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## Diseases and Conditions

# Inguinal hernia

By Mayo Clinic Staff

An inguinal hernia occurs when soft tissue — usually part of the membrane lining the abdominal cavity (omentum) or part of the intestine — protrudes through a weak point in the abdominal muscles. The resulting bulge can be painful, especially when you cough, bend over or lift a heavy object.

An inguinal hernia isn't necessarily dangerous by itself. It doesn't get better or go away on its own, however, and it can lead to life-threatening complications. For this reason, your doctor is likely to recommend surgery to fix an inguinal hernia that's painful or becoming larger. Inguinal hernia repair is a common surgical procedure.

Some inguinal hernias don't cause any symptoms. You might not know you have one until your doctor discovers it during a routine medical exam. Often, however, you can see and feel the bulge created by the hernia. The bulge is usually more obvious when you stand upright, especially if you cough or strain.

Inguinal hernia signs and symptoms include:

- A bulge in the area on either side of your pubic bone
- A burning, gurgling or aching sensation at the bulge
- Pain or discomfort in your groin, especially when bending over, coughing or lifting
- A heavy or dragging sensation in your groin
- Weakness or pressure in your groin
- Occasionally, pain and swelling around the testicles when the protruding intestine descends into the scrotum

You should be able to gently and easily push the hernia back into your abdomen when you're lying down. If not, applying an ice pack to the area may reduce the swelling

enough so that the hernia slides in easily. Lying with your pelvis higher than your head also may help.

## Incarcerated hernia

If you aren't able to push the hernia in, the omentum or a loop of intestine can be trapped (incarcerated) in the abdominal wall. An incarcerated hernia can lead to a strangulated hernia, which cuts off the blood supply to your intestine. Surgery is needed to repair the hernia and restore blood supply to the bowel. A strangulated hernia can be life-threatening if it isn't treated.

Signs and symptoms of strangulated hernia include:

- Nausea, vomiting or both
- Fever
- Rapid heart rate
- Sudden pain that quickly intensifies
- A hernia bulge that turns red, purple or dark

If any of these signs or symptoms occurs, call your doctor right away.

## Signs and symptoms in children

Inguinal hernias in newborns and children result from a weakness in the abdominal wall that's present at birth. Sometimes the hernia may be visible only when an infant is crying, coughing or straining during a bowel movement. In an older child, a hernia is likely to be more apparent when the child coughs, strains during a bowel movement or stands for a long period of time.

## When to see a doctor

See your doctor if you have a painful or noticeable bulge in your groin on either side of your pubic bone. The bulge is likely to be more noticeable when you're standing upright, and you usually can feel it if you put your hand directly over the affected area. Seek immediate medical care if a hernia bulge turns red, purple or dark.

Some inguinal hernias have no apparent cause. Others occur as a result of:

- Increased pressure within the abdomen
- A pre-existing weak spot in the abdominal wall
- A combination of increased pressure within the abdomen and a pre-existing weak spot in the abdominal wall
- Straining during bowel movements or urination

- Heavy lifting
- Fluid in the abdomen (ascites)
- Pregnancy
- Excess weight
- Chronic coughing or sneezing

In many people, the abdominal wall weakness that leads to an inguinal hernia occurs at birth when the abdominal lining (peritoneum) doesn't close properly. Other inguinal hernias develop later in life when muscles weaken or deteriorate due to factors such as aging, strenuous physical activity or coughing that accompanies smoking.

In men, the weak spot usually occurs in the inguinal canal, where the spermatic cord enters the scrotum. In women, the inguinal canal carries a ligament that helps hold the uterus in place, and hernias sometimes occur where connective tissue from the uterus attaches to tissue surrounding the pubic bone.

## More common in men

Men are more likely to have an inherent weakness along the inguinal canal because of the way males develop before birth.

In male babies, the testicles form within the abdomen and then move down the inguinal canal into the scrotum. Shortly after birth, the inguinal canal closes almost completely — leaving just enough room for the spermatic cord to pass through but not enough to allow the testicles to move back into the abdomen. Sometimes, the canal doesn't close properly, leaving a weakened area.

In female babies, there's less chance that the inguinal canal won't close after birth.

Weaknesses can also occur in the abdominal wall later in life, especially after an injury or a surgical operation in the abdominal cavity. Whether or not you have a pre-existing weakness, extra pressure in your abdomen from straining, heavy lifting, pregnancy or excess weight can cause a hernia.

Risk factors for an inguinal hernia include:

- **Being male.** You're far more likely to develop an inguinal hernia if you're male. Also, the vast majority of newborns and children who develop inguinal hernias are boys.
- **Family history.** Your risk of inguinal hernia increases if you have a close relative, such as a parent or sibling, who has the condition.
- **Certain medical conditions.** People who have cystic fibrosis, a life-threatening condition that causes severe lung damage and often a chronic cough, are more likely to develop an inguinal hernia.

- **Chronic cough.** A chronic cough, such as from smoking, increases your risk of inguinal hernia.
- **Chronic constipation.** Straining during bowel movements is a common cause of inguinal hernias.
- **Excess weight.** Being moderately to severely overweight puts extra pressure on your abdomen.
- **Pregnancy.** This can both weaken the abdominal muscles and cause increased pressure inside your abdomen.
- **Certain occupations.** Having a job that requires standing for long periods or doing heavy physical labor increases your risk of developing an inguinal hernia.
- **Premature birth.** Infants who are born early are more likely to have inguinal hernias.
- **History of hernias.** If you've had one inguinal hernia, it's much more likely that you'll eventually develop another — usually on the opposite side.

