ROYAL AUSTRALASIAN COLLEGE OF SURGEONS

SURGERY TO REPAIR HERNIA

A guide for patients

A hernia may occur whenever the muscles of the abdomen develop a weak spot or tear. These muscles normally hold the organs and surrounding tissues in place. An organ such as the intestine can push the abdominal lining (peritoneum) through the weakness and form a balloon-like sac.

This sac can usually be seen as a bulge under the skin when the patient is standing up. The sac is often detected when it is about the size of a small marble.

A hernia can sometimes be present at birth, or it may develop over time due to strain on the abdominal muscles. Most hernias develop later in life.

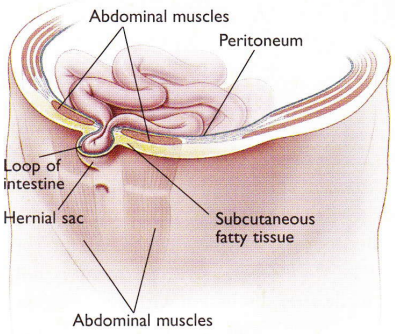
A hernia can be aggravated by the strain of a chronic cough, constipation or heavy lifting, and often causes significant pain. A hernia usually gets worse with time.

Hernias occur in males and females of all ages. However, they are most common in men. About one man in every 20 will develop a hernia at some time in his life.

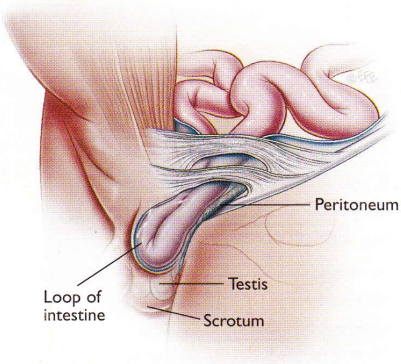
About nine out of 10 hernias occur in the groin area (inguinal and femoral). Hernias occur occasionally at other sites in the abdomen:

- at the navel (umbilical)
- in the midline below the breast bone (epigastric), or
- at the site of a previous operation (incisional).

ABDOMINAL HERNIA



INDIRECT INGUINAL HERNIA



When there is a weakness or tear in the abdominal muscles, an organ such as the intestine can push the abdominal lining through the opening and form a balloon-like sac.

Occasionally, umbilical hernias in children less than two years old close off and heal spontaneously. Other hernias do not go away on their own and may require surgical repair.

Hernia repair is one of the most commonly performed operations. Special belts can be used to support the hernia, but the best treatment is surgery.

Your surgeon may use the term "herniorrhaphy" (her-nee-OR-ah-fee). Herniorrhaphy is the surgical repair of a hernia.

Traditional open surgery is a time-proven way to repair a hernia. Sometimes a surgeon may recommend a technique called "laparoscopic surgery" or "key-hole surgery" to repair the hernia.

A recent development has been the use of a thin, soft patch made of plastic mesh to make the hernia repair stronger and last longer. The patch cannot be felt inside the body. It is rarely rejected by the body, and tissue grows over the mesh as the area heals.

The mesh becomes part of the body, giving strength and support to the abdominal muscles.

The use of the plastic mesh patch has reduced the risk of another hernia occurring from about 10 in every 100 cases to two or less in every 100 cases. Mesh patches are used in both open surgery and laparoscopic surgery.

If neglected, a hernia will usually increase in size. Occasionally it can lead to complications, such as strangulation of the intestine. This is extremely dangerous and requires emergency treatment.

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Melbourne Gastro Surgery & Centre for Weight Loss

Mr Arun Dhir

MBBS,MS,DNB,FRCS(Edinburgh,UK),FRACS
Upper GI, Laparoscopic & General Surgeon

www.MelbourneGastroSurgery.com.au
@: info@melbournegastrosurgery.com.au
P: 1300 737 118 / 03 94 66 77 99
F: 1300 66 81 71

Suite 2,
Northpark Private Hospital,
Cnr Plenty & Greenhills Road,
BUNDOORA 3083

YOUR SURGEON

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PROCEDURES TO REPAIR A HERNIA

