

Causes of Groin Pain and Treatment Options

Everything you need to know about groin pain in adults

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When people experience pain in their lower abdomen, where the leg meets the pelvis, they often refer to this as groin pain. While a muscle strain is the most common cause of groin pain in adults, a wide variety of other conditions may be to blame, including an inguinal hernia, kidney stone, or problems in or around the hip joint, in the scrotum (in men), or with specific nerves. Depending on the underlying cause, groin pain can be mild or severe, come on gradually or suddenly, and vary in quality (dull, sharp, throbbing, or even burning).

To determine the cause of your groin pain, your doctor will perform a comprehensive physical examination and, if needed, order blood and/or imaging tests. In the end, your treatment plan may range from something as simple as rest and ice to something more involved, like physical therapy, or invasive, like surgery.

Note: [Groin pain in children](#) is assessed differently than in adults; this article focuses on the latter.

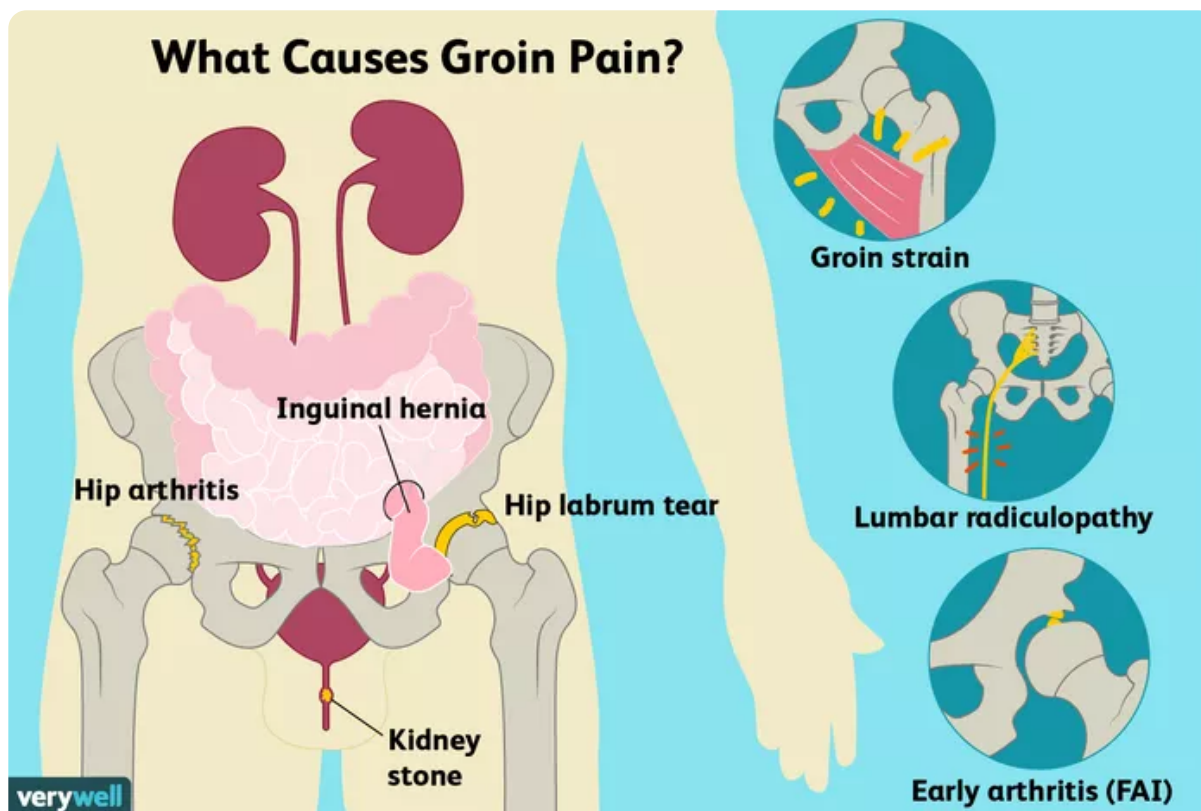


Illustration by Alexandra Gordon, Verywell

Causes


Due to the multiple and unique causes of groin pain, seeing a healthcare professional for an evaluation is important.

