

Broken leg

Overview

A broken leg (leg fracture) is a break or crack in one of the bones in your leg. Common causes include falls, motor vehicle accidents and sports injuries.

Treatment of a broken leg depends on the location and severity of the injury. A severely broken leg may require surgery to implant devices into the broken bone to maintain proper alignment during healing. Other injuries may be treated with a cast or splint. In all cases, prompt diagnosis and treatment of a broken leg is critical to complete healing.

Symptoms

A broken thighbone (femur) — the strongest bone in your body — usually is obvious because it takes so much force to break. But fractures of your shinbone (tibia) — the major weight-bearing bone in your lower leg — and the bone that runs alongside your tibia below your knee (fibula) may be more subtle.

Signs and symptoms of a broken leg may include:

- Severe pain, which may worsen with movement
- Swelling
- Tenderness
- Bruising
- Obvious deformity or shortening of the affected leg
- Inability to walk

Toddlers or young children who break a leg may simply stop walking, even if they can't explain why. Unexplained crying may be a symptom of a toddler who has a fracture.

When to see a doctor

If you or your child has any signs or symptoms of a broken leg, see a doctor right away. Delays in diagnosis and treatment can result in problems later, including poor healing.

Seek emergency medical attention for any leg fracture from a high-impact trauma, such as a car or motorcycle accident. Fractures of the thighbone are severe, potentially life-threatening injuries that require emergency medical services to help protect the area from further damage and to transfer you safely to your local hospital.

Causes

There are a number of ways you can break a leg, including:

- **Falls.** A simple fall can fracture one or both of the lower leg bones. However, the thighbone is unlikely to be broken without more significant trauma.

- **Motor vehicle accidents.** All three leg bones can break during a motor vehicle accident. Fractures can occur when your knees become jammed against the dashboard during a collision.
- **Sports injuries.** Hyperextending your leg during contact sports can cause a broken leg. So can a direct blow — such as from a hockey stick or an opponent's body.
- **Child abuse.** In children, a broken leg may be the result of child abuse, especially when such an injury occurs before the child can walk.
- **Overuse.** Stress fractures are tiny cracks that develop in the weight-bearing bones of your body, including your shinbone. Stress fractures are usually caused by repetitive force or overuse, such as running long distances. But they can also occur with normal use of a bone that's been weakened by a condition such as osteoporosis.

Risk factors

Stress fractures are often the result of repetitive stress to the leg bones from physical activities, such as:

- Running
- Ballet dancing
- Basketball
- Marching

Contact sports, such as hockey and football, also may pose a risk of direct blows to the leg, which can result in a fracture.

Stress fractures outside of sport situations are more common in people who have:

- Decreased bone density (osteoporosis)
- Diabetes
- Rheumatoid arthritis

Complications

Complications of a broken leg may include:

- **Knee or ankle pain.** A broken bone in your leg may produce pain in your knee or ankle.
- **Poor or delayed healing.** A severe leg fracture may not heal quickly or completely. This is particularly common in an open fracture of your tibia because of lower blood flow to this bone.
- **Bone infection (osteomyelitis).** If you have an open fracture, your bone may be exposed to fungi and bacteria that can cause infection.
- **Nerve or blood vessel damage.** Fracture of the leg can injure adjacent nerves and blood vessels. Seek immediate medical help if you notice any numbness or circulation problems.
- **Compartment syndrome.** This neuromuscular condition causes pain, swelling and sometimes disability in muscles near the broken bone. This is a rare complication that is more common with high-impact injuries, such as a car or motorcycle accident.
- **Arthritis.** Fractures that extend into the joint and poor bone alignment can cause osteoarthritis years later. If your leg starts to hurt long after a break, see your doctor for an evaluation.
- **Unequal leg length.** The long bones of a child grow from the ends of the bones, in softer areas called growth plates. If a fracture goes through a growth plate, that limb might eventually become shorter or longer than the opposite limb.

Prevention

A broken leg can't always be prevented. But these basic tips may reduce your risk:

- **Build bone strength.** Calcium-rich foods, such as milk, yogurt and cheese, can help build strong bones. A calcium or vitamin D supplement also may improve bone strength. Ask your doctor if these supplements are appropriate for you.
- **Wear proper athletic shoes.** Choose the appropriate shoe for your favorite sports or activities. And replace athletic shoes regularly. Discard sneakers as soon as the tread or heel wears out or if the shoes are wearing unevenly.
- **Cross-train.** Alternating activities can prevent stress fractures. Rotate running with swimming or biking. If you run on a sloped track indoors, alternate the direction of your running to even stress on your skeleton.

By Mayo Clinic Staff

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