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OPEN AND LAPAROSCOPIC INCISIONAL HERNIA REPAIR

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

YOUR ADMISSION DETAILS:

Your admission date is: _____

Date of your operation: _____

Fasting time from: _____

Greenslopes Private Hospital Admissions (Phone 1800 777 101) will contact you **the day before** you are due to enter the hospital to confirm the details.

WHAT IS AN INCISIONAL HERNIA?

An incisional hernia occurs when there is a hole or defect in the deep layers of an old surgical scar. The muscle layers separate over time and a piece of bowel or fat from inside the abdominal cavity pushes out through this hole.

Hernias come in all sizes – small to massive. They do not get better by themselves. Over time they tend to get larger and become more difficult to repair.

WHAT CAUSES AN INCISIONAL HERNIA?

There are many factors that contribute to hernias.

- Poor wound healing after surgery
- Many operations via the same incision
- Previous wound infections
- Obesity
- Diabetes
- Long term prednisone or immunosuppression drugs

WHAT PROBLEMS CAN INCISIONAL HERNIA CAUSE?

Incisional hernias do not get better without treatment. Hernias cause discomfort as they get bigger. The larger they are, the more difficult they are to repair. The feared complication of incisional 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 immediately go to the Emergency Department.

HOW ARE INCISIONAL HERNIAS TREATED?

Incisional hernias can be extremely difficult to repair because the tissue we are working with is stretched and has little strength.

Surgery involves reducing the contents of the hernia back into the abdominal cavity and placing a nylon material called MESH in the defect. This replaces the tissue that has been lost. The mesh becomes incorporated into the body and adds extra strength.

Incisional hernias can be repaired in two ways.

1. **Open technique** – an incision is made though the previous scar – the hernia is reduced and a ‘mesh’ is placed across the hole.
2. **Laparoscopic or keyhole technique** – smaller incisions are made and the hernia is repaired from inside the abdominal cavity.

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Laparoscopic surgery tends to have a lower rate of wound infections, serum leaks and mesh infection than open surgery. Laparoscopic surgery probably has a higher risk of bowel injury.

Both techniques have their pros and cons and are acceptable. We will decide after a discussion with you the best technique to use.

ARE THERE ANY ALTERNATIVES TO HAVING INCISIONAL HERNIA SURGERY?

There are no treatment alternatives other than surgical repair of incisional hernias. Some people wear a support garment called a TRUSS. This is an elastic band that can attempt to keep the hernia in place. These do nothing to help repair incisional hernias.

WHAT WILL MY ABDOMEN LOOK LIKE AFTER INCISIONAL HERNIA SURGERY?

No surgeon can ever return the abdomen to looking the way it did when you were born. Your abdominal wall will always be weaker and scarred. You will never have a so called “wash-board” abdomen.

The initial appearance is different for the two techniques:

Open surgery

Your old incision will be opened and the skin lifted up so the mesh can be placed over the defect. The wound is then closed with staples or invisible stitches. 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.

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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

- **Seroma:** it is common for a build-up of clear fluid to occur beneath the edges of the wound after surgery. Very often a drain will be left in to minimize this. It is common, however, for there to be a leak of fluid from the wound often for several days after surgery.
- **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.
- **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.
- **Wound infection**: occurs in 1 – 4% of patients having this surgery.
- **Recurrence of the hernia**: the mesh pulling away from the edge of the repair is relatively common. It is likely that approximately 5 – 10% of incisional hernias come back. This risk can be minimized by not lifting heavy weights for at least six weeks after surgery. The risk is increased in patients who have a poor immune system, diabetes, obesity or multiple previous surgeries.
- **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. It is uncommon.
- **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. This is uncommon.

Risks Specific to *Laparoscopic* Incisional Hernia Repair

- **Injury to the bowel** may occur. This is because the bowel may be caught up in scar tissue (adhesions) and easily torn. It is more common in laparoscopic surgery that a tiny hole in the bowel may be made and not noticed. This will result in a leak of bowel fluid into the abdominal cavity and require an open operation to repair. This is a serious, possibly life threatening complication.
- **Conversion to open operation**: this is not really considered a complication. Sometimes it is just not possible to safely repair hernias with keyhole surgery. This is usually due to bowel stuck in the hernia that is not safely removable. If this is the case, then we will make a bigger cut and fix it with the open technique.
- **Recurrence of the hernia**: the mesh pulling away from the edge of the repair is relatively common. It is likely that approximately 5 – 10% of incisional hernias come back. This risk can be minimized by not lifting heavy weights for at least six weeks after surgery.