Common

Less commonly, testicular, abdominal, pelvic, and nerve conditions may cause groin pain.

Muscle Strain

Groin strain, also referred to as a pulled groin muscle, typically occurs as a result of an athletic injury or awkward movement of the hip joint, which leads to stretching or tearing of the inner thigh muscles.



Usually, the pain of a groin strain is sharp, the onset is abrupt, and the cause of pain is clear.

In addition to pain, a person may develop inner thigh muscle spasms and leg weakness from the strain.

Related: [Diagnosing and Treating Groin Pulls](#)

Inguinal Hernia

An [inguinal hernia](#) occurs when fatty tissue or the intestines herniates (protrudes) through a weak or torn area within the abdominal wall. Sometimes, an inguinal hernia causes no symptoms. If symptoms are present, people often report a tugging sensation in the groin area and/or a dull groin pain when coughing or lifting things. There may also be a visible bulge in the groin.

Kidney Stone

A [kidney stone](#) may cause waves of pain (renal colic) as it passes through the urinary tract. The pain can range from mild to severe, and it often occurs in the flank area (between your ribs and hips) or the lower abdomen. In both cases, the pain frequently radiates toward the groin. In

addition to pain, a person may experience blood in their urine, nausea or vomiting, pain with urination, and an urge to urinate.

Hip Osteoarthritis

[Arthritis of the hip joint](#) (located between the top of the thigh bone and the pelvis) occurs when the usually smooth hip joint is worn away. When the cartilage is depleted, leg movements become painful and stiff. Like other forms of osteoarthritis, the pain worsens with activity and is eased with rest. Besides pain, stiffness in the hip joint and a popping noise or sensation may be heard during movement.

Learn More: [Everything You Need to Know About Hip Osteoarthritis](#)

Femoral Acetabular Impingement

[Femoral acetabular impingement \(FAI\)](#) is generally thought of as an early stage of arthritis in the hip joint. When bone spurs develop around the ball and socket of the hip joint, this leads to restrictions in mobility of the hip and pain felt in the groin (or the outside of the hips) at the limits of motion. The pain may range from a dull ache to a sharp, stabbing sensation.

Hip Labrum Tear

The labrum of the hip joint is a layer of cartilage that wraps around the ball of the ball-and-socket hip joint. A [hip labral tear](#) can cause symptoms of pain (usually sharp) in the groin or buttock that is felt during certain movements of the hip. Sometimes, a catching and popping sensation is also felt within the hip.

Hip Fracture

A [hip fracture](#)—a bone break in the upper quarter of the thigh bone— may result from a fall or a direct blow to the hip, as well as osteoporosis, cancer, or a stress injury.

The pain of a hip fracture is often felt in the groin and is significantly worsened with any attempt to flex or rotate the hip.

Hip Osteonecrosis

[Osteonecrosis](#), sometimes called avascular necrosis, is a medical condition that causes bone cells to die as a result of a lack of appropriate blood supply. When this happens to bone cells supporting the hip joint, they begin to collapse, leading to deterioration of the hip joint. A dull

aching or throbbing pain in the groin or buttock area is usually the first symptom of this condition. As it progresses, a person may limp due to difficulties putting weight on the hip.

Sports Hernia

A [sports hernia](#) is an unusual injury, mostly diagnosed in soccer and hockey players, that is attributed to a subtle weakening of the abdominal wall. It causes pain directly over the front of the lower abdomen/groin region. A sports hernia can be difficult to diagnose and, usually, the only treatment is rest or surgical intervention.

Related: [How Hernias Present in Women](#)

Less Common

Less commonly, testicular, abdominal, pelvic, and nerve conditions may cause groin pain.

Testicular Conditions

Several different [types of testicular conditions](#) may cause groin pain, such as:

- **Epididymitis:** [Epididymitis](#) is inflammation of the epididymis—a duct located at the back of the testes. The pain of epididymitis may begin in the groin and then move down to the testicle. Swelling of the testicle may occur, along with a fever and chills (though less commonly).
- **Testicular torsion:** Testicular torsion is a surgical emergency that occurs when the structure that carries nerves to the testicles (spermatic cord) twists on itself, resulting in severe and sudden groin and testicle pain.