Complications of an inguinal hernia include:

- **Pressure on surrounding tissues.** Most inguinal hernias enlarge over time if they're not repaired surgically. Large hernias can put pressure on surrounding tissues. In men, large hernias may extend into the scrotum, causing pain and swelling.
- **Incarcerated hernia.** If the omentum or a loop of intestine becomes trapped in the weak point in the abdominal wall, it can obstruct the bowel, leading to severe pain, nausea, vomiting, and the inability to have a bowel movement or pass gas.
- **Strangulation.** An incarcerated hernia may cut off blood flow to part of your intestine. This condition is called strangulation, and it can lead to the death of the affected bowel tissue. A strangulated hernia is life-threatening and requires immediate surgery.

Here's some information to help you get ready for your appointment and know what to expect from your doctor.

## What you can do

- **Be aware of any pre-appointment restrictions,** such as not eating after midnight on the night before your appointment.
- **Write down your symptoms,** including when they started and how they may have changed or worsened over time.
- **Write down your key medical information,** including other diagnosed conditions.
- **Write down key personal information,** including any recent changes or stressors in your life.
- **Write down questions to ask** your doctor.

## Questions to ask your doctor

Some basic questions to ask your doctor include:

- What is the most likely cause of my condition?
- What kinds of tests do I need?
- What treatments can help?
- If I need surgery, what will my recovery be like?
- Is there anything I can do to prevent a recurrence of this problem?

Don't hesitate to ask questions during your appointment.

## What to expect from your doctor

Be ready to answer questions your doctor may ask:

- When did your symptoms begin?
- Have your symptoms stayed the same or gotten worse?
- Do you have pain in your abdomen or groin? Does anything make the pain feel worse or better?
- Do you notice a bulge in your groin when you stand up, cough, strain or lift heavy objects?
- What physical activity do you perform on your job? What other physical activities do you regularly engage in?
- Do you have a history of constipation?
- Have you had a previous inguinal hernia?
- Have any of your close relatives — a parent or sibling — had an inguinal hernia?
- Do you or did you smoke? If so, how much?

## What you can do in the meantime

While you're waiting for your appointment, get emergency medical care if you develop nausea, vomiting or fever or if your hernia bulge turns red, purple or dark.

A physical exam is usually all that's needed to diagnose an inguinal hernia. Your doctor is likely to ask about your signs and symptoms and to check for a bulge in the groin area. Because standing and coughing can make a hernia more prominent, you may be asked to stand up and cough or strain as part of the exam.

If your hernia is small and isn't bothering you, your doctor may recommend a watch-and-wait approach. Enlarging or painful hernias usually require surgery to relieve discomfort and prevent serious complications.

There are two general types of hernia operations — open hernia repair and laparoscopic repair.

## Herniorrhaphy

In this procedure, also called an open hernia repair, the surgeon makes an incision in your groin and pushes the protruding omentum or intestine back into your abdomen. The surgeon then sews together the weakened or torn muscle. The weak area often is reinforced and supported with a synthetic mesh (hernioplasty).

After the surgery, you'll be encouraged to move about as soon as possible, but it may be four to six weeks before you're fully able to resume your normal activities.

## Laparoscopy

In this minimally invasive procedure, the surgeon operates through several small incisions in your abdomen. A small tube equipped with a tiny camera (laparoscope) is inserted into one incision. Guided by the camera, the surgeon inserts tiny instruments through another incision to repair the hernia using synthetic mesh.

Most people who have laparoscopic repair experience less discomfort and scarring after surgery and a quicker return to normal activities. Laparoscopy may be a good choice for people whose hernias recur after traditional hernia surgery because it allows the surgeon to avoid scar tissue from the earlier repair. Laparoscopy also may be a good choice for people with hernias on both sides of the body (bilateral inguinal hernias).

Some studies indicate that a laparoscopic repair may have an increased risk of complications and of recurrence following surgery. These risks can be reduced if the procedure is performed by a surgeon with extensive experience in laparoscopic hernia repairs.

Laparoscopic hernia repair may not be for you if:

- You have a very large hernia
- Your intestine is pushed down into the scrotum
- You've had previous pelvic surgery, such as prostate surgery (prostatectomy)
- You can't receive general anesthesia

You can't prevent the congenital defect that makes you susceptible to an inguinal hernia. You can do things to reduce strain on your abdominal muscles and tissues, however. For example:

- **Maintain a healthy weight.** Talk to your doctor about the best exercise and diet plan for you.
- **Emphasize high-fiber foods.** Fruits, vegetables and whole grains contain fiber that can help prevent constipation and straining.
- **Lift heavy objects carefully or avoid heavy lifting altogether.** If you must lift something heavy, always bend from your knees — not your waist.
- **Stop smoking.** Besides its role in many serious diseases, smoking often causes a chronic cough that can lead to or aggravate an inguinal hernia.
- **Avoid relying on a truss.** Wearing a supportive garment designed to keep hernias in place (hernia truss) doesn't correct the underlying problem or help prevent complications. Your doctor might recommend a hernia truss for a short time before surgery to help you feel more comfortable, but the truss isn't a replacement for surgery.

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