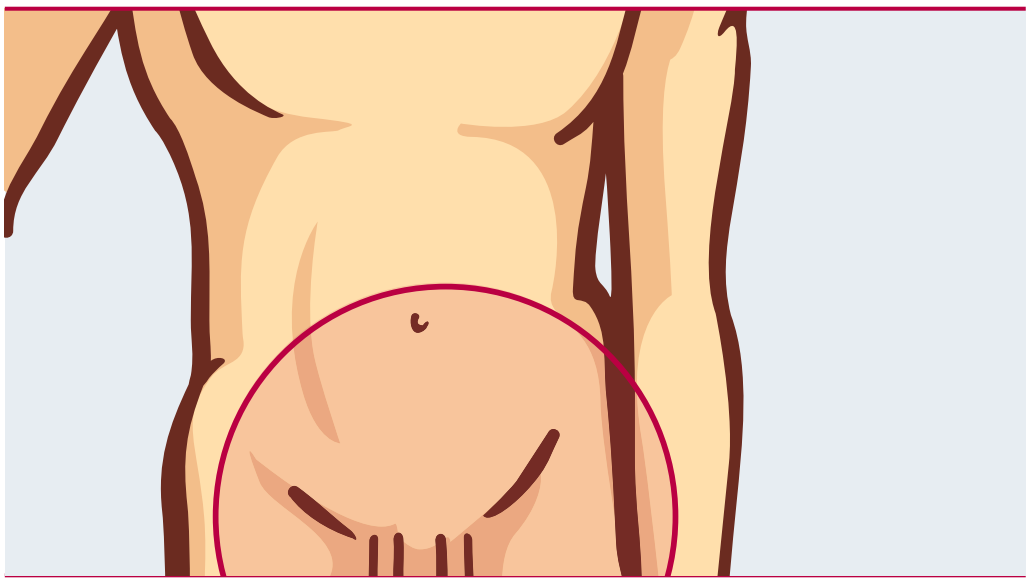
Patient Information

Inguinal Hernia



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Patient Information

Dear patient,

You have come into our hospital today experiencing pain and no doubt some anxiety, but also hoping for a future with less discomfort and a better quality of life. We will be looking after you over the next few days, helping you to feel comfortable with us and giving you confidence that your illness will be cured. The aim of all of us is for you to be able to leave our hospital restored to health in as short time as possible.

We have put this information together to give you a better understanding of your illness, the surgery that is planned for you and the healing process after your operation.
We would also like to provide you with a guideline for your post-operative treatment and what you should do after your discharge from hospital.

Your medical team

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What is an inguinal hernia?

As you will learn in the following pages, an inguinal hernia is a tear in body tissue, through which organs in the abdominal cavity can protrude. It is caused for example by a wide inguinal canal, high pressure in the abdominal cavity (for instance when lifting heavy objects, with chronic coughing, when sneezing or when straining during defaecation) or a weakness in the connective tissue of the abdominal wall.

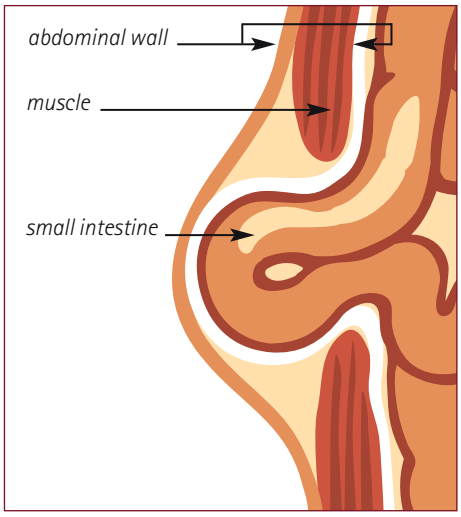
Men are much more frequently affected than women. The ratio of men to women is about 85% to 15%.

Human beings have a canal in the groin (or inguen). In men the spermatic duct and accompanying blood vessels pass through this canal, and in women it houses the round ligament of the uterus. As the abdominal muscles get weaker the inguinal canal becomes wider.

When this happens the abdominal viscera, for example loops of intestines, can force their way into the canal- protruding in some circumstances as far as the scrotum or the large labia.

Frequently, a bulge or swelling can be felt under the skin in the abdominal wall near the groin. In most cases, this disappears again spontaneously when the patient is lying down.

Not every inguinal hernia causes pain. However, it can give rise to complaints ranging from a slight pulling sensation up to very severe pain. Since the intestines can enter the hernia sac, an operation is always necessary. Alternative forms of treatments are unsuitable in the long term.



Hernia operations (hernia is Latin and means "rupture") are the most frequent of all operations in general surgery.