Nerve Problem

A [pinched nerve](#) in the lumbar (lower spine) may cause pain and numbness and tingling in the groin area. This condition is called lumbar [radiculopathy](#).

Likewise, nerve entrapment, such as obturator nerve or ilioinguinal nerve entrapment, may cause burning or lancinating groin and middle [thigh pain](#), as well as other neurological symptoms like numbness and tingling.

Abdominal or Pelvic Conditions

Certain abdominal conditions, like [diverticulitis](#) or an [abdominal aortic aneurysm](#), or pelvic conditions, like an [ovarian cyst](#), may cause pain that travels to or is perceived to be in the groin.

Osteitis Pubis

[Osteitis pubis](#) is an inflammatory condition of the pubic symphysis—a cartilaginous joint that connects your two pubic bones. It may cause a dull, aching pain in the groin and pelvis. This condition may occur in athletes, as well as non-athletes, especially those with a history of [inflammatory arthritis](#), pregnancy, pelvic trauma, or pelvic surgery.

Rare

These two conditions are rare, but may be the source of groin pain, and therefore will be considered by your doctor:

Infected Joint

Rarely, the hip joint may become [infected](#). This is most common in older individuals (people over the age of 80), and people with diabetes mellitus, rheumatoid arthritis, recent joint surgery, and those with a hip or knee prostheses. In addition to severe groin pain, especially with leg movement, a person may have a fever, as well as swelling, warmth, and redness around the hip.

Tumor

Very rarely, a tumor in a muscle or bone, especially one in the area of the inner thigh muscles, may cause groin pain. Unlike a groin strain, groin pain from a tumor does not generally worsen with exercise.

When to See a Doctor

Seek immediate medical attention if your groin pain is severe or persistent, or if you have fallen or experienced another form of trauma to your hip.

Groin pain associated with a fever, chills, blood in your urine, abdominal or pelvic discomfort, nausea or vomiting, or an inability to bear weight or walk also warrants immediate medical attention.

In the event of an [inguinal hernia](#), if you cannot push the protruding tissue back into your body, be sure to call your doctor or surgeon. Seek emergency medical attention if you experience severe pain around your inguinal hernia (groin bulge) or symptoms of sickness like vomiting, diarrhea, or a swollen belly. This may indicate a strangulated hernia, in which the herniated tissue becomes trapped without adequate blood supply (this requires emergent surgery).

Lastly, if you are experiencing severe, one-sided testicular pain and swelling, seek emergency medical attention for a possible testicular torsion, which also requires immediate surgery.

Diagnosis

While getting a detailed medical history, your doctor will inquire about the specifics of your groin pain, like when it started, whether you experienced an acute injury or trauma, what makes the pain worse and better, and whether you have any other associated symptoms. Your doctor will then perform a thorough physical exam and often order imaging tests to clinch the diagnosis.

Physical Examination

To access the culprit behind your groin pain, your doctor will perform an abdominal exam, testicular exam (if male), neurological exam, and a musculoskeletal exam that focuses on your hip.

People with hip joint problems often complain of discomfort with maneuvers that involve flexion (bending) and rotation of the hip joint. This would be a maneuver such as resting your ankle upon your thigh while in the seated position to put on your shoes or socks. In medical terms, this is called a FABER maneuver (flexion, abduction, external rotation) or Patrick's test.

Imaging

While a groin strain can be diagnosed by physical examination alone, other causes of groin pain usually require imaging.

The most commonly performed imaging test to access groin pain is an [X-ray](#), which can be helpful in showing the bony anatomy and structure of the hip joint.

It's the best test for determining the extent of cartilage damage and other signs of hip osteoarthritis, like bone spurs and joint space narrowing.

If groin pain is suspected to be related to the testicles or an inguinal hernia, an ultrasound may be ordered. If a kidney stone is a potential culprit, your doctor may opt for a [computed tomography \(CT\) scan](#). An ultrasound or CT of the abdomen/pelvis may also be ordered if an intestinal or other abdominal/pelvic process is a suspected cause of your groin pain.