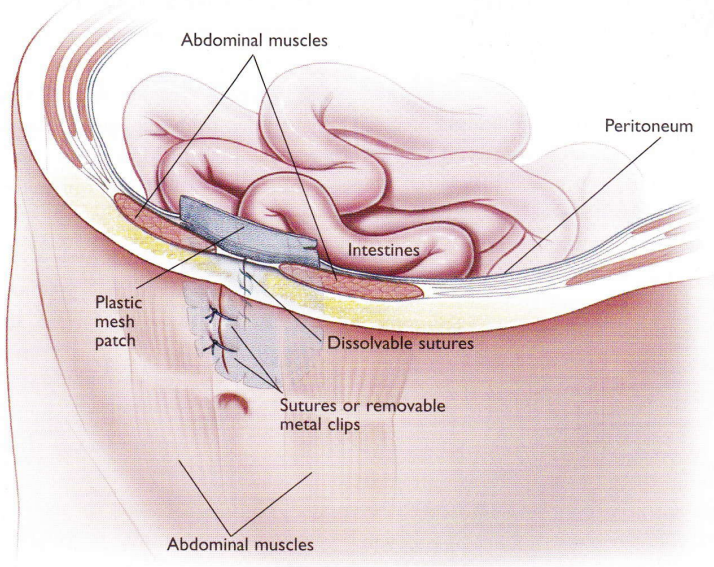
OPEN SURGERY

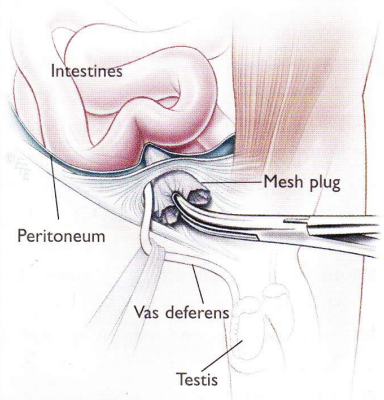
The surgeon makes an incision at the site of the hernia. The protruding tissue and organs are pushed back into the abdominal cavity, and the muscles are stitched together. This repairs the defect.

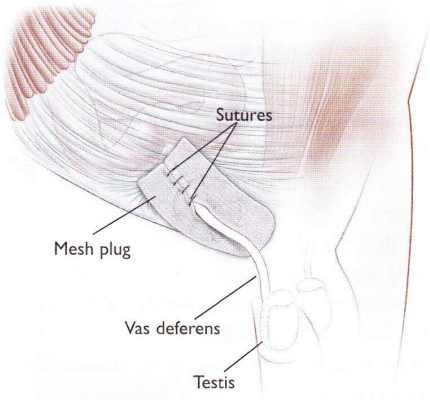
A thin plastic mesh patch may be placed over or under the muscles to add support. This can often help to prevent a recurrence of the hernia.

With the "tension-free" method of repair, the hole in the muscles is not closed. Instead, the plastic mesh patch is placed over the hole and stitched to the surrounding tissue.

The skin is closed with stitches or removable metal clips and protected with a dressing.







MESH PLUG METHOD

The mesh plug method is sometimes performed on femoral hernias using open surgery. The mesh plug is inserted in the same way as a cork into a bottle. This stops the intestine from bulging into the top of the thigh. A small incision is made, and the mesh plug is inserted into the hernia. Few stitches are used, so there is less pain after surgery. The surrounding tissue grows through the mesh plug, strengthening the area of weakness. This technique may also be used in some cases of umbilical hernia or inguinal hernia.

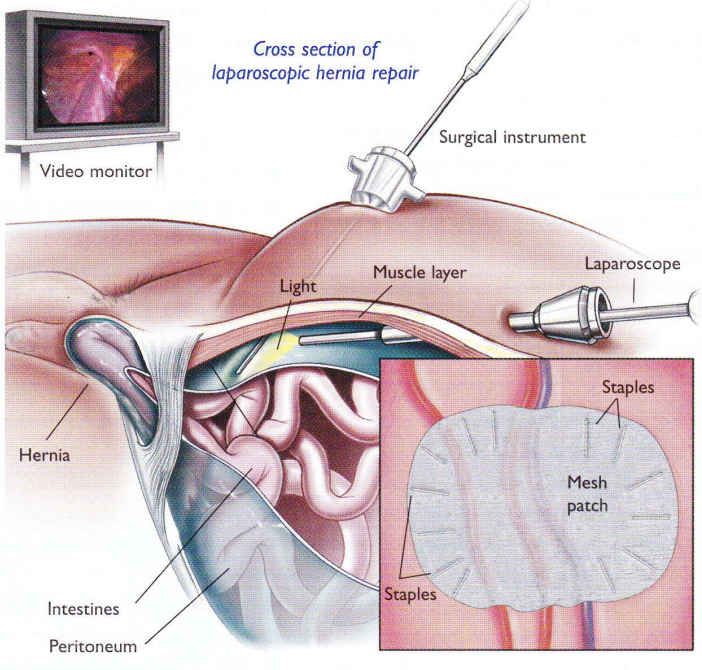
LAPAROSCOPIC SURGERY

Laparoscopic repair can be used to treat many types of hernias. The most common type of hernia is inguinal. The surgery is performed through several small incisions in the abdomen. A laparoscope (a thin telescope-like tube) is inserted through a small incision in the navel.

A small video camera attached to the laparoscope allows your doctor to view the hernia on a video monitor.

Carbon dioxide gas is blown into the abdominal cavity, or the space between the muscles and the peritoneum, to lift the abdominal wall. The aim is to improve the surgeon's view of, and access to, the area.

The surgeon clears away tissue around the hernia and withdraws the sac from the hole in the muscles. The hole is then covered with a plastic mesh patch. The tear in the abdominal wall is not stitched together. The patch is anchored to the muscles with special staples which stay in the body. When the repair is done, all the instruments are removed from the abdomen, and the carbon dioxide gas is allowed to escape. The small incisions are closed with stitches or clips and protected with small dressings.



