

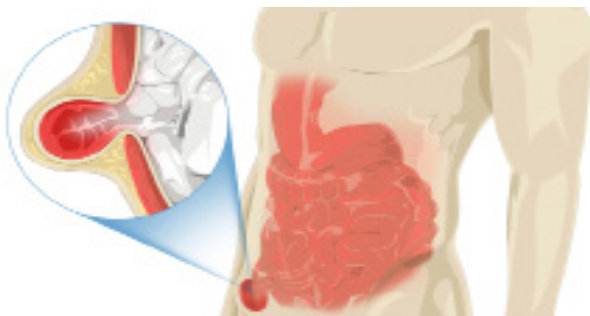
Inguinal Hernia

An inguinal hernia is a bulging through a weak area in the lower abdominal wall. Inguinal hernias can occur on one or both sides of the groin. Inguinal hernias can also occur through two deeper passages in the groin called the femoral canals. Hernias through these passages are also known as femoral hernias.

Inguinal hernias most often contain fat or part of the small intestine. In girls or women, inguinal hernias may contain part of the female reproductive system, such as an ovary. When an inguinal hernia occurs, part of the lining of the abdominal cavity (peritoneum)- bulges through the abdominal wall and forms a sac around the hernia.

Inguinal hernias may slide in and out of the abdominal wall. A doctor can often move an inguinal hernia back inside the abdominal wall with gentle massage.

Some people who have an inguinal hernia on one side will have or will develop a hernia on the other side, more often on the right side than on the left.



An inguinal hernia happens when contents of the abdomen bulge through a weak area in the lower abdominal wall.

HOW COMMON ARE INGUINAL HERNIAS?

Inguinal hernias are relatively common. Researchers estimate that about 27 percent of men and 3 percent of women will develop an inguinal hernia at some point in their lives. Inguinal hernias are more common in certain age groups.

- + Among adults, the chance of having an inguinal hernia increases with age, and inguinal hernias are most common in people ages of 75 to 80.
- + Among children, inguinal hernias are most common between the ages of 0 and 5 years.
- + Among infants, inguinal hernias are more common in premature infants.

Inguinal hernias are also more common in:

- + Males, who are 8 to 10 times more likely than women to develop inguinal hernias.
- + Males who have had prostatectomy.
- + People with a family history of inguinal hernias.
- + People who have a lower body mass index (BMI).
- + People who have connective tissue disorders.

WHAT ARE THE COMPLICATIONS OF INGUINAL HERNIAS?

Inguinal hernias may become stuck, or incarcerated, meaning the contents of the hernia that bulge through the abdominal wall cannot be massaged back inside the abdominal wall.

If a hernia becomes stuck outside the abdominal wall, it may become strangulated, meaning the blood flow to the hernia is cut off. Lack of blood flow can cause the death of tissues inside the hernia.

Inguinal Hernia - Continued

If a hernia that contains part of the small intestine becomes stuck and strangulated, this can lead to intestinal obstruction and death of the strangulated part of the intestine.

WHAT ARE THE SYMPTOMS OF AN INGUINAL HERNIA?

Symptoms of an inguinal hernia may include:

- + A bulge in the groin- the area between the lower abdomen and thighs.
- + A bulge in the scrotum in a male.
- + Feelings of discomfort, pain, heaviness, or burning in the groin.

Your symptoms may get worse when you strain, lift, cough, or stand for a long time and may get better when you rest or lie down. If you have symptoms of a stuck or strangulated hernia, **seek medical help right away. A strangulated hernia is a life-threatening condition.** See the section titled “When to get help” for symptoms of a strangulated hernia.

WHAT CAUSES AN INGUINAL HERNIA?

A weak area in the muscles and connective tissue of the lower abdominal wall at the inguinal canal allows an inguinal hernia to develop. A hernia can form in different ways, causing two types of hernias.

- + Indirect inguinal hernias are related to a defect in the lower abdominal wall that is present at birth. In a developing fetus, the inguinal canals have openings inside the abdomen that typically close before birth. In some cases, one or both openings remain open. Contents of the abdomen may bulge through this opening, causing a hernia. While the defect is present at birth, an indirect inguinal hernia may not occur until many years later.

