



Hernia Surgery at **Oxford Hernia Clinic**



0345 257 0024

www.oxfordherniaclinic.com

This Booklet is For:

Patients and family or carers of patients undergoing hernia surgery at: The Oxford Hernia Clinic, The Manor Hospital, Oxford.

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About Oxford Hernia Clinic

Oxford Hernia Clinic is a specialist clinic, run by dedicated Consultants with an interest in hernia surgery.

It is based at the Manor Hospital Oxford and works under the governance umbrella of the Manor Hospital and Nuffield Health. The Clinic is devoted to the care of patients with hernia. Since starting in 2007 we have treated almost 5000 patients, over 99% under local anaesthetic.

For inguinal surgery, we favour a tension-free mesh technique where stapling or stitches are no longer required. However, we will chat and discuss other options available to you, including repair using a 'no mesh' technique.

Your hernia surgery has been specifically designed around a day care pathway, in a comfortable, caring environment at the Day Surgery Unit in The Manor Hospital, a 'state-of-the art' private hospital.

Patients can expect a rapid recovery in a relaxed and friendly environment in the Unit. There is free car parking and a balcony café on site for accompanying persons.

We ensure that costs have been kept simple and to a realistic minimum, both by the hospital and the Consultants involved in your care. Insured and self-paying patients are welcome and we are recognised by all the major insurance companies.



What is Involved in Hernia Surgery?

The Oxford Hernia Clinic now performs virtually all of its hernia operations under local anaesthetic. We favour an open 'tension-free mesh' procedure as we believe this remains by far the best way to fix your hernia long term. However, we are happy to perform a 'no mesh' repair when patients request this.

Some cases will be performed under general anaesthetic. This usually includes all incisional hernias and when patients have a hernia that is 'not reducible' i.e. one they cannot push back in themselves. We have stopped performing all 'keyhole' (laparoscopic/endoscopic) operations because of the potentially serious complications that can arise from this type of surgery, however we are very happy to refer you on to an experienced laparoscopic surgeon if this is indicated clinically or requested.

Types of Open Hernia Surgery

Open inguinal surgery involves a single incision of about 6-8 cm, depending on the type of hernia. For umbilical or epigastric hernias the incision is usually only about 2-4cm.

The hernia bulge (sac) sometimes is excised and the remnant pushed back into its proper place inside the abdomen or sometimes the sac is simply pushed back in. For inguinal hernia's, the weakness in the abdomen wall is then usually covered with a sterile mesh. The mesh we favour is self-fixing, which means NO STITCHES are used to hold it in place. There have been studies to show this potentially reduces both short and long-term post-operative pain. It also makes the operation quicker, taking on average about 20-30 minutes.

A 'direct' inguinal hernia is one which comes through a tear in the back wall muscle of the inguinal canal. The muscle damage will need to be repaired using stitches and the mesh applied over this repair.

The more common type of hernia is an 'indirect' hernia. This comes through the natural opening in the abdominal wall for the blood vessels and vas deferens going down to the testicle. Indirect hernias rarely need muscle repair unless the hernia is really big. It makes no difference to the operation which type of hernia you have.

The wound is closed with a continuous running stitch under the skin. This dissolves over time and does not need to be taken out, so you don't need to see a Practice Nurse or your GP. Smaller umbilical or epigastric hernias usually do not need a mesh and we never use mesh for femoral hernia repair.

Tension Free Mesh Repair

This repair also known as a Lichtenstein Repair (after the Clinic that described it) does not involve the inguinal ligament being sewn up to the muscle to close the hernia defect (hence there is no 'tension' in the tissues). The inguinal ligament is the big ligament that connects your hip bone to the pubic bone (see figure later) and runs under the crease at the top of your leg. The abdominal muscles are connected to it.



The mesh is made of polyester, stays in your body and does not dissolve. The body recognises the mesh as a 'foreign material' and so 'rejects it', forming scar tissue which grows around the mesh and secures the weakness where your hernia bulge was. Once the mesh is completely encased in scar tissue the body can no longer 'see it' and stops making the scar tissue. It will take about 3-4 weeks for the repair to gain strength. It is the scar tissue that fixes your hernia, not the mesh, hence the need to avoid heavy lifting or straining after the operation. Most meshes need securing in place with stitches into the

muscle around the edge of the mesh. Some surgeons glue the mesh. The repair was first pioneered in 1984. Many studies have shown this to be a very effective way of fixing your hernia, significantly reducing the chance of it coming back and it is the current recommended open technique by all major international hernia associations.