RECOVERY FROM HERNIA REPAIR SURGERY

While recovering in hospital, you will have pain around the incision and will need pain relief. Swelling and bruising are common and in men may extend into the surrounding area.

Several hours after surgery, if you are not nauseous, you can drink water and eat a light meal. If you have had a general anaesthetic, your nurse will ask you to cough and breathe deeply to keep your lungs clear. You will be asked to take a short walk several hours after surgery to assist circulation. This helps to prevent blood clots from forming in the legs.

Your nurse will show you how to get out of bed and stand up to reduce the strain on the groin area. Do not attempt to get out of bed without assistance.

If you have had open surgery, you may go home on the same day if surgery was done under local anaesthesia. If a general anaesthetic was given, most people go home on the following day.

Laparoscopic surgery: If you have had laparoscopic surgery, you may have some temporary discomfort in your right shoulder from the carbon dioxide used during surgery. Most people can go home the same day or the morning after laparoscopic surgery.

Recovering at Home

Recovery at home may take one to two weeks and may be longer after open repair. Ask your surgeon about what level of activity is advisable. For men, discomfort may be eased by wearing a scrotal support or jockey-style underwear.

During the four to six weeks after surgery, it is normal to feel twinges and odd sensations in the area operated upon. You can help yourself recover comfortably by observing the following:

- no heavy lifting or vigorous exercise until advised by your surgeon
- follow your doctor's advice on showering, driving and returning to work
- be aware that pain medications can cause constipation and temporary changes in bowel habits.

Most physical activities such as jogging, tennis, bicycling, sex and manual labour can be resumed in about six weeks after open surgery but earlier after laparoscopic surgery. Your surgeon will advise you about this.

Follow-up: You will usually return to the doctor within 14 days after surgery for a check-up. Your doctor will examine you and answer any questions.

If you have stitches, they will be removed. More appointments will be scheduled if you need them.

POSSIBLE COMPLICATIONS OF HERNIA REPAIR

As with all surgical procedures, hernia-repair surgery does have risks, despite the highest standards of surgical practice. While your surgeon makes every attempt to minimise risks, complications may occur that have permanent effects.

It is not usual for a surgeon to outline every possible or rare complication of an operation. However, it is important that you have enough information to fully weigh up the benefits and risks of surgery. Most people having surgery will not have complications but if you have concerns about possible side effects, discuss them with your surgeon. Patients with other conditions (such as diabetes, asthma, obesity, or heart disease, among others) tend to be at greater risk of more complications.

The following possible complications are listed to inform and not to alarm. There may be others that are not listed.

General Risks of Hernia Repair

- The hernia may occasionally recur.
- Cardiovascular problems such as heart attack, thrombosis (the formation of blood clots), or stroke (a blood clot that has gone to the brain). A blood clot may move to a lung (called a "pulmonary embolism"), which can be fatal.
- Infection of the wound can occasionally occur. Infection is more likely to

taking prednisone or prednisolone.

- A hypertrophic or keloid scar may form from a surgical incision. The scar is raised and irregularly shaped, and may be itchy and inflamed. Most incisions heal well, and few people will develop one. Such a scar can be annoying but is not a threat to health.
- Chronic pain may occur due to involvement of a nerve in the repair.
- Rarely, in men, the blood supply to a testicle may be affected after groin hernia repair.

Specific Risks of Laparoscopic Repair

Serious problems due to laparoscopic surgery are uncommon. Risks include:

- injury to organs near the hernia site, such as the intestine and bladder
- injury to major blood vessels
- gas embolism (a bubble of carbon dioxide gets into a blood vessel); this can be quickly treated by the surgeon and anaesthetist. Rarely, it can be life threatening.
- injury to nerves from the staple gun attaching the mesh to the muscles
- swelling of the scrotum due to gas or sometimes fluid collection, which may have to be emptied with a needle after the operation
- a new hernia at one of the instrument puncture sites
- bowel obstruction due to scar-tissue

Report to your Surgeon

Be sure to tell your doctor if you have any of the following unexpected side effects:

- fever (more than 38°C) or chills
- an incision that drains for more than one day
- increasing pain or redness around an incision
- any concern you may have about your surgery.

Reoperation

If a complication after surgery does not resolve, the surgeon may have to operate again. The re-operation may be done with the laparoscope or using open surgery. Rarely, the body may reject the plastic mesh patch or mesh plug used to repair the hernia. Also, some months or years after surgery, the hernia can recur. These conditions may require reoperation.

Costs of Treatment

Your surgeon should advise you about coverage by public health insurance, private health insurance and out-of-pocket costs. You may want to ask for an estimate which lists the likely costs. This includes medical and hospital fees, and other items. Ask which costs can be claimed on Medicare and private health insurance.

As the actual treatment may differ from the proposed treatment, the final account may vary from the estimate. It is better to discuss costs before treatment rather than afterwards.