can respect the privacy of other patients.

RETURN TO THE WARD

When you return to the ward you may be drowsy, nauseated or in pain. Your nurse will be monitoring these things closely.

They will be checking you pulse, blood pressure, temperature and dressings regularly for abnormalities.

There is a very strict criteria of observations that the nurses must follow. If you fall outside these criteria for any reason the nurses must notify the medical team. Very often this is just a false alarm. It may sometimes seem dramatic, but it is done for your safety.

If you are on strong pain killers like morphine or Fentanyl you will be required to wear an oxygen mask.

HOW DO I HANDLE MY ANXIETY?

Every person suffers from some level of anxiety. You are not human if you do not. Having an operation is up there in the top ten of major life events. A little bit of anxiety can be good thing. It can make you hesitate before taking a misstep. When anxiety gets out of control however, it becomes a medical problem and stops you doing things that you should or want to do. Some people suffer anxiety about many things and for some it can be an issue only in certain situations.

Common symptoms of anxiety are

- Overwhelming negative thoughts
- Sleepless with worry
- A constant stream of bad thoughts “the chatter”
- Physical symptoms such as chest pain, nausea, headache

There are many techniques to address your anxiety. There are mindfulness, meditation and distraction techniques. Sometimes anxiety is so bad that medication is needed.

It is normal to be anxious before surgery but if the feeling of anxiety is overwhelming please talk to me or your GP about it. Help and suggestions are also available at Beyond Blue: www.beyondblue.com.au

ABOUT YOUR SURGEON

A/Prof Kellee Slater MBBS (Hons) FRACS FACS

2018	Associate Professor University of Queensland
2015	Fellow of the American College of Surgeons
2017-2019	National Chair of the Australian Board in General Surgery
2006 – Present	Staff Surgeon Hepatopancreatic-Biliary-Liver Transplant Princess Alexandra Hospital and Greenslopes Private Hospital Brisbane, Queensland
2004 – 2006	Hepatobiliary and Liver Transplant Fellowship Princess Alexandra Hospital Brisbane, Queensland
2002 – 2004	Liver and Kidney Transplant Fellowship University of Colorado Hospital Denver, Colorado, United States of America
2002	Fellow of the Royal Australian College of Surgeons (FRACS) General Surgery
1989 – 1994	MBBS (Honours) University of Queensland