

07 3847 3000

Abs of Steel Hernia Repair
Dr Kellee Slater MBBS (Hons) FRACS

Suite 207 Ramsay Specialist Centre
Newdegate Street
Greenslopes QLD 4120



Abs of Steel Hernia Repair Brisbane

MAJOR INCISIONAL HERNIA REPAIR

*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.

WHAT IS AN INCISIONAL HERNIA?

An incisional hernia occurs when there is a hole in the deep layers of an old surgical scar. A hernia can also form at the belly button through a natural defect. As the muscle layers separate, a piece of bowel or fat from inside the abdominal cavity may protrude through this hole. A hernia will appear as a lump in the surgical scar or the belly button and become more prominent when standing up. The lump may disappear or become smaller when lying down. Hernias come in all shapes and sizes. They may be barely noticeable or they may protrude and hang down a long way when standing up.



Figure 1.

An incisional hernia is when a section of bowel or fat protrudes through a hole in the deep muscle layer beneath a surgical scar.

WHAT IS A DIVARICATION?

A divarication is a pronounced ridge of weakened tissue that runs vertically from the breast bone to the pubic bone. It is especially prominent when the abdominal muscles are tensed. This can best be demonstrated when lying flat and tensing your abdominal muscles by trying to put your chin on your chest. Many people mistake this for a hernia. It is possible to have a divarication and hernia at the same time. The central muscles of the abdominal wall are usually closely opposed straps. Anytime a patient develops enlargement of the abdomen, e.g. during pregnancy, obesity or fluid in the abdomen, these muscles may separate, and a bulge will develop between them.

It is very common for a woman to develop a divarication in addition to a hernia at the belly button after giving birth. After childbirth or significant weight loss, the muscles may come together a little bit, however, no amount of exercise, Pilates, muscle strengthening or time will restore them fully to the centre.

After childbirth many women find that the disruption of their abdominal core leads to chronic back issues due to the instability of the abdominal core. If an abdominoplasty is being performed, the divarication will be repaired as part of the procedure. That is, the muscles are brought back to the midline, restoring the abdominal "core".

If there is a hernia present at the belly button, the divarication is also usually repaired because it creates a weakness around the hernia.

There are circumstances where it is not helpful to fix the divarication. Because a divarication is not a true hernia as there is no risk that bowel can get caught in this type of weakening. Since a divarication by itself is not dangerous it is usually not repaired as a stand-alone operation especially when it occurs in a man who is overweight and carries the majority of that weight in their abdomen. Because men have relatively little fat just under the skin and most of it inside the abdomen, divarications appear to be quite prominent. Fixing the divarication in this situation frequently fails because the pressure in the obese abdomen pushes the repair apart.



Figure 2. Illustrates how the muscles of the abdominal wall stretch apart creating a bulge.

WHAT CAUSES AN INCISIONAL HERNIA?

There are many factors that contribute to the formation of a hernia.

- Wound infections after surgery
- Many operations via the same incision
- Obesity
- Diabetes
- Smoking
- Operations for severe pancreatitis or other abdominal catastrophes
- Colostomy or stomas
- Long term Prednisone or immunosuppression drugs.

WHAT PROBLEMS CAN A HERNIAS CAUSE?

Hernias do not get better without treatment and will typically grow larger over time. Hernias cause discomfort and sometimes pain. Patients will complain of a dragging sensation or a squelching noise as the bowel moves around in the hernia. It may be difficult to have a bowel movement without holding the hernia. The feared complication of a hernia is when a piece of bowel becomes trapped, loses its blood supply and dies. This is a surgical emergency and can be life threatening. Symptoms of this include sudden, extreme pain in the hernia, inability to push the hernia back in, vomiting or redness over the hernia. Should this occur, you should go immediately to an Emergency Department.

HOW ARE HERNIAS TREATED?

Hernias can be difficult to repair because the tissues are stretched thin and have very little strength. The further apart the muscles are, the harder the hernia can be to repair. Each case is assessed on an individual basis. There may have been previous attempts made at repairing these hernias and this can make the surgery more complicated.

A good way to think about fixing a hernia is to liken it to patching a hole in a plaster wall. The edges of the hole are difficult to pull together, so a patch or “mesh” is placed behind the defect. This reinforces the weakened tissue and muscle. The mesh can be made of several different types of material (see below). The mesh becomes incorporated into the body and adds extra strength. The mesh can be used in a variety of ways but it is usually placed against the muscle inside the abdominal cavity. The weakened muscle layer is then pulled closed over the top of the mesh. These tightened layers will eventually weaken again and the mesh is there to bridge the gap as they separate. Sometimes one of the layers of the abdominal wall is cut to bring the muscles together to cover the bowel. This does not change the function of the abdominal wall in an appreciable way.

Incisional hernias can be repaired in two different ways.