No Mesh Repair (Bassini Type)



You can choose to have your hernia repaired without the use of mesh. In this type of repair, the inguinal ligament is stitched up to the muscle on the abdominal wall (thus creating some ‘tension’ in the tissues).

It was first described by an Italian surgeon named Edoardo Bassini in 1884. It remained the standard way of fixing an inguinal hernia for the next 100 years until the “tension free mesh” technique was shown to be more effective in reducing recurrence rates. Any operation that we perform for over 100 years must be a good one! There are many people walking around with Bassini Type repairs that they had performed many years ago and we are happy to repair your inguinal hernia with this technique.

However, having a Bassini Type repair without mesh will not remove the possibility of chronic post op pain and the chances of your hernia returning are significantly higher. This is possibly more likely if you have a direct hernia.

Anaesthesia

Virtually all of our patients have their surgery under local anaesthetic. General anaesthetic is usually needed when the hernia is very large, will not reduce (go back in) or for most cases of incisional hernia. All keyhole operations require a general anaesthetic.

If you are having local anaesthesia, you will be given a very fast acting sedative prior to surgery to help you relax and which will relieve any anxiety you are experiencing. Whilst you are feeling sleepy for 2-3 minutes the local anaesthetic will be injected over the hernia area; you will not remember this happening.

IMPORTANT: You will not be able to drive or ride a bike afterwards.

Using local anaesthesia ensures:

- No nausea or sickness post op
- Robust pain management. You should remain pain free for about 4 -12 hours, enabling you to be completely comfortable during your return home.
- A quicker recovery from the operation (patients usually leave hospital 30 to 60 minutes after the operation).
- Maintain consciousness throughout the procedure
- Appears to result in less pain in the week after surgery

NB: Although patients are awake during the procedure the sedative means you will be very relaxed and you may not remember much at all, surgical drapes are in place, so you do not see the actual surgical operation.

The surgical and nursing staff will chat to you throughout your procedure, keeping you informed and ensuring a relaxing and friendly experience. We listen to Absolute Radio™ in theatre.

If you feel stressed or anxious during the procedure the anaesthetist can give you a touch more of the sedative, not enough to make you sleep but enough to relax you and relieve any anxiety. You will not feel any pain, this is a big advantage of having an anaesthetist present for your all of your operation.

Risks of Hernia Surgery

Mr. Sadler will have discussed your specific risks with you during your consultation. Different patients will have different risk factors.

Potential Side-Effects of Hernia Surgery

Immediate:

Bleeding: You may see a little blood under the dressing. Please leave the dressing in place, as the bleeding should stop of its own accord. Significant post-operative wound bleeding is a rare problem. We use lots of adrenaline in the local anaesthetic, glue the wound and apply a pressure dressing. If bleeding is persistent or heavy, lie down and apply firm pressure to the wound for 30 minutes. If you experience bleeding, please contact us on the 0345 257 0024 number. You may need to return to The Manor or if you live a distance away, you may need to go to the local Emergency Department for them to look at this.

Haematoma: You can sometimes bleed under the skin after the operation. If the blood builds up and clots, your groin will swell and feel tender. This will give you a big bruise and swelling called a haematoma. This may develop over a day or so. Usually it will stop by itself and eventually go over a few weeks but sometimes an operation to drain the clot is needed. This is a rare complication.

Temporary difficulty in passing urine: This is very rare after local anaesthetic and is more likely with general anaesthesia.

Side effects of a general anaesthetic include **nausea and sickness**.

Intermediate:

Temporary bruising: This is very common after inguinal hernia surgery and will vary from patient to patient. It usually takes about 2 weeks to disappear. If you continue to take anti-coagulation drugs

such as aspirin before your surgery, then bruising can often be quite dramatic and may take longer to go.

Swelling: This is also very common after inguinal hernia repair. Men may experience puffiness in the skin of the penis and scrotum for several days. It is just fluid (as happens when you sprain your ankle) and will settle over the course of about 14 days.

