



Hernia
Information
Brochure

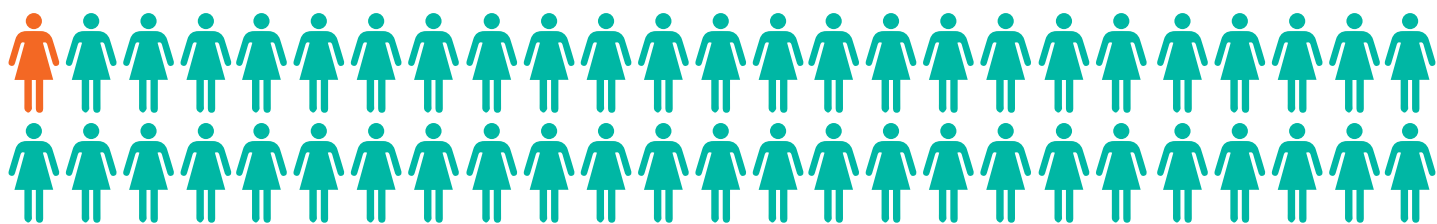




What is a hernia?

A hernia occurs when an internal organ or tissue breaks through a layer of muscle or tissues that are meant to contain them. This occurs as a result of a weak spot forming in the containing muscle or tissue, which can be caused by a number of common factors.

An estimated **1 in 4 men** and **1 in 50 women** will require surgery for an inguinal hernia during their lifetime.¹



Types of Hernias

Hiatal Hernia

A hiatal hernia occurs when the diaphragm, a large, flat muscle that separates the chest and the abdomen, allows part of the stomach to bulge into the chest.²

Ventral Hernia

A ventral hernia is a bulge through an opening in the muscles in the abdomen. Umbilical (belly button), and incisional (at the site of a prior surgery) hernias are ventral hernias that occur in a specific region.³

Umbilical Hernia

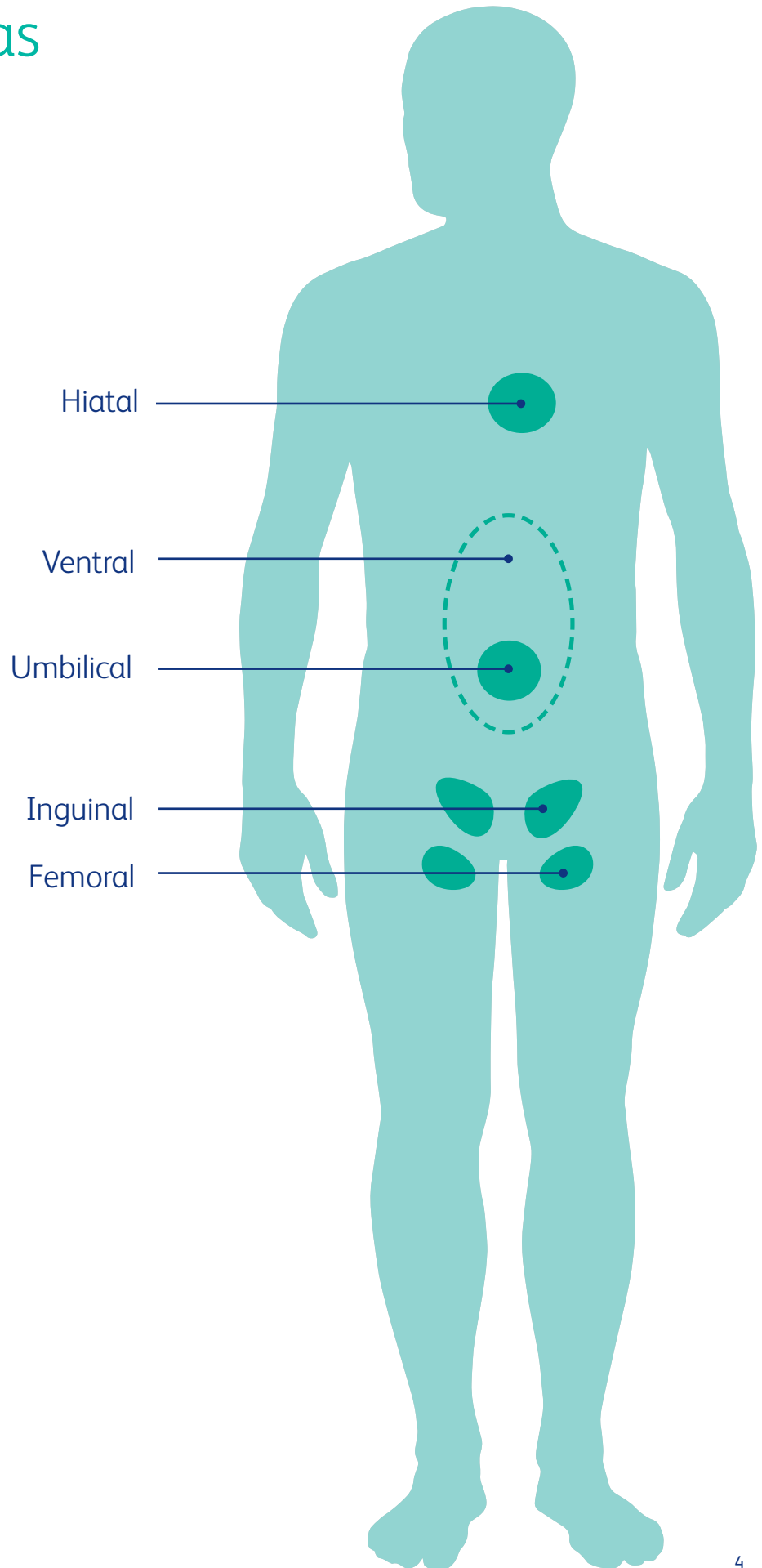
Umbilical hernias occur from strain over time that causes this part of the belly to open. A loop of intestine can move through the opening, creating a hernia that may look like a golf ball has been inserted underneath the belly button.²