1. **Open technique** – an incision is made through the old scar and the contents of the hernia are returned to the abdomen. Finally, a mesh is placed across the hole.
2. **Laparoscopic or keyhole technique** – smaller incisions are made around the periphery of the abdomen and the hernia is repaired from inside the abdominal cavity using a mesh.

Sometimes a combination of both keyhole and open techniques are used. Laparoscopic surgery seems to have a lower rate of wound infection but a higher risk of bowel injury. This is because the scarring in the abdomen can be significant after previous surgery. Bands of tissue called adhesions form after all abdominal surgery and this might trap loops of bowel in a spider web of tissue. This tissue has to be released during the hernia repair and this might be more difficult in keyhole techniques. It is easy to miss small holes made in the bowel during the dissection. Laparoscopic incisional hernia repair can also have a poorer cosmetic and functional result because the abdominal wall muscles are not able to be pulled together as well as the open technique.

Both techniques have their pros and cons and are acceptable. Incisional hernia surgery is carefully tailored to the individual. Post operative recovery and pain is similar with both techniques so there is no big advantage to keyhole surgery in this respect.

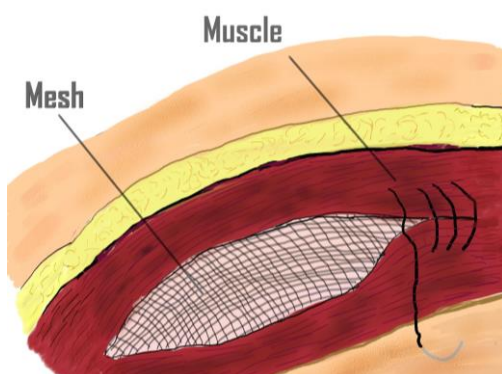


Figure 3.

Illustrates how the mesh is inserted behind the muscle layer. The muscles are sewn together over the mesh.

WHAT TYPES OF MESH ARE AVAILABLE?

Mesh is always used in an incisional hernia repair. If the muscles are simply stitched together the hernia repair has a high failure rate. There are many types of mesh on the market and the choice of mesh can be complicated. It will depend on the size and type of hernia. Choice of mesh will also depend on whether active infection or a colostomy is present. Mesh falls into three main categories.

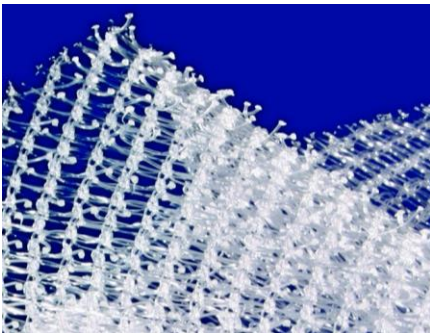
1. Bioabsorbable mesh



Gore® Bio-A®

This material is made from synthetic (stitch like material) and is fully absorbed into the body within six months to twelve months. I use this mesh very commonly.

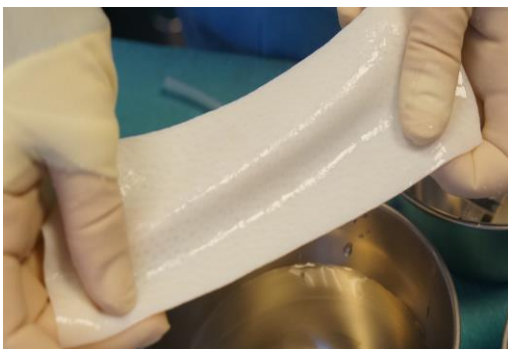
2. Synthetic mesh



Medtronic Progrid Mesh™

These meshes are made of a polyester or polypropylene often coated with a dissolving material that can make these types of mesh safer to place in near the bowel. There are many different brands of mesh and one is not generally more effective than another. Synthetic meshes are the most commonly used. They are not good if there is infection present.

3. Biologic mesh



Lifecell: Strattice™ Mesh

This type of mesh is made from highly purified animal products – usually pig or cow and is mainly used in infected wounds. I use these meshes only if there are no others available.

ARE THERE ANY RISKS ASSOCIATED WITH USING MESH?

Yes, like any medical device that is placed permanently in the body, there are risks. You may have read about problems with mesh and there is a lot of coverage in the media about legal cases relating to its use.

Whilst mesh has problems that I will outline, if a large hernia is not repaired using mesh, then the risk of the hernia recurring is 40%.