Infection: If infection does occur it is usually just in the skin around the cut (this is not common). Very rarely you may get an infection deep inside your groin or in the wound. The procedure is always covered with antibiotics.

Damage to nerves: Numbness in the skin after surgery is very common after hernia surgery. Feeling usually comes back but it may take up to 18 months. Most patients wouldn't notice the numb area long term.

Hyperaesthesia: This is where the area over the operation becomes very sensitive to the touch. You sometimes will get a distinct 'tingling' sensation or a 'burning' sensation. Clothes touching the area might evoke this sensation. Sometimes it can be quite unpleasant and painful. It is probably due to the raw nerve endings growing back into the area. It is nothing to worry about and usually quickly improves. Once you start to massage the area after a few weeks it will usually resolve completely.

Damage to blood vessels or other organs: Damage to the blood vessels supplying the testicle can potentially result in the loss of a testicle. Damage to bowel or bladder can also occur if they are stuck in the hernia. These types of complications are very rare. They are more likely to occur in recurrent hernia surgery. To date Mr Sadler has never had a patient with this type of complication.

Seroma: This is where fluid collects in the wound. After your hernia has gone there is a potential 'dead space', this can result in a fluid collection. The chances increase with increasing size of hernia. This is very likely when you have a big hernia, especially one going down and filling your scrotum and with large incisional hernias. This will usually resolve on its own in time. A seroma may spontaneously release through the skin wound (this happens with umbilical hernia repair occasionally) and sometimes it may be necessary to drain the seroma (though this can often be done in outpatients). Large ones may take several months to resolve but will go away eventually.

Late:

Scarring: An incision line will always remain, but this fades with time.

Risk of the Hernia Reoccurring: When your hernia is repaired the natural opening for the blood vessels to the testicle 'the internal ring' needs to remain open. So, you will still have an opening after your surgery and therefore there is always a chance your hernia can reoccur. The chances of any given hernia re-occurring depend on a number of factors; how big the hernia was to start with (one going down into your scrotum the size of a melon will be a lot more likely to come back than one the size of a small egg in your groin), whether you have a physical job, etc.

Experience of the surgeon performing your hernia repair will also be a significant factor in possible further recurrence. If a hernia has recurred once it is more likely to do so again.

Chronic Pain after Hernia Surgery

Osteitis Pubica



Chronic pain or discomfort can occur after hernia surgery. The most common cause appears to be inflammation around the attachment of the inguinal ligament to the pubic bone. The area becomes very tender to touch and the condition is called *osteitis pubica*. It is possibly caused by scarring around the inguinal ligament (coloured orange in the figure) causing tension on the ligament, resulting in a 'traction injury' to the bony attachment of

the ligament (very similar to 'Tennis/ Golfer's Elbow'). The discomfort often doesn't start for 3-9 months after surgery and prior to this everything can be fine. Patients are usually aware of an initial slight discomfort, sometimes in certain positions like driving or sitting, often walking around or standing up straight relieves the discomfort. There is no associated lump or bulge.

The discomfort is often similar to the ache patients had from their hernia in the first place and they may worry that the hernia has come back.

The good news is that the problem is usually fixable through a combination of a small steroid injection and massage (much the same way that *Tennis Elbow* can be fixed). If the pain is not relieved, then a second injection may help and in very rare cases it may be necessary to release the attachment of the ligament off the bone.

This problem still exists with 'no mesh' surgery and may actually be more likely because of the increased 'tension' in the repair. *Having a 'no-mesh' repair will not remove the chances of having chronic discomfort.* Surgeons performing the Bassini Repair were often taught to put the first stitch through the bone to secure the stitch, so *osteitis*

pubica could result. Putting tension on the inguinal ligament through stitching this up to the muscle (the Bassini Repair is a tension repair) may also lead to this problem.

Neuralgia

Another cause of chronic discomfort can be chronic pain from damaged nerves. The nerve may be caught up in scar tissue or the nerve may have been cut and the raw end form a neuroma (a swelling on the end of the nerve) or the nerve could get caught with a stitch (this is potentially one advantage of not stitching the mesh in place).

Experience, careful surgery and attention to identifying nerves during the procedure will help reduce this problem.