Inguinal Hernia

Inguinal hernias are the most common type of hernia and occur in the groin area. They are caused by either weakening of abdominal muscles or an opening that does not close properly during the development of reproductive organs prior to birth. Inguinal hernias are more likely to occur in men.²

Femoral Hernia

A femoral hernia occurs in the upper part of the thigh near the groin. There is a natural space called the femoral canal where abdominal contents can protrude. Femoral hernias tend to occur more often in women than men.²



Hernia symptoms and diagnosis

Signs and symptoms of a Hernia

A hernia may be noticed as a bulge or protrusion that is most noticeable when coughing, lifting, or rising from a sitting to standing position.

Hernias typically do not cause a sharp pain. They more often cause mild pain, dull aches, and the sensation of increased pressure at the site. Sharp pain typically is only present in inguinal hernias in females.⁵

Rarely, a hernia can become 'incarcerated' or 'strangulated,' at which point the bulge is no longer 'reducible.' This is when the lump is no longer able to be gently pushed back down into the abdomen. In these instances, pain may be severe and nausea and vomiting may develop. If this occurs, seek immediate medical attention.⁶

How is a Hernia Diagnosed?

A healthcare provider typically bases the diagnosis of a hernia on a physical examination. While standing, a patient may be asked to cough, which increases pressure inside the abdominal cavity. A hernia will bulge outward, making it easier for the doctor to detect.

Sometimes ultrasounds or CT scans are used to assist the provider in making a hernia diagnosis.

Potential causes and risk factors for hernias

Anything that may lead to increased intra-abdominal pressure or weakened abdominal muscles can lead to a hernia.⁷

The risk factors mainly are:⁸



Family history of hernia⁹



Pregnancy⁸



Male gender⁹



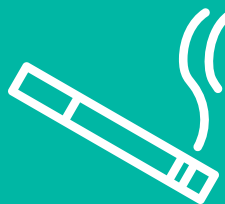
Obesity⁸



Weight lifting⁹



Chronic lung infections^{2,8}



Smoking¹⁰



Previous abdominal surgery⁹

Hernia Q&A

Q. How can you prevent a hernia?

A. The risk of developing a hernia can be minimized, but hernias cannot be prevented. In fact, certain types of hernias may be present at birth.