The risks associated with mesh are as follows:

1. Infection: This is rare but can happen in the first few weeks after the mesh is placed or can even present years later. You are never safe from mesh infection. If infection occurs, the mesh needs to be removed with another operation. Mesh infection that requires mesh removal is more common if synthetic, permanent mesh is used. The risk also increases when there is an opening made in the bowel during the surgery or where an infected wound is already present. Synthetic mesh is rarely used in this situation. A bioabsorbable or biologic mesh will be used in this case. Mesh infection may present as unexplained fever, chronic pain or a small hole where the mesh is visible or a sinus that discharges pus.
2. Mesh erosion: When there is synthetic mesh placed next to the bowel, bladder or vagina, the mesh may erode through the wall of these organs. This will also cause the mesh to become infected and produce symptoms. The mesh will need to be removed. The mesh may also erode through the skin.
3. Mesh migration: the most common reason a hernia will come back is if the mesh pulls away at one edge and a section of bowel comes through the defect at the edge. This will require repair. This can be avoided by using an appropriately large sheet of mesh.

There has been a recent court case in Australia where the judge stated that a drain placed near the mesh after surgery to drain away fluid is required to prevent the risk of mesh infection. This is absolutely **not** the case and sets a very dangerous precedent. While drains are useful in some patients, there is no scientific evidence that drains reduce the risk of infection. Some studies in fact suggest that they actually increase the risk of infection, especially if they are left in too long. I will be using my best judgment as to whether to leave a drain near your mesh and I will also decide when it should come out.

What about antibiotics?

There is no evidence that taking antibiotics reduces the risk of developing a mesh infection. Antibiotics also do not fix a mesh infection once bacteria are living on the mesh. Antibiotics may in fact increase the risk of infection, by breeding bacteria that are resistant to antibiotics.

ARE THERE ANY ALTERNATIVES TO HAVING HERNIA SURGERY?

There are no treatment alternatives for fixing incisional hernias. Surgical repair is the only thing that will solve the problem. Some people wear a support garment called a truss. This is an elastic band that attempts to keep the hernia in place. This will not fix the hernia and can be quite uncomfortable and hot. These garments are generally used when someone is unfit to undergo surgical treatment.

WHAT WILL MY ABDOMEN LOOK LIKE AFTER HERNIA SURGERY?

No surgeon can ever make your abdomen look the way it did when you were born. Your abdominal wall will always be scarred. You will never have a so called “wash-board” appearance to your abdomen. The aim of incisional hernia surgery is to bring the muscles back together. This returns some function to the abdominal wall and gets rid of the unsightly hernia bulge. It may be easier to have a bowel movement after the hernia is repaired.

The initial appearance is different for the two surgical techniques:

Open surgery

Your old incision will be opened and the skin lifted up so the mesh can be placed behind the defect. The muscle layer is then pulled together with non-dissolving nylon stitches. The wound is then closed with invisible stitches. Bruising is normal and the wound may bulge for some weeks as fluid collects under it. Over time, this will smooth out.

Laparoscopic surgery

The best way to describe the appearance after this approach is that you will look like an “upholstered cushion”. There is a special instrument used to put stitches into these hernias. The result is many tiny puncture wounds in the abdominal wall.

A volume of fluid will collect where the hernia once was. It may seem for a while that the hernia has come back. There may also be a lot of bruising. Over time, this fluid collection will disappear and smooth out. The contour of the “upholstery” will also smooth out over time. With laparoscopic surgery, there may be a gap to feel under the skin where the hernia used to be. This is why laparoscopic surgery is only suited to incisional hernias with small gaps in the muscle. If wide necked hernias are fixed this way, the cosmetic and functional results are not as good.

Seromas – fluid collections

Almost all incisional hernia operations will result in an accumulation of fluid under the surgical wound. This is expected and is not a complication. Frequently, a surgical drain will be left in the wound for a few days or even a few weeks to minimise this problem.

I also use a substance called talc to glue the tissues together which helps prevent this problem.

Despite this, it is still common, for a leak of fluid to occur and this will often present as a lump under the wound several days and even weeks after surgery. Occasionally, it is necessary to insert a fine needle into these fluid collections to drain them. This may need to be done several times. It is usually painless. Sometimes the fluid may escape from the wound. This can be a dramatic gush but the problem is usually minor. Call the office the following day if this occurs.

When biologic meshes are used, the inflammation that occurs as the mesh disappears can be significant. The wound may suddenly become red several weeks after the repair. The seromas will persist for weeks and even months. This is normal.

A little bit about belly buttons

Most people really like their belly buttons. It is the punctuation point of the abdomen. After you are born, however, it does not have a function.

If you are having a hernia repair, I will discuss with you what we are going to do with your belly button.

In some people – where the hernia does not involve the belly button nothing will change. An incision will be made around it and the belly button will remain in its place on the abdominal wall. Sometimes though, it cannot be salvaged and will need to be removed.

Good results take time

Incisional hernia repairs take many months to heal. Your abdominal wall will change shape over time. It will take at least six months for the inflammation, fluid collections and scarring to settle. Be patient during this time.

WHAT ARE THE COMPLICATIONS OF SURGERY FOR INCISIONAL HERNIAS?

There are different risks depending on whether the operation is done open or laparoscopically.