Neuralgia is less common but more difficult to treat than *osteitis pubica*. It may respond to one or all of the following; steroid injection, re-operation and dividing the affected nerve (neurectomy) or very rarely actually removing the mesh. Mr Sadler is not aware of any of his patients ever requiring mesh removal.

To try and reduce the chances of chronic pain we favour the use of a mesh that requires no stitches to hold the mesh in place, this has both the advantage of performing a tension free mesh repair and avoids potentially catching nerves with stitches. However, we still have patients who have discomfort that comes on after surgery (usually *osteitis pubica*) this appears to be about 2% of inguinal hernia patients. It still means that most patients don't have any problems at all with a mesh repair.

Chronic pain after umbilical, epigastric or femoral repair appears to be rare. If you develop chronic pain, then obviously Mr Sadler will be happy to see you in clinic to discuss treatment options.

Whatever technique you have to fix your hernia; open or keyhole,

mesh or no mesh, there is always a potential to develop long-term pain after the surgery. We will take all possible steps to try and ensure that this does not happen and if it does, we will endeavour to try and remedy it for you. *However, despite all these efforts a very small number of patients will have pain that proves difficult to remedy, it is an unfortunate rare long-term downside of hernia surgery.*

Preparing for your Surgery

- Do not eat any food, chew gum or suck sweets for six hours before your operation
- Drink plenty of fluids, preferably water, the day before your operation to help keep your body hydrated
- You can drink clear fluids throughout the night and up to 3 hours before admission on the day of surgery (e.g. water, black coffee or tea, but NOT juice or fizzy drinks).
- Take your regular medication as usual, unless otherwise instructed
- Don't worry about shaving the surgical site – this will be done in theatre.
- Please leave jewellery and valuables at home. A wedding band can be left on and will be taped before going to theatre.
- Do not smoke on the morning of surgery. If possible, try to give up smoking altogether, or to cut down. The hospital has a no smoking policy, so you will be unable to smoke before or after your operation.
- Diabetics: Instructions will be sent out prior to admission, depending on the type of diabetes you have and the timing of your surgery.

Anti-coagulation Medication

As part of your pre-op consultation we will ask if you take any anti-coagulation drugs as a regular medication and the reason why (e.g. aspirin, warfarin or one of the newer drugs such as Apixaban or Rivaroxaban). Whenever it is safe to do so, we usually prefer to stop anticoagulation drugs pre-operatively as this will reduce the chance of bleeding and haematoma formation post-operatively (see below). However, this will always be discussed with patients on an individual basis as there are instances where it is not medically advisable to stop these drugs pre-operatively.

Please always inform us if you are taking these drugs when contacting the clinic.

Arriving at the Hospital

Go to the Main Reception

The reception staff will direct you to the Day Suite where staff will book you in, check your personal details and put your identification wristband on. We will send you (usually by e mail) a medical admission form to print and fill in before you come. This will help speed up this process for you considerably.



You will then be shown to the changing room. You should remove all your garments, an operating gown, dressing gown and slippers are provided for your use. A nurse will take you through to the anaesthetic room to record your blood pressure, pulse and temperature and ask you some questions for the operation checklist to ensure you are correctly prepared for your operation. Staff will explain what will happen throughout the day.



Surgeon

Your surgeon will meet you to talk to you about your operation, examine you and answer any remaining questions you may have. We will ask you to sign a consent form to demonstrate your understanding of the risk and benefits of the operation and that you have fully read and understand this booklet.



Anaesthetist

Your anaesthetist (the doctor who manages your anaesthesia i.e. blocking of pain and sensation) will talk to you about the anaesthesia and answer any questions or concerns.

The Operating Room

The anaesthetist will give you a small injection (a sedative) in the back of the hand. Whilst you are feeling sleepy, local anaesthetic will be injected over your hernia site to completely numb the area. You will not remember this happening.

The anaesthetic lasts for 4 -12 hours so you should remain pain free for most of the remaining day and able to travel home in comfort.

If you are having a general anaesthetic the anaesthetist will put a needle into a vein in the back of your hand to give you the anaesthetic. When you are asleep a tube will be put into your windpipe to aid your breathing. This will be taken out before you wake up. (This may leave you with a sore throat after surgery but drinking water little and often will help relieve this.)

