

## WHAT IS AN INGUINAL HERNIA?

About 27% of males and 3% of females develop a groin hernia at some time in their life. Inguinal hernias are the most common type of groin hernia. They usually appear as a swelling or lump in the groin and as they enlarge may also cause an enlargement of the scrotum in men. Inguinal hernias occur more commonly in the right groin than on the left.

An inguinal hernia is a protrusion of fatty tissue or sometimes a part of the bowel through a weakness in the muscles of the groin in an area known as the inguinal canal.

Inguinal hernias are more common in men and become more common with age. Muscles become weaker with age allowing a hernia to develop. Hernias can occur at any age and there may be a genetic reason why some individuals might be prone to developing one particularly at a young age. Sometimes a hernia can appear suddenly and may be caused by a period of excessive straining such as with heavy lifting, straining to go to the toilet i.e. constipation or with a prolonged cough.

Symptoms are present in about two thirds of affected people. This may include pain or discomfort especially with coughing, exercise, or bowel movements. The swelling often appears on exertion and tends to disappear when lying down. Most people describe their symptoms including the swelling as getting worse throughout the day but go away after a night's sleep.

## TREATMENT

For small hernias that are not causing any symptoms a surgical repair may not be necessary. All surgery carries the risk of complication so for some patients watchful waiting is advised.

A hernia truss used to be a common non-surgical treatment for a patient with a hernia. The hernia truss is a device designed to contain a hernia. Essentially it is a belt with a hard pad attached. The pad is worn over the hernia site to prevent it coming out. There is no good evidence to support the use of trusses for hernias. It might even be that they could cause harm by causing scarring, making the defect in the muscle bigger and complications such as strangulation may also be more common. More modern elasticated support garments may

provide an alternative for those who wish to avoid surgery but there isn't any good evidence that they will prevent hernias enlarging. Other practical things that can be done to avoid hernia enlargement are:

- Avoid heavy lifting if possible.
- If you need to lift heavy objects, use your legs and not your back.
- Don't get constipated or have to strain during a bowel movement.
- Maintain a healthy weight.
- Don't smoke.

A hernia repair is usually advised if a hernia becomes symptomatic i.e. starts enlarging causing discomfort, or generally interfering with the activities of daily living.

The inability to "reduce", or push back the bulge into the abdomen usually means the hernia is 'incarcerated' which requires urgent treatment. When this happens there is a risk of other serious complications such as obstruction when a part of the bowel that is trapped in the hernia becomes blocked. This can lead to crampy abdominal pains and vomiting. If a incarcerated or obstructed hernia is not repaired then strangulation may occur. This happens when the blood supply to a piece of bowel is cut off. If this is not repaired urgently then the affected bowel will 'die' and turn gangrenous potentially leading to more serious complications.

## SURGICAL REPAIR

Surgical repair of an inguinal hernia usually involves pushing back any bulge and strengthening the abdominal wall muscles usually with a synthetic mesh.

There are different techniques for repairing an inguinal hernia. These involve either open or laparoscopic (also known as keyhole) approaches.

## OPEN REPAIR

An open repair involves making a small incision in the groin over the site of the hernia. The hernia is then found between the muscles it is separated from the surrounding tissues and replaced within the abdomen.

The muscle layers are then reinforced with a soft, synthetic, non-absorbable mesh which is fixed in place with a few stitches. The individual layers of the incision are then repaired.

The skin is closed with an absorbable sub-cuticular or "invisible" stitch so that there is no need for stitch removal afterwards. The operation itself takes around 30 minutes to complete. Patients are usually able to go home later the same day.

## LAPAROSCOPIC

The laparoscopic or keyhole approach involve making 3 small incisions in the abdomen. One at the belly button and one on each side.

From the inside the lining of the abdominal wall is peeled down the hernia is pulled back inside and a soft, synthetic, non-absorbable mesh is fixed in place behind the muscles with a few tacks. The muscle of the belly button incision is usually repaired with a stitch and the skin wounds are closed with an absorbable sub-cuticular or "invisible" stitch, or wound glue, so that there is no need for stitch removal afterwards.

The operation takes around 30-40 minutes to complete. Patients are usually able to go home later the same day.

## WHAT ARE THE ADVANTAGES & DISADVANTAGES OF EACH APPROACH?

In the longer term, both open and keyhole operations lead to the same result with similar levels of recurrence. Both procedures are usually done as a day case.

The type of surgery you have will depend upon on which method suits you and also your surgeon's experience.

Here are some of the factors to be considered:

- Post operative pain may be slightly more after open repair but overall the recovery after surgery is the same for each technique.
- The laparoscopic approach is a more invasive procedure in that the abdominal cavity is being entered. There is a very small risk of doing damage to other structures in the course of the operation.
- The laparoscopic approach may not be advised if you have had previous abdominal or pelvic surgery.
- A few patients experience shoulder pain after laparoscopic surgery. Some patients may

experience pain at the mesh fixation points.

- Local wound numbness and chronic wound pain is more common after open surgery.
- Open surgery can in some cases be carried out under local anaesthetic whereas laparoscopic surgery cannot.
- Laparoscopic surgery may have an overall advantage for patients with a hernia in each groin. In those cases, both hernias can be fixed at the same time using just the three small incisions.

## AFTER THE OPERATION

We encourage all patients to stay active following surgery. Walking regularly is the most useful exercise after the operation. Following the operation you should avoid heavy lifting for 4-6 weeks.

After about 4 weeks you should be able to increase your exercise activities. Starting with gentle rhythmic exercises such as cycling or cross-training and gradually building up to your normal exercise regimen. Provided there are no wound problems swimming can also be good at this stage.

You should be able to return to work within one or two weeks but if your job involves any strenuous activities you may need to be off work for longer or carry out only light duties.

Patients can usually drive again after one to two weeks but your surgeon will give you specific instructions regarding this.

## WHAT ARE THE RISKS?

Wound infections are uncommon after this type of surgery. When they do occur patients may need a course of antibiotics.

Sometimes bruising may occur around the wound or a swelling develop beneath the wound. This is usually blood and / or tissue fluids which accumulates in the space where the hernia was. The fluid will normally gradually resolve. Very occasionally a collection of fluid may need to be drained.

You should contact your doctor if after the operation you develop any of the following:

- Redness around or drainage from the incision.
- Fever.
- Bleeding from the incision.

- Pain that is not relieved by medication or pain that suddenly worsens.

Some patients particularly men can find it difficult to pass urine after a hernia repair. It is always important to tell your surgeon, before coming in to hospital, if you are experiencing any difficulties passing urine. Occasionally a catheter may need to be passed if a patient is unable to pass urine and if that is necessary patients usually will have to stay overnight before the catheter can be removed the next day.

After an open procedure some patients might experience some numbness or a slightly odd sensation in the skin below the scar and this can extend to the upper part of the scrotum. This happens when a nerve is bruised or damaged during the procedure. In many cases the numbness will improve over period of time.

A few patients may continue to experience pain in a hernia wound that does not settle down straightaway. We think that this may occur if a nerve is trapped in the mesh material a suture or the scar. A course of physiotherapy can be helpful initially and sometimes a local anaesthetic and steroid injection will relieve symptoms. It is very rare that a wound need be re-explored because of pain.

A small number of people will develop a recurrence of the hernia. Recurrences are far less common these days with the use of mesh but nevertheless can occur occasionally.