Risks Specific to Open Incisional Hernia Repair

- **Injury to the bowel** may occur in an open operation. This is because the bowel may be caught up in scar tissue (adhesions) and easily torn. This is usually repaired at the time of the operation, but it may prohibit the use of mesh. Rarely, bowel contents may leak out of the wound after surgery and require another operation and many weeks in the hospital. Bowel perforation can be fatal.
- **Mesh infection:** The mesh used to repair the hernia may become infected. This is rare. If infection occurs, the mesh needs to be removed at another operation. Synthetic mesh is rarely used where there has been leakage of bowel content or if the wound is already infected. A biologic or bioabsorbable mesh will be used in this case.
- **Wound infection:** occurs in 1 – 4% of patients having this surgery.
- **Bleeding under the wound:** There is a very large raw space left when the skin is removed. You may bleed into this space. If you do, this bleeding usually stops by itself.

At some point in the weeks after the surgery, this old blood will make its way out of your wound. It may look a little like red currant jelly. It will stop when it is ready.

- **Recurrence of the hernia:** Mesh pulling away from the edge of the repair is very common. It is likely that approximately 10 - 20% of incisional hernias come back. This risk can be minimised by not lifting heavy weights for at least six weeks after surgery. Lifting very heavy weights may be off limits forever in very big hernias. The risk is increased in patients who have a poor immune system, diabetes, obesity, smokers or those who have has multiple previous hernia repairs.
- **Loss of skin:** When you have had multiple incisions, there is a risk that the blood supply to the skin may be very poor. Another incision may result in the death of the skin over the wound. This is a big problem if it occurs and may require weeks of dressings and further plastic surgery including skin grafts. It is uncommon.
- **Exposed Mesh:** Occasionally the mesh may wear through the skin and become exposed. If this happens it will need to be removed. Mesh has been known to migrate from its original position and end up in the bowel, bladder or other organ. Further surgery is often required in this situation. This is not common when the mesh is placed deep to the muscle.
- **Abdominal compartment syndrome and abdominal hypoventilation syndrome:** This can be a deadly condition. The bowels and kidneys do not get enough blood supply due to a corset like effect from the closed abdominal muscles. The kidneys may stop working and an urgent operation to release the tight abdominal wall will be required. You may require prolonged ventilation in Intensive Care. You may need a tracheostomy if you are asleep for a long time. Your abdomen may need to be reopened to release the pressure and if this is the case, you will be asleep on the ventilator for a long time.
- **Numbness of the skin:** After any surgery, there will be numbness of the skin around the wound that is permanent. This is something that your body gets used to.
- **Bowel obstruction:** Because the mesh is often placed fully in the abdominal cavity, there is the risk of a piece of bowel sticking to the mesh leading to a blockage of the bowel or leakage of bowel content. This is uncommon but the risk is life long.
- **Pain:** It is very common to have discomfort or pain for several days and weeks after the surgery. This is usually manageable with pain medication. Rarely there can be pain related to nerves being trapped in scar tissue. This can be permanent and required treatment by a pain specialist. Occasionally these trapped nerves can result in chronic pain that alters lifestyle.

Risks Specific to Laparoscopic Incisional Hernia Repair

Encompasses all the previously mentioned complications plus:

- **Injury to the bowel** may occur more easily in laparoscopic surgery and is more difficult to detect. This will result in a leak of bowel fluid into the abdominal cavity and require an open operation to repair. This is a serious and possibly life threatening complication and can result in many months in hospital.
- **Conversion to open operation:** This is not really considered a complication. Sometimes it is just not possible to repair hernias with keyhole surgery. This is usually due to bowel stuck in the hernia that cannot be removed safely. If this is the case, then we will make a bigger cut and fix it with the open technique. This is considered sound judgment.

- **Injury to any other organ** in the abdomen may occur with laparoscopic surgery: aorta, liver and stomach. This is rare.
- **Gas embolism:** In keyhole surgery, gas is used to inflate your abdomen. A bubble of carbon dioxide may get into a blood vessel and causes life threatening heart problems. This is extremely rare.
- **Re-operation:** if we have to re-operate for any reason, this may be done with keyhole surgery or an open operation.
- **Complications from the metal or absorbable tacks used to hold the mesh in place:** It is possible that the tacks used to secure the mesh may erode through bowel, muscle, bladder and skin and cause further problems.

General Risks:

- **Death:** approximately 1/10,000 risk for all patients having this type of operation. This risk will increase significantly if you have a large amount of bowel outside your abdomen. For hernias where all of the bowel is out, obesity is present or there is a very wide defect the risk of death may go up to 1/50.
- **Bleeding:** usually occurs in the first 24 hours and may require further surgery. This bleeding may be from the abdominal wall or from inside the abdomen. You may require a blood transfusion if the bleeding is severe.
- **Other blood vessel problems:** heart attack, stroke. This is very rare.
- **Infections:** wound, pneumonia, urine, intra-abdominal, IV line related.
- **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 in arms or legs.
- **Clots in the legs** that may travel to the lungs and be fatal.
- **Wound pain, abnormal (keloid) scarring or hernia of the wound.**

WHAT IS THE PROBLEM WITH BEING OVERWEIGHT?