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- **Injury to any other organ**: in the abdomen may occur with laparoscopic surgery: aorta, liver and stomach. This is rare.
- **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.
- **Wound infection**: the risk of wound infection is lower in laparoscopic surgery – in the order of 1%.
- **Bowel obstruction**: because the mesh is 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. This is very uncommon.
- **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 very, very rare.
- **Re-operation**: if we have to re-operate for any reason, this may be done with keyhole surgery or an open operation.

General Risks:

- Death: approximately 1/10,000 risk for all patients having this type of operation.
- Bleeding: usually occurs in the first 24 hours and may require further surgery. This bleeding may be from the abdominal wall or from the gallbladder bed.
- 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 of the operating table. This may result in loss of feeling or movement.
- Clots in the legs that may travel to the lungs and be fatal.
- Wound pain, abnormal (keloid) scarring or hernia of the wound.
- You may require a blood transfusion (this is rare).

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.

One of the advantages of the keyhole technique is less pain. Open hernia repair is done via a major incision and hence, is usually more painful.

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.

On the first day after surgery, there may be a moderate amount of discomfort at the site of the operation. You will have a few choices for pain relief.

There are two major types of pain relievers after keyhole surgery.

1. Panadol, Panamax, Paracetamol

   You will be amazed 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 – 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.

Drain tubes

Sometimes you will wake up after surgery with a soft plastic drain tube in your abdomen. We will advise when this needs to be removed.

Eating

If the surgery is laparoscopic, you will resume eating shortly after surgery. If you have an open operation, eating will commence more slowly. It is very common to feel slightly nauseated for 12 hours following surgery.

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

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Urinating/Bowel Movements

If your hernia is very large, you will have a catheter placed in your bladder under anaesthesia.

After any surgery, a patient may have trouble passing urine. This is not common 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. Discuss this with your doctor if this occurs.

Activity

It is very important to begin light activity shortly after surgery. 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

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 loose clothing over the top of it.

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.

You may see a small amount of clear or light red fluid staining your dressing or clothes. If it is minor cover that part of the incision with a pad. If leaking is severe, or if it is pus you should call the rooms or if it is after hours, the Emergency Department.

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.

It is normal to have a patch of numbness under the 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. See us in an elective manner if this occurs.

Length of Stay in Hospital

Length of stay is variable depending on the size of the hernia. Small laparoscopic hernias can go home the following day. Patients with larger open hernia repairs may need a week 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 have hernia surgery?

It is best to eat a low fat healthy diet after any surgery. If there is a lot of dissection of the bowel involved, then you will be started off on clear fluids.

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 could respond in an emergency.

You may climb stairs.

Do not lift more that 10kg at least 6 weeks after hernia surgery. (This is about the weight of a briefcase or a bag of groceries) This also applies to lifting children, but they may sit on your lap. 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.

You may start some light exercise when you feel comfortable.

You may swim after 2 weeks. Heavy exercise may be started after 6 weeks - but use common sense and go slowly at first.

You may resume sexual activity when you feel ready unless your doctor has told you otherwise.

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WHAT PREPARATIONS DO I NEED TO MAKE BEFORE MY SURGERY?

Hospital

The hospital will call you the day before your operation to confirm your admission time. 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 sips of water up until 2 hours before the operation and you may take your medications with a sip of water). You must not chew gum or smoke on the day of the operation.

Medications

- If you are on blood thinners such as Aspirin, Warfarin, Plavix, Iscover, Clopidogrel, Pradaxa, Dabigatran 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 lead to 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 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 (13 18 48) if you wish to seek advice.
- You should also abstain from drinking alcohol 24 hours prior to any surgery.
- Bring all your current medications with you to the hospital.
- Bring comfortable pyjamas, personal toiletries, small change for newspapers etc.
- Do not bring large amounts of cash or valuables.

WHAT WILL THIS SURGERY COST?

We largely work as 'no-gap' doctors. This means that the surgeon fee for your operation will be sent to your health fund and there will be no 'gap' or extra money to pay. There are always exceptions to this 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 and must pay in full ***prior*** to the operation.

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This surgery is very technically demanding. We are usually assisted by another consultant surgeon from the group. The remuneration for the assistant is very low for the work 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 and the risks of complications including bowel perforation and recurrence of the hernia is far higher. If it is medically suitable, we may recommend a period of weight loss with a program called INTENSIV 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 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 are fully within your rights to shop around.

ABOUT YOUR SURGEON

Dr Kellee Slater MBBS (Hons) FRACS

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