Q. Why does a hernia hurt?

A. The discomfort you feel - especially when you cough, lift something heavy, or stand for a long time - comes from the constant pressure of tissue pushing its way through the weakened spot in your body. As more tissue pushes through the weakened area, the feeling of pressure increases. A hernia that develops or worsens quickly can produce a sudden intense pain as it enlarges.

Q. Who develops a hernia?

A. According to the National Center for Health Statistics, approximately five million Americans have hernias. Hernias in the groin area (inguinal hernias) are most common in men, primarily because of the unsupported space left in the groin after the testicles descend into the scrotum during development. Hernias in the femoral area, at the top of the thigh, occur most often in women. They commonly result from pregnancy and childbirth. Children can also suffer from hernias. Some people also develop hernias at the site of previous surgical incisions, or in the area of the navel.

Q. What causes a hernia?

A. It is not uncommon for someone to be born with a weakness in their abdominal wall. The weakness can also occur over time or from a previous surgical incision. Pressure from organs or tissue pushing on the weakness can cause a hernia. Age, smoking and obesity can also contribute to weakened tissue.

Q. Do I have to see a surgeon or will my hernia go away?

A. An untreated hernia will not get better on its own, although it may not get worse for months or even years. A hernia that can be easily pushed back in, or is reducible, is generally not an immediate danger to your health, although it can be painful. A reducible hernia should be evaluated by your physician. A non-reducible hernia, however, can become life threatening if part of the intestine gets trapped (incarcerated or strangulated) in the opening. This is dangerous because blood flow to the trapped tissue is restricted and can damage the tissue.

Q. What can I do to feel better?

A. While only your physician can advise you, limiting activity or eliminating excess weight may provide temporary relief. Wearing a truss or binder has also offered temporary relief. The only cure, however, is surgery. There are two reasons for hernia surgery: to prevent or correct a dangerous strangulated hernia, and to eliminate the pain or discomfort that may be limiting your daily activities. Although there are always risks and side effects associated with surgery, today's surgical techniques provide patients with treatment options that offer minimal post-operative discomfort, speedy recovery and lasting relief.

Q. Is surgery for me?

A. Whether you should have surgery is a question only your physician can help you answer. Your physician can tell you more about your condition and treatment options. There is no need to suffer in silence due to fears of surgery and pain. Your doctor is there to help and offer simple and innovative options to help you feel your best.

Q. How long will the surgical procedure take?

A. Your physician will walk you through what to expect once the right surgical approach for your specific situation is determined.

Q. How soon after surgery can I go home?

A. Since hernia surgery is, for the most part, an outpatient procedure, most patients are able to go home anywhere from one to two hours after the surgery. However, some patients may require hospitalization.

Q. What are the chances my hernia will come back?

A. The recurrence rates vary by type of hernia, complexity, risk factors and technique selection. Mesh based repairs have been shown to provide the lowest recurrence rates.

Q. What about complications?

A. Like any surgery, there is always a chance for complications, like infection or hernia recurrence. Your physician will discuss these with you prior to surgery.

Q. Is it possible for a child to have a hernia? How is it treated?

A. Yes. Children can be born with hernias. They can be repaired by reducing the hernia and suturing the hole in the tissue back together. You should consult with your pediatrician.