As obesity has become an epidemic in Australia, the rate of hernias is increasing. The increased fat in the abdomen is pushing hernias out.

Most doctors' measure obesity by a number called the Body Mass Index or BMI. This is calculated by taking your weight in kilograms and dividing it by your height in metres². It is not an ideal measure of obesity, but it does tell me about your surgical risk.

Being overweight (BMI >35) increases your risk of:

- getting a hernia
- treating your hernia
- having the repair fail
- infection and blood transfusion
- heart attacks, chest infections and clots in the legs
- death.

Getting your psyche right before you and I commit to surgery

Many patients who have a hernia will have struggled with their weight their entire life. You will have felt depressed about your appearance. Some people may have been laughed at

or ridiculed by strangers. There are a multitude of reasons why people have weight issues, but everyone has a story to tell as to how they got to this point.

Up until two years ago, I would not have contemplated performing a hernia repair on a patient with a BMI >35. However, as obesity is the toughest problem our society faces, I have had to adapt to meet the need and to help people on their weight loss journey.

I take every case on its merits and there is no weight that is too heavy that I will not consider for surgery, however, patients with a BMI >35 or weight over 120kg face a significant work up and a commitment to their ongoing health and rehabilitation. We are doing this to change your life, not to carry on as you are.

Some patients come to me not accepting they are overweight. Many people in this weight range have got to that point quite slowly. They feel helpless, like they cannot do anything about it. They say things like, "I don't eat much", "If only I didn't have the apron, I could exercise". Sadly, once you reach a certain size, you do not move very much and you have to eat very little to maintain the weight because you cannot burn it off. You will never be able to exercise enough to move the weight, so this is not the answer.

The good news is that weight loss is possible for every person. There are no fad diets or gimmicks, no low carb, high fat, soup or bacon diets. It is just about eating less fuel than your body needs – every single day. Every person can and will lose 1kg per week if they do this. It is a scientific fact. The reasons people fail is that they cannot maintain a starvation lifestyle forever because feeling hungry is not pleasant. There are also all the other emotional issues that go along with eating food. There are also many complex family relationship issues in play.

If your BMI is >35 I will ask you to make a commitment to some weight loss prior to surgery. I do not expect you to achieve supermodel size, however, if you are in the morbidly obese weight range, I ask for you to change your lifestyle and get dietary advice. For patients with BMIs >50 I will expect a weight loss of 15 – 20 kg prior to contemplating surgery.

I will help you to see a dietitian. Patients can be very negative about this, but you must open your mind to getting healthy. You will be surprised at how motivated you can become once you have a goal to have your abdominal wall repaired. It will be life changing!

Once you mentally reach the point of owning the problem, everything becomes easier. You will then move to an acceptance stage and you are over halfway there. This is what I am looking for as the right time to start planning surgery. You are committed to the process.

I would ask you to consider the following things:

1. There is no magic cure for obesity – losing weight is hard work.
2. You must take responsibility for your weight – you need to get healthy for you and no one else.
3. Everyone's goal is different and I will help you set yours.
4. I will fix your abdomen when it is the right time.
5. There will be bad days, but keep your eye on the prize – a better life.

What about obesity surgery?

There is no doubt that obesity surgery (removing part of the stomach with an operation) can be very effective. At this point in time, it seems to be the only option for weight loss and keeping it off permanently.

However, it is not for everyone. Patients with a complex hernia may not be a candidate. In Australia, obesity surgery is really only available in the private health sector. It can be very expensive and out of reach for many people. It is a drastic step with lots of risks. If you have decided to have obesity surgery, you will get better results with the apronectomy after the surgery.

SMOKING IS BAD TOO

You will **not** undergo an incisional hernia repair while you are still smoking. This is not negotiable. If you are asking me to perform high risk surgery, the least you can do for yourself is lower your risk. There is strong evidence that smoking leads to poor wound healing and failure of the repair. In fact one cigarette a day reduces the blood flow to your skin by 38%. This has a huge impact on healing. Many studies show that even stopping for one month before surgery makes a big difference to complications. Ideally, it would be great if you could stop smoking for good, but for this operation to be successful you need to stop smoking one month before and two months after the surgery. There is lots of help available and nicotine patches are OK to use prior to surgery. Electronic cigarettes are just as bad as smoking. See your GP for alternatives or call the Quitline (13 18 48) if you wish to seek advice.

WHAT TO EXPECT IMMEDIATELY AFTER SURGERY

Pain Relief

Every effort will be made to minimise your discomfort. Your level of pain control will be monitored frequently.