- + Direct inguinal hernias are related to a weak area in the inguinal canal wall that develops later in life. Contents of the abdomen may bulge out through this weak area, causing a hernia. This type of hernia primarily occurs in men. Women and children rarely develop this type of hernia.

Researchers are studying other factors that might play a role in causing inguinal hernias. These factors include:

- + Connective tissue that is weaker than normal or connective tissue disorders.
- + Genes that increase the risk of inguinal hernias.
- + Health conditions that cause increased pressure inside the abdomen, such as chronic cough or chronic constipation.
- + Regular or repeated activities that cause increased pressure inside the abdomen, such as heavy lifting and standing or walking for many hours each day at work.

HOW DO DOCTORS DIAGNOSE INGUINAL HERNIAS?

To diagnose an inguinal hernia, your doctor will ask about your medical history and symptoms and perform a physical exam. In some cases, doctors also order imaging tests.

During a physical exam, the doctor will examine your abdomen. The doctor may ask you to stand, cough, or strain while he or she checks for a bulge caused by the hernia. The doctor may try to gently massage the contents of the hernia back into the abdomen.

If the diagnosis is not clear after a physical exam, your doctor may order imaging tests to check for an inguinal hernia. Doctors may also use imaging tests to check for complications.

Inguinal Hernia - Continued

Imaging tests may include:

- + Ultrasound NIH external link, which uses sound waves to create an image of your organs.
- + Computed tomography (CT) NIH external link, which uses a combination of x-rays NIH external link and computer technology to create images.
- + Magnetic resonance imaging (MRI) NIH external link, which takes pictures of your body's internal organs and soft tissues without using x-rays.

HOW DO DOCTORS TREAT INGUINAL HERNIAS?

Most people with inguinal hernias will need surgery to repair the hernia. Several different types of open and laparoscopic hernia surgery are available. The type of surgery your doctor recommends may depend on factors such as the size of the hernia and your age, health, and medical history.

Open hernia surgery

In open hernia surgery, a surgeon makes a cut in your groin to view and repair the hernia. After repairing the hernia, surgeons typically use stitches and a piece of mesh to close the abdominal wall. The mesh strengthens the weak area where the hernia occurred. In some cases, surgeons may use stitches alone to close and strengthen the weak area in the abdominal wall.

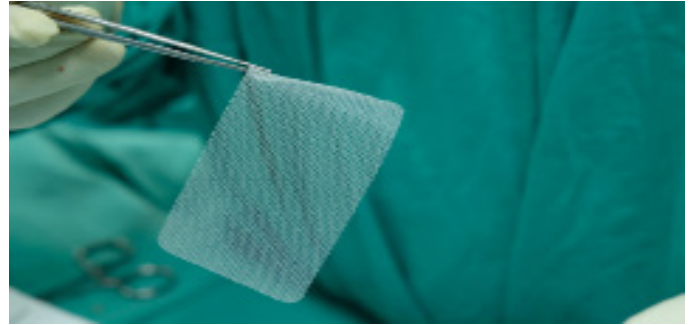
Patients most often receive local anesthesia NIH external link and a sedative for open hernia surgery. In some cases, doctors may give patients general anesthesia NIH external link or a spinal block to make the body numb from the waist down.

Laparoscopic hernia surgery

In laparoscopic hernia surgery, a surgeon makes several small cuts in your lower abdomen and inserts special tools to view and repair the hernia.

The surgeon uses a piece of mesh to close and strengthen the abdominal wall.

Patients most often receive general anesthesia for laparoscopic hernia surgery. Recovery time after laparoscopic surgery may be shorter.



During hernia surgery, surgeons may use a piece of mesh to close and strengthen the abdominal wall.

Watchful waiting

Research suggests that men with inguinal hernias that cause few or no symptoms may be able to safely delay surgery, an approach called watchful waiting. Men who delay surgery should watch for symptoms and see a doctor regularly. About 70 percent of men who delay surgery will develop new or worsening symptoms and will need surgery within 5 years.