A [magnetic resonance imaging \(MRI\)](#) test is often performed to evaluate the soft tissues around the hip joint. MRIs can show muscles, tendons, ligaments, and labrum to help determine the source of groin pain issues. Sometimes an MRI is performed with an injection of a solution called contrast to better reveal subtle injuries of the cartilage and labrum inside the joint.

An MRI can also be used to access for nerve problems, like a pinched nerve in the back that is referring pain to the groin.

Learn More: [Comparing Diagnostic Capabilities of CT and MRI](#)

Injection

Finally, a diagnostic or therapeutic injection can be very helpful if the source of pain is unclear. A skilled physician, sometimes an orthopedic surgeon or radiologist, can guide a needle into the hip joint. This may be done with the [aid of ultrasound](#) or X-ray to ensure the needle is properly positioned.

Once the needle is in the joint, an anesthetic (lidocaine) can be injected. It is a very useful diagnostic tool: If the pain goes away temporarily, the source is likely where the anesthetic was injected.

Treatment

After a proper diagnosis is made, the next step is formulating a treatment plan.

Lifestyle Treatment Options

Some causes of groin pain require simple strategies that you can often do at home. For instance, for a groin strain from a sports injury, your doctor will likely recommend rest, icing the injured area, and wrapping the upper thigh with an elastic compression wrap to decrease pain and swelling.

Likewise, for hip osteoarthritis, your doctor may recommend minimizing activities that aggravate your pain, such as climbing stairs. For epididymitis or other testicular sources of groin pain, scrotal elevation and icing may help.

Medications

Medications, such as Tylenol (acetaminophen) or an over-the-counter [nonsteroidal anti-inflammatory \(NSAID\)](#), are used to ease groin pain in many conditions, such as a groin strain, osteoarthritis, hip labrum tear, osteitis pubis, or a pinched nerve in the back.

Stronger pain medications, such as opioids, may be required to treat the more severe groin pain associated with a kidney stone, hip fracture, or infected hip joint.

Sometimes a steroid like cortisone is injected into the hip to alleviate groin pain, especially in the case of hip osteoarthritis, or into the lower back, as with a pinched nerve.

Lastly, depending on the underlying condition, antibiotics may be needed to treat an infection, as in the case of epididymitis or an infected hip joint.

Physical Therapy

Physical therapy is a major treatment for most hip-related causes of groin pain. That said, the timing of when to undergo rehabilitation depends on the underlying problem (for example, post-operative physical therapy after a hip replacement versus long-term physical therapy for hip osteoarthritis).

Besides exercises that help strengthen your leg and hip muscles and improve range of motion and flexibility, if you have a hip problem, your physical therapist may provide you with an assistive walking device like a cane, crutches, or a walker.

Surgery

Other conditions are more serious and may require surgery, sometimes emergently, as in the case of testicular torsion. Non-urgent, but necessary surgery examples include [hip replacement](#) for advanced hip arthritis, an [arthroscopic hip surgery](#) for some labral tears, and [core decompression surgery](#) for hip osteonecrosis.

Prevention

Groin pain is a common complaint with multiple potential causes.

In order to prevent hip-related problems (a common groin pain origin), here are a few simple strategies you can consider adopting:

- Maintaining a healthy weight
- Engaging in low-impact sports, like swimming or cycling, that place less stress on the hip
- Talking with your doctor about strategies, like balance training or [tai chi](#), to prevent falls—the most common cause of hip fractures
- Performing daily moderate exercise to slow bone loss and maintain muscle strength

For non-hip related causes of groin pain, it's important to see your doctor periodically for routine check-ups and screenings (for example, screening for [sexually transmitted disease](#), which is a common cause of epididymitis).

A Word From Verywell

There was a time when orthopedic physicians understood groin pain to be limited to arthritis and muscular injuries. The understanding of sources of groin pain has expanded greatly, and while this can help to guide treatment, it can make for a challenging diagnostic evaluation.

Remain proactive in working with your physician to determine the source of your groin pain. Once the source is clearly understood, a treatment plan can be developed that should give you the relief you deserve.

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