There is very little difference in pain for either laparoscopic or open incisional hernia surgery and pain after surgery has more to do with the operation that occurs under the skin rather than the size of the wound.

It is very common to have pain in the right shoulder after keyhole surgery. This is due to the effect of the gas pumped into your abdominal cavity during the surgery. The pain typically disappears one day after surgery.

The major types of pain relievers after incisional hernia surgery are:

1. Panadol, Panamax, Paracetamol

You will be amazed by the power of regular Paracetamol. It will cut down the need for the very strong pain pills.

They do not cause constipation.

DO NOT take more than 8 tablets a day or serious liver damage may occur.

2. NSAIDs (Indocid, Brufen, Mobic)

These are excellent pain relievers. They do not cause constipation.

They must be used very cautiously in the elderly and those with kidney problems because it might cause kidney failure.

They may cause stomach ulcers. If you experience any pain in the upper abdomen you must stop this medication immediately and seek advice.

3. Narcotics (like Morphine – but in tablet form)

- a. Oxycontin SR / Tapentadol SR – taken twice a day regularly – lasts 12 hours.
- b. Endone – taken only for severe pain occurring in between doses of Oxycontin.

It would be expected that you might only need these strong painkillers for a week or two after discharge. These tablets cause significant constipation. It is recommended that you take a laxative whilst on these drugs and drink plenty of water. Fruits like prunes and pear juice are excellent remedies for constipation.

4. Patient Controlled Analgesia (PCA)

This is used for the first few days after the surgery. This is 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 delivers 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 AS THIS WILL RESULT IN AN OVERDOSE OF MEDICATION THAT MAY STOP YOU BREATHING.

Drain tubes

It is likely you will wake up after surgery with one or more soft plastic drain tubes coming out of your abdomen. We will advise when these need to be removed. When using the biologic mesh made from animal products, the manufacturer recommends that the drains be left in for up to two weeks after the operation. These types of mesh tend to make the body produce a great deal of fluid as they incorporate into the tissues. You may need to go home with the drains in place and they will be removed as an outpatient. It is normal for redness to occur around the drains. It is also normal for there to be a slight odour especially as you empty the drain. (Please see section regarding the risks of drains above).

Eating

When you will be able to eat again, depends how much manipulation of the bowel has taken place. In most instances, you will start oral intake with fluids and then solid food will

follow within 24 - 48 hours of surgery. It is very common to feel slightly nauseated for 12 hours following surgery. Medication to prevent this will be available.

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

Urinating / Bowel Movements

If your hernia is very large, you will have a catheter placed in your bladder under anaesthesia before surgery begins. It will be removed in due course after the operation, usually when you are mobile again.

After any surgery, a patient may have trouble passing urine. This is uncommon and if it occurs, is temporary. Occasionally a catheter needs to be inserted to help you pass urine.

There may be some disturbance to your bowels in the week after surgery. Moving your bowels relies heavily on the muscles of the abdominal wall. The best strategy to move your bowels after surgery is to drink plenty of water (about 8 glasses a day), do not lie in bed all day long and try natural laxatives like prunes and fibre. If this does not work you will be started on a mild laxative like Movicol. When you sit on the toilet to have a bowel movement, lean slightly forward and relax. Sometimes, sitting with your feet resting on a small footstool will help.

Activity

It is very important to begin light activity shortly after surgery. If your hernia surgery was extensive, a physiotherapist will assist you. This is to prevent pneumonia, clots in the legs and loss of general condition. You can expect to have to wear stockings on your legs whilst in hospital to prevent clots and have an injection of Heparin twice a day under the skin for the same reason. Increase your activity as you feel able.

Your Incision

If your wound is small you will have regular waterproof dressing over your wound. If the wound is larger, your dressing will be in the form of a sponge dressing connected to a machine that applies suction. This keeps the wound fully sealed and free of moisture. This dressing is called Prevena™ and will look like the picture below.