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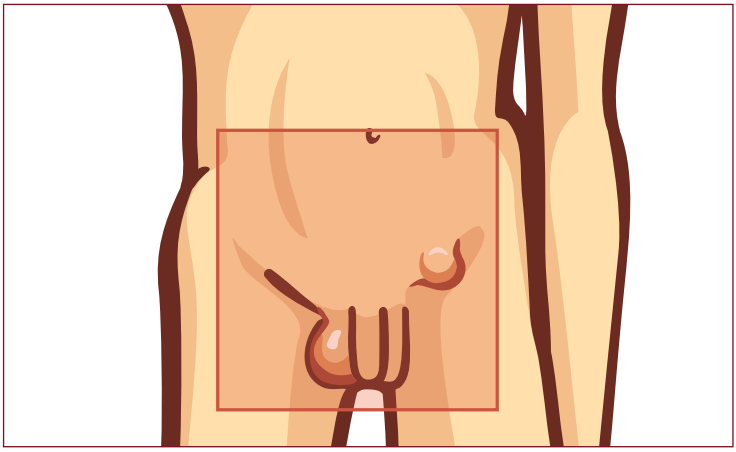
How does the doctor make the diagnosis?



Complaints or pain in the groin can have very different causes:

- Irritation of the ligaments, frequently occurring after incorrect or excessive strain or lifting
- Inflammation of the periosteum
- Changes in the spine and hip joint
- Inguinal hernia

Diagnosis of inguinal hernia:

- Physical investigation (manual examination)
- Examining whether the contents of the hernia sac can be pushed back into the abdominal cavity
- An ultrasound examination (sonography) can be helpful for diagnosis

Other apparative examinations do not provide any additional information and are therefore not required.

Why is an operation necessary?

A hernia never heals "by itself"; on the contrary, it tends to become bigger as time progresses. Hernia trusses or surgical corsets can be harmful in the long term and do not contribute to healing in any way. Therefore a hernia operation is undoubtedly the best method of treatment.

The earlier the better!

Tissue and loops of intestine that even penetrate into the scrotum can cause a very painful swelling.

Although most inguinal hernias are harmless at the beginning, they can give rise to a threatening situation at any time: If the intestine becomes trapped in the hernia! This causes the sensitive intestinal tissue to "suffocate" and the intestine gradually dies. Not only is this extremely painful, but it must be operated as an emergency procedure. This has to be done without any delay in order to avoid a life-threatening situation developing (for example obstruction of the intestine or peritonitis).

Such dangerous situations can be prevented by an early and in most cases minor surgical intervention.

Which possible treatments are there?

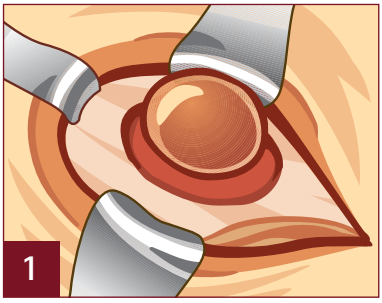
1. Just using suture material (traditional technique):

To close the hernia, the hernia sac (*Fig. 1*) is pushed back and the peritoneum and muscle layers of the abdominal wall are sutured together. This technique is preferred for primary operations on young patients.
A major disadvantage of this technique is the tension caused by suturing. Tissue that naturally lies side by side without tension is sutured together under tension. This tension can cause pain to the patient and even cause the sutures to tear off.

2. Using a mesh:

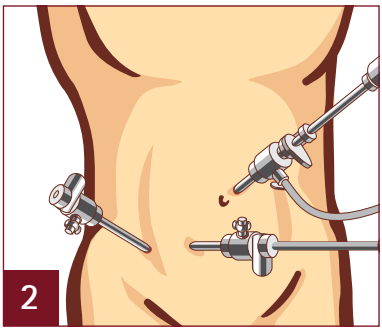
Synthetic meshes, such as Optilene® Mesh LP produced by B. Braun Aesculap, or a so-called "plug" such as Premilene® Self-Forming Plug, with a high biocompatibility are used particularly for large hernias.
Using a mesh allows for a tension free treatment of hernias. These meshes are made from synthetic filaments, most frequently polypropylene.

a) Open technique:



The operation is performed through a small incision in the skin (mini-laparotomy, *Fig. 1*). After the contents of the hernia sac have been pushed back into the abdominal cavity, the site of the hernia is covered with a mesh and the wound is closed.

b) Endoscopic technique (also known as the minimally invasive or keyhole technique):



Thin instruments are used to introduce a rolled up mesh into the abdominal cavity (*Fig. 2*), where it is unfolded or unrolled and fixed into position from the inside.

The endoscopic technique is frequently used to treat bilateral hernias (simultaneous inguinal hernias on the right and left side) and recurrent hernias.

What other types of hernias are there?