Recovery

Local anaesthetic patients will be taken to the recovery lounge where you will be checked on by a nurse and offered a cup of tea, biscuits and sandwiches (the Manor ones are excellent).

You can leave the recovery lounge when the nurse is happy you are in a suitable condition and there is a responsible adult in attendance to escort you to your transport. Most patients are ready to leave after 30 minutes or so (so your total hospital time is usually about 2-2.5 hours).

The nurse will provide you with a home pack and pain medication. General anaesthetic patients will usually take a couple of hours to recover before they can be discharged, occasionally they may need to stay overnight in hospital.

Discharge Instructions

It is preferable that you have a responsible and able adult to take you home following your surgery, though we do have patients who travel home alone on public transport after local anaesthetic procedures.

IMPORTANT: You will not be able to drive a car, ride a motorbike or push-bike after your surgery.

Recovering from Surgery

Oxford Hernia Clinic will write to your doctor about your surgical repair, so your NHS records are updated. It is not usually necessary to see your GP or Practice Nurse following the operation.



Our patients relaxing post-surgery and in the recovery lounge 30 minutes after surgery. Many Thanks to all of them for allowing us to use their photographs.

Wound Care

You will have three layers over your wound after surgery.

Top layer: A pressure dressing/strapping to reduced swelling and prevent bleeding from the wound edges.

Middle layer: A white wound dressing over the Steri-Strips.

Bottom layer: (next to the skin): Paper Steri-Strips – over the wound (which may occasionally also be glued).

There are NO stitches for you to remove; they are dissolvable ones under the skin. The wound should be kept dry and the pressure dressing left for 48 hours if possible. After this period:

- Remove the top pressure layer (Layer 1)
- Have a shower. Do not soak in the bath for a week.
- After the shower remove the middle layer the dressing over the Steri-Strips (Layer 2). Dab the Steri-Strips dry with a towel and leave them in place.
- You can now shower regularly with the Steri-Strips in place but gently dry them with a towel after each shower.
- After 7 days remove the Steri-Strips (Layer 3) and wash the wound. Do not use scented soap or talcum powder near the wound. Pat the wound dry with a clean towel.



Layer 1
Top Pressure Dressing



Layer 2
Wound Dressing



Layer 3
Steri-Strips Inguinal



Layer 3
Steri-Strips Umbilical

Wound Infection

Wound infection is a potential complication of surgery, your operation will be covered with antibiotics routinely but it still happens. The first sign is usually an increase in pain and the wound will start to look either pink or red, feeling warm or hot to touch. If this happens you will need to see your GP as soon as possible. On the weekend ring 0345 257 0024 to speak to the team.

Usually a short course of antibiotics will be prescribed to clear up the infection. Some high-risk patients (diabetics, etc) will often be sent home with a short course of antibiotics to take as a precaution.

Bleeding

You may see a little blood under the dressing. Please leave the dressing in place, as the bleeding should stop of its own accord. If bleeding is persistent or heavy, apply firm pressure to the wound for 30 minutes. If you experience bleeding please ring us on 0345 257 0024. If you live a distance away, you may need to go to the local Emergency Department. This is a rare problem but can still occur.

Bruising

It is normal to experience some level of bruising following surgery (*as shown here*). Some patients may experience a more profound bruising with the forming of a haematoma (collection of blood under the skin), which can be uncomfortable and require painkillers. Gravity takes the bruising southwards and it can often be quite dramatic, especially if you are on or have been on anti-coagulants. If you are worried then please give us a ring.



Pain Management

You will be usually given the following painkillers to take home (*this might be modified for patients taking anti-coagulation medication or with sensitivities*).

Paracetamol 500mg Tablets

Ibuprofen 400mg Tablets

Codeine 15mg Tablets

Standard Pain Relief

Inguinal Hernia surgery is usually painful! The first couple of days are usually quite sore, plan to do little for the first few days.

We recommend that you start painkillers tablets 4-6 hours after leaving the hospital and continue for the next 3 days.

Take two (2) Paracetamol 500mg tablets and one (1) Ibuprofen 400mg tablet regularly every 6 hours.

NB: You can take a maximum of 8 Paracetamol (500mg) and 4 Ibuprofen tablets (400mg) in 24 hours.