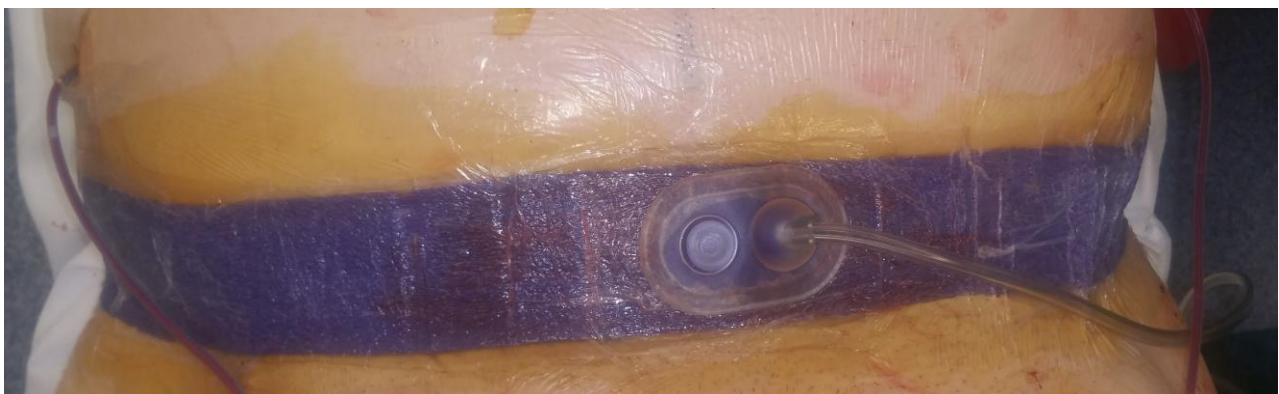


Figure 4. A Prevena Dressing

Your dressing will be waterproof and left in place for 5 days after the surgery. You may wear loose clothing over the top of it and carry the vac pump as you are walking around.

Your wound will be closed with dissolving stitches and there will be no stitches to remove.

Some patients have wounds that are not suitable to close with stitches. This is when there has been a colostomy, infection or the skin is at risk of dying. If this is the case, the wound will be left open and a special sponge “vac” will be inserted into the wound and suction applied. The wound will then close slowly over days and weeks and be without infection.

Once the dressing is off, you may gently wash dried material off from around your incision. Pat your wound dry with a towel. Do not rub soap, talc or moisturiser into your incision until at least 4 weeks or until it is fully healed.

You may rub Vitamin E cream onto the incision after it is fully healed.

It is normal to feel a ridge along the incision. This will go away.

Your incision may be slightly red along the cut. This is normal. If there is spreading redness or a new painful or uneven bulge appears, this is not normal and you should call the rooms or if it is after hours, the Emergency Department.

Because seromas are common after hernia repair, small lumps under the wound are normal. Fluid has an uncanny way of making its way to the surface. This is how the body fixes itself. Occasionally, a small split in the incision may occur and a gush of fluid will come out. There is no need to panic. Get in the shower and let all the fluid come out. It should stop after a short time. It is likely that more will come out as you stand up. Call the office the next day and we will have a look at the wound. Put a pad over the wound (a ladies sanitary pad works well). As long as the drainage stops, there is no need to come to the Emergency Department in the middle of the night.

If leaking is continuous or if it is pus you should call the rooms or if it is after hours, the Emergency Department.

It is normal to have patches of numbness around the surgical wound. This will not go away, but you will stop noticing it.

Over the next few months your incision will fade and become less prominent.

Your deep muscle layers are sewn together with nylon stitches that do not dissolve. If you are thin, you may feel the knotted end of one of these stitches under your wound. This is harmless. If it annoys you, it can be easily removed at some time after your surgery. Occasionally a stitch may poke out of your wound. This is quite safe. Please come and see us on a non-urgent basis if this occurs.

Will I have to wear a tight elastic garment called a binder after surgery?

There is no evidence that a wide elastic binder worn around your body after surgery will do anything to enhance your recovery. However, many patients find they feel more supported if they do. You may be supplied with a pair of elastic bike shorts called “SurgiHeal”

recovery pants. You will receive these in recovery. These are for you to take home and wear when you feel comfortable with the pressure on your abdomen.

Length of Stay in Hospital

Length of stay is variable depending on the size of the hernia. Patients with large hernia repairs may need several days in hospital.

Other Important Information

You can expect to see your primary surgeon every week day. On weekends or in times when your surgeon is operating elsewhere, you will see one of the practice partners. All are very experienced in this type of surgery and commonly 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.

AFTER DISCHARGE

What can I eat after I go home?

It is best to eat a low fat, high protein diet after any surgery. If you have more weight to lose you should continue on this journey.

How you may feel

It is quite common to feel very tired and to want to have daytime naps for the first 2 weeks after surgery. Listen to your body and rest when you need to.

This is transient and can be expected to resolve in 2 – 4 weeks.

Activity

Do not drive until you have stopped taking narcotic pain medication and feel you can respond in an emergency.

Many people ask me about lifting after hernia surgery. Mesh pulling away from the edge of the repair can occur and the hernia will come back. This is where common sense comes into play. The repair is built to withstand coughing and straining to move your bowels immediately. You can walk straight away and carefully climb stairs. You may lift your arms above your head. Try to avoid constipation and over straining when moving your bowels. Take a laxative if this is a problem. You may find placing your feet on a small stool when you go to the bathroom will help with this.

This risk of hernia recurrence can be minimised by looking after yourself and not gaining weight after surgery.

Other normal daily activities are fine. Lifting heavy things like pianos and furniture is not OK and after an abdominal wall reconstruction will be off limits forever. Your hernia repair

will never be as strong as your abdominal wall used to be and repeated heavy lifting will lead to a recurrence of the hernia.