Hernia Repair Options

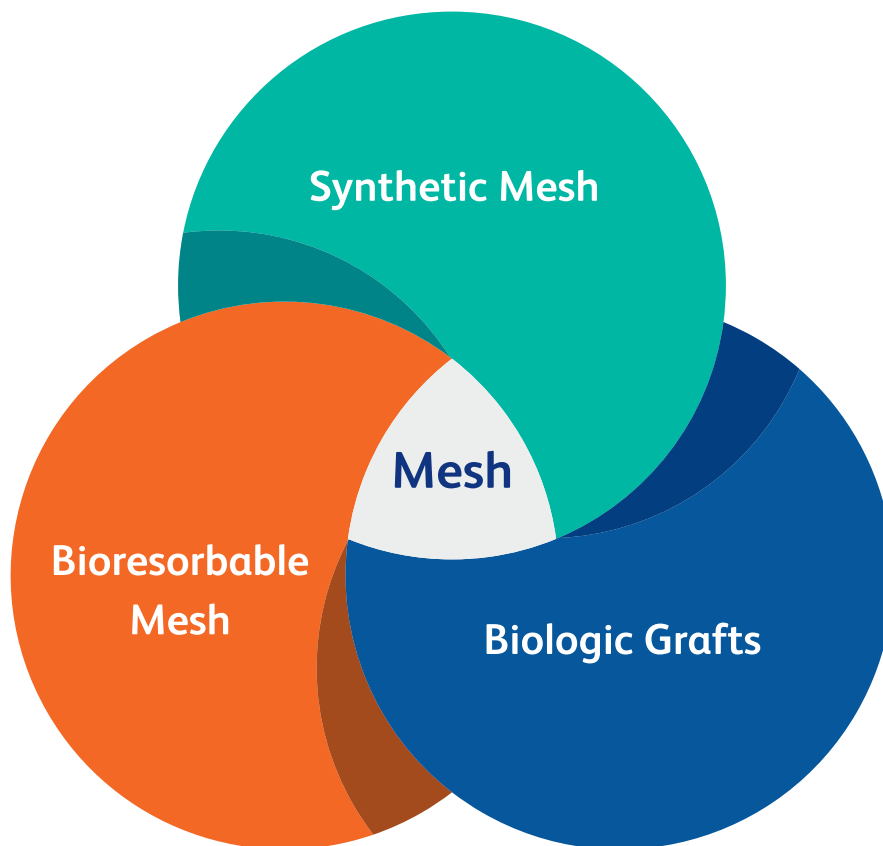
Hernias will not heal on their own.

Surgery is required to repair a hernia.

In a hernia repair surgery, a mesh implant is often used to reinforce the weakened tissue and close the opening. Multiple surgical approaches can be used to repair your hernia, including open surgical, laparoscopic, and robotic approaches. Laparoscopic and robotic surgical repairs are minimally invasive surgical approaches used in place of open surgery in some cases.

Historically, non-mesh surgical options, such as sewing the edges of existing healthy tissue together to cover the hernia, were used and may still be considered for smaller hernias.¹¹

Plastic (or "synthetic") mesh has been used in hernia repairs for many years. However, natural, absorbable mesh options are available. Read below to understand your options before talking to your doctor about your surgery.^{8,12}



Options for Mesh

Synthetic Mesh

Synthetic meshes made from plastic materials (e.g., polypropylene, polyester, etc.) are permanent implants used to repair hernias. These non-absorbable meshes remain in the body to help provide support to the site of the repair.^{11,12}

Bioresorbable mesh

Bioresorbable (or "resorbable") mesh is made of natural biomaterials. The mesh is designed to dissolve over time, leaving new tissue growth to support the site of the repair.¹²

Biologic graft

A biologic graft is an implant derived from animal or human tissue. A biologic graft is most often used in complicated hernia repair procedures. Similar to bioresorbable mesh, biologic grafts are intended to dissolve completely over time to help support the repair as the body heals.^{7,13}

Treatment of a hernia

An untreated hernia will not get better on its own, although it may not get worse for months or even years. The only way to effectively treat a hernia is to have it surgically repaired. Depending on your personal situation, there are several different repair options your doctor may recommend.



Procedure Type

Open repair

In an open repair, an incision is made at the site of the hernia. The mesh is placed between layers of muscle for a durable repair.¹⁴

Laparoscopic minimally-invasive repair

Laparoscopic repairs are a type of minimally invasive surgery and may only require small "key hole" incisions. These repairs use a small camera and specialized minimally invasive tools.

Patients may experience a faster recovery following a laparoscopic repair compared to an open surgery.¹⁵

Robotic hernia repair

Similar to laparoscopic repair, a robotic hernia repair is a minimally invasive surgery requiring small incisions. The surgeon controls the procedure from a specialized robotic console.¹⁵

Patients may experience a faster recovery following robotic surgery compared to an open surgery.¹⁶

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