If an inguinal hernia causes complications, such as becoming stuck or strangulated, you will need emergency surgery to repair the hernia and treat complications.

WHAT CAN I EXPECT AFTER SURGERY TO TREAT AN INGUINAL HERNIA?

You may have some pain or discomfort after hernia surgery. The pain is typically mild and goes away within 2 weeks after surgery. Your doctor will recommend medicines to relieve pain.

Talk with your doctor about when you can safely return to your usual activities after hernia surgery. Many people can go back to work and resume daily activities within 3 to 5 days after hernia surgery.

WHAT ARE THE RISKS OF HERNIA SURGERY?

Surgery to repair an inguinal hernia is quite safe. However, possible complications of hernia surgery include:

- + Urinary retention.
- + Infection.
- + Swelling in the area you had surgery due to a buildup of blood, called a hematoma, or a buildup of blood plasma, called a seroma
- + Chronic or severe pain.
- + Return of the hernia, which may require another surgery.

Serious complications, such as damage to blood vessels or organs, are rare.

Talk with your doctor about the risks of hernia surgery and symptoms you should watch for after surgery. **See the section titled “When to get help” to learn about when you should call your doctor.**

WHAT ARE CLINICAL TRIALS FOR INGUINAL HERNIA?

The NIDDK conducts and supports clinical trials in many diseases and conditions, including digestive diseases. The trials look to find new ways to prevent, detect, or treat disease and improve quality of life.

Clinical trials- and other types of clinical studies- are part of medical research and involve people like you. When you volunteer to take part in a clinical study, you help doctors and researchers learn more about disease and improve health care for people in the future.

Researchers are studying many aspects of inguinal hernias, such as:

- + The safest time to perform surgery in premature infants born with inguinal hernias.

- + The likelihood that infants born with an abdominal wall defect will develop an inguinal hernia during childhood.
- + Ways to manage pain without opioids after hernia surgery.
- + Strategies to reduce hernia surgery complications, such as urinary retention.

WHICH CLINICAL STUDIES FOR INGUINAL HERNIAS ARE LOOKING FOR PARTICIPANTS?

You can find clinical studies on inguinal hernias at www.ClinicalTrials.gov. In addition to searching for federally funded studies, you can expand or narrow your search to include clinical studies from industry, universities, and individuals; however, the NIH does not review these studies and cannot ensure they are safe. Always talk with your health care provider before you participate in a clinical study.

WHEN TO GET HELP

Go to the nearest Emergency Department if you are experiencing any of the following symptoms of a strangulated hernia:

- + A hernia bulge that is suddenly larger than before.
- + A hernia bulge that used to go back inside the abdomen but no longer does.
- + Fever.
- + Redness in the area of the hernia.
- + Sudden or severe pain or tenderness in the area of the hernia.
- + Symptoms of intestinal obstruction, such as abdominal pain, bloating, nausea, and vomiting.

Inguinal Hernia - Continued

See or call your family doctor if you are experiencing any of the following after a hernia surgery:

- + Bleeding, drainage, or redness in the area where you had surgery.
- + Fever or chills.
- + Nausea or vomiting.
- + Pain or swelling in your abdomen.
- + Pain or swelling in your groin that gets worse.
- + Pain that is severe or doesn't get better when you take pain medicines.
- + Problems breathing.
- + Problems urinating.

RELEVANT RESOURCES

- + For links to more information on inguinal hernias, visit <https://www.niddk.nih.gov/health-information/digestive-diseases/inguinal-hernia>

TO LEARN MORE ASK

- + Your family doctor.
- + HealthLinkBC - call 8-1-1 (7-1-1 for deaf or hard of hearing) or go online to www.HealthLinkBC.ca

RECOMMENDED FOLLOW UP

- Follow up with your primary care provider in ___ days.

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Find this information sheet on the BC Emergency Medicine Network website:
www.bcemn.ca/clinical_resource/Inguinal-Hernia

bcemn.ca

The information in this document is intended solely for the person to whom it was given by the health care team. This information does not replace the advice given to you by your health care provider.