The risk of the hernia returning is increased in patients who have a poor immune system, diabetes, obesity, smokers, wound infections or those who have had multiple previous hernia repairs.

Resume all exercise in a sensible manner and if your wound hurts or pulls stop doing the activity immediately. You may get a sense of what you are capable of before you attempt to do it. Remember, after surgery, your body will need to be reconditioned and you will have to work on your fitness. You will lose it very quickly after surgery.

You may start some light exercise when you feel comfortable.

You may swim when your wound is fully healed.

You may resume sexual activity when you feel ready.

WHAT PREPARATIONS DO I NEED TO MAKE BEFORE MY SURGERY?

Hospital

The hospital will call you the day before your operation to confirm your personal and medical details. They will also let you know about any hospital excess you may have to pay.

Fasting

You must have nothing to eat or drink for six hours prior to surgery. (You may take small sips of water up until 2 hours before the operation and you may take your medications with a sip of water). Do not chew gum or smoke cigarettes on the day of your 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, just before the surgery commences. This gives the lowest chance of infection.

There is no evidence to suggest that having a shower with 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. Depending on the type of incision you have, your belly button ring wearing days may be numbered.

For people with very deep belly buttons, it is normal to have a build up 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.

Make up, nail polish and jewellery

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

Nail polish is OK with me as long as you keep it clear on your fingernails. Coloured nail polish can interfere with the device we use to measure the oxygen in your blood. For many women, having a pedicure the day before the surgery can be a good way to relieve anxiety.

Any jewellery you are comfortable with removing, you should leave at home. 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 do not 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 usually 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 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. Another option is to consider ordering precooked meals from companies like Lite'n Easy. 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, Xarelto or anti-inflammatory drugs (Brufen, Mobic, Voltaren, etc), they can cause bleeding during surgery. We will advise you about what to do with these drugs prior to surgery. You must let us know about these drugs and 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 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 cause 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 in your best interests to stop completely as soon as you can. See your GP for alternatives or call Quitline (131848) if you wish to seek advice.
- You should also abstain from drinking alcohol 24 hours before and after any surgery.
- Bring all your current medications to the hospital.
- Bring comfortable pyjamas, personal toiletries, small change for newspapers etc.
- Do not bring large amounts of cash or valuables.

Income Protection Insurance, Wills and Centrelink

If you have income protection insurance, start doing the claim paperwork before the operation. Centrelink claims can 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. Talk to your employer and let them know that you may be away from work for many months.

WHAT WILL THIS SURGERY COST?

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 surgery, anaesthetic and hospital fees which **must be paid in full prior to the operation.**

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 normal care after the operation.

There may be other out-of-pocket fees from your anaesthetist and any other specialists who are asked to look after you. You should ask them ahead of time any out-of-pocket costs. Ask us who will be performing your anaesthetic and you can make enquiries with them about any out-of-pocket expenses.

There may be extra costs for x-ray, pharmacy and pathology. 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 have a right to shop around.

YOUR JOURNEY THROUGH THE OPERATING THEATRE

HOW YOU MAY FEEL BEFORE SURGERY

Having a general anaesthetic (being fully put to sleep) can be 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 glamorous 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 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 theatre. This waiting can be quite stressful and you can get 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 ICU after the surgery, your belonging will travel with you.

Why do I have to fast before surgery?

For an arranged operation, you must have nothing to eat or drink for six hours before. 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. If you are having a particularly big operation, your anaesthetist may give you a sugary drink two hours prior to surgery to help 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 in.

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). The nurse will check that your consent form is completed and if you are having a surgery where the side is important, I will mark the area with permanent marker.

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. This tube is used to give the medication that will put you off to sleep. In addition, 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 be 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 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 have 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 the 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 your surgery. In addition to your surgeon and anaesthetist, 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 at 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, it 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 who will be 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. Like the song says – “just let it go”.

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.

Due to respecting the privacy of other patients, your family is not allowed in recovery.

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 your 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

Intensive Care (ICU) Stress

Being in intensive care for any period of time can be very traumatic. By its very nature ICU is a 24 hour a day affair. There is little differentiation between night and day. This means that patients get very little sleep and their natural body rhythms are interrupted. This interferes with mood and can result in confusion, anger and depression. Even though you are typically sedated whilst you are on a ventilating machine, some patients can still remember it, especially when they are lightening the sedation just before the breathing tube comes out of your throat. There can be scary feelings of helplessness and loss of control. Frequently the morphine based pain relievers can make patients have frightening hallucinations that seem very real when they are happening. Rarely patients can experience post traumatic stress. Talk to me about this if you experience it. Help is available.

ABOUT YOUR SURGEON

A/Prof Kellee Slater MBBS (Hons) FRACS FACS

2018	Associate Professor University of Queensland
2017-2019	National Chair of the Australian Board in General Surgery
2015	Fellow of the American College of Surgeons
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