Umbilical hernia

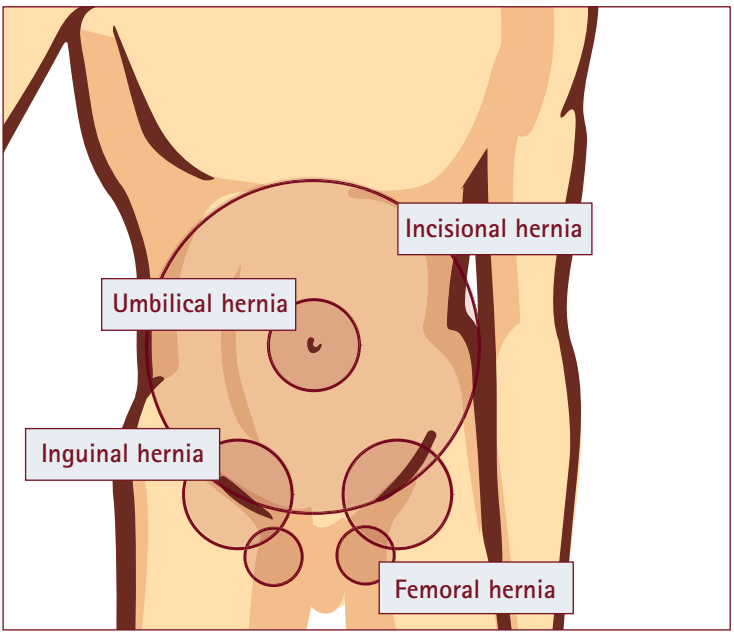
The region around the navel, through which the umbilical cord passes in newborn babies, represents another weak point in the abdominal wall.
An umbilical hernia occurs when the abdominal wall is weakened or when pressure increases in the abdominal cavity.

Incisional hernia

After every surgical intervention in the abdominal cavity there is a risk of rupture of the resultant scar.
This is because the scar tissue no longer possesses the elastic strength of the original abdominal wall. In 10 – 15% of cases, the scar can come apart at some time after the operation and the intestine or fatty tissue can protrude through the resultant gap and form a bulge under the skin.

Femoral hernia

Another area in the groin where hernias can develop is beneath the inguinal canal, close to the blood vessels that supply the leg. Therefore this hernia is called a femoral hernia.
This hernia type occurs three times more frequently in women than in men.



Where may the hernias occur?

The inguinal hernia is the most frequent form of hernia, accounting for approx. 75% of all cases, followed by the incisional hernia and the umbilical hernia, both accounting for around 10%.

Hernia	Frequency
Inguinal hernia	*approx. 75 %*
Incisional hernia	*approx. 10 %*
Umbilical hernia	*approx. 10 %*
Other hernias	*approx. 5 %*

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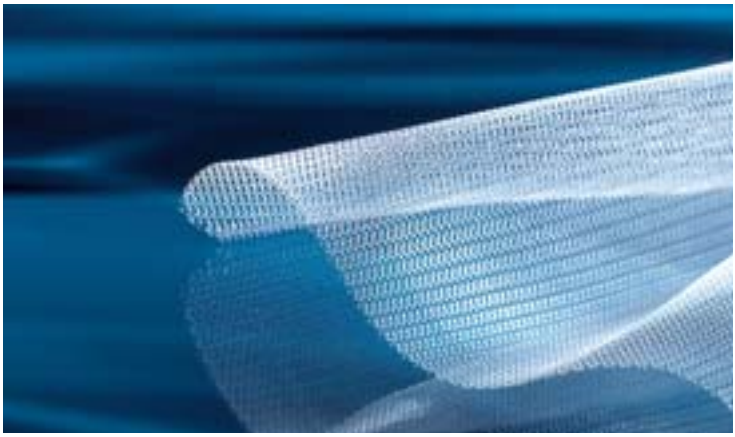
What are the advantages of using a mesh?



When using a mesh, the open or endoscopic technique is effective and practically painless. It allows the patient to resume unrestricted physical activities quickly after the operation.

If no mesh is used, the suture tension described above increases the risk of a recurring hernia by up to 25%. That means that a hernia can recur in one out of four patients. By using a mesh no suture tension is created. This tremendously decreases the recurrence rate - to less than 1-2%. In other words this corresponds to a success rate of almost 100% !!!

Hernia meshes should not be used:

- in children during the growth phase
- in infected areas (wounds)

Other useful information for patients

Anesthesia

The type of anesthesia chosen for a hernia operation (general, spinal* or local** anesthesia) depends on the surgeon and the operating technique he or she will perform.

* Spinal anesthesia: Anesthetizes the lower part of the body from the navel downwards by means of an injection into the spine. This is used relatively rarely.

** Local anesthesia: Anesthetizes a specific area of the body.

In general the following can be stated: For endoscopic techniques the general anesthesia is chosen. For open techniques the surgeon selects his or her preferred form of anesthesia i.e. general, spinal or local.

It can be assumed that more operations will be performed under local anesthesia in future.

Other useful information for patients

Returning to work

The table below gives you a rough guide to the period of convalescence you will need after your operation before you return to work.
These times relate exclusively to operations in which a hernia mesh was used.
If no mesh was used for your operation, the period of convalescence you will require before returning to work will be considerably longer.

Job / Activity	Period of convalescence
Light or supervisory activity	*1-2 weeks*
Minimal lifting activity	*2-3 weeks*
Heavy physical work	*3-4 weeks*

The above-mentioned periods of convalescence are average.
The actual time of convalescence will individually be appointed by your attending physician.

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Aesculap AG & Co. KG

Am Aesculap-Platz
78532 Tuttlingen
Germany

Phone +49 7461 95-0
Fax +49 7461 95-2600

www.aesculap.de

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