This should be sufficient to control your pain in the first few days after your surgery

Do not drink alcohol, operate any machinery or sign any legal documents for 48 hours after your operation.

Severe Pain Relief

You can continue to take both the two (2) paracetamol (500mg) and one (1) Ibuprofen tablet (400mg) regularly every 6 hours **and you can add in a Codeine 15mg tablet** as well. This can be increased to two (2) Codeine tablets if needed.

NB: Codeine can be constipating; will we give you a laxative (Lactulose) to take home. If you start the codeine tablets then take a table-spoonful of the lactulose twice a day. Most people continue to experience some discomfort for a few weeks after the operation, but this will gradually settle. If you are about to cough or sneeze, it will help if you put light supportive pressure on your wound site with your hand or with a small pillow.

You may experience an occasional sharp 'shooting pain' (lasting a brief second or two) in the repair; this is common and is nothing to worry about, it will gradually settle. Continual pain, redness or swelling of the wound suggests a possible infection and you should consult your GP.

Massage

Shortly after your operation you will start to feel a hard 'sausage-like' ridge about 2cm wide and 6cm long this is the scar tissue forming around the mesh. Over the next 6-9 months this will slowly disappear. You can speed up this process with regular daily massage of the ridge using soapy suds in the shower. At night-time 2-3 mins of massage using a simple moisturiser such as E45 or some baby oil will help. Use your fingertips, small circular motion and firm pressure along the whole length of the ridge (you won't do any damage). Massage will make a big difference and we encourage you to do this for a good 4-6 weeks. Start massage when the wound is comfortable usually by about 3 weeks.

Speeding up your Recovery

Eat Healthily: Eating a healthy diet will help to ensure that your body has all the nutrients it needs to heal. A high fibre diet will help avoid constipation and reduce the strain on the site of the operation.

Stop Smoking: By not smoking (even if it's just for the time that you're recovering) you will start to improve your circulation and breathing.

Allow Family and Friends to help you: Practically this includes things such as driving, shopping or taking out the bins!

Keep a Routine: Get up at your normal time in the morning, get dressed and move about the house. Don't be afraid to stand up straight. Getting out of bed is easier if you roll onto your side and push yourself up sideways, this will avoid having to contract your stomach muscles and be more comfortable, it's also good for your back.

Build Up Gradually: When you are building up your activities, listen to what your body is telling you, if it feels painful it's too early to do what you are doing. Remember in the first few days you will probably be taking regular pain relief, so don't try anything too vigorous.

Use Common Sense: Avoid lifting weights which cause straining (usually over 3-5Kgs) or doing anything strenuous involving pushing, pulling or stretching, for 4-6 weeks.

Milestones: Use as a rough guide only, they vary for each patient.

- 1-2 Weeks: Walking the dog, Swimming
- 4 Weeks: Light exercise including gentle jogging, light gym work, gentle low gears on exercise bike and playing golf
- 6 Weeks: Full recovery and back to most activities

Driving

You may drive again when you can confidently perform an emergency stop without worrying about your repair. This is usually between 7-10 days after inguinal surgery but maybe the next day after umbilical.

NB: Your insurance company should be informed about your operation. Some companies will not insure drivers for a number of weeks after surgery so it's important to check.

Return to Work

The length of time you take off work depends on the job you do, how you heal and how you respond to surgery.

Most patients will be back in the following time scale:

- Light/Supervisory work: 1-2 weeks
- Minimal lifting work: 2-3 weeks
- Heavy Labour: 6 weeks

Returning to non-manual work early won't cause any harm but you may experience significant discomfort if you do so too early. If you can we would advise taking the first week off after surgery and work from home if you need to.

Sexual Activity

Sexual activity can be resumed as soon as you are comfortable enough there are no set rules or times.



Contact numbers:
In an emergency always dial 999

- **Oxford Hernia Clinic: 0345 257 0024**
- **Manor Hospital: 01865 307777 (24 Hours a day)**
- **Write Your GP number here**
- **Out of hours: 111**

Website

- OxfordHerniaClinic.com



The Oxford Hernia Clinic

Manor Hospital, Beech Road, Oxford OX3 7RP



0345 257 0024



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