



Muscle Tear or Strain

Overview

A muscle strain is an injury to a muscle or a tendon — the fibrous tissue that connects muscles to bones. Minor injuries may only overstretch a muscle or tendon, while more severe injuries may involve partial or complete tears in these tissues.

Sometimes called pulled muscles, strains commonly occur in the lower back and in the muscles at the back of the thigh (hamstrings).

The difference between a strain and a sprain is that a strain involves an injury to a muscle or to the band of tissue that attaches a muscle to a bone, while a sprain injures the bands of tissue that connect two bones together.

Initial treatment includes rest, ice, compression and elevation. Mild strains can be successfully treated at home. Severe strains sometimes require surgical repair.



Symptoms

- Mild to intense pain
- Muscle weakness
- Muscle spasms
- Redness or bruising of the affected area
- Reduced range of motion
- Swelling

The amount of discomfort will vary depending on the severity of the injury, which is typically categorized as a first-degree, second-degree or third-degree muscle strain.

Prevention

- Because a muscle tear or muscle rupture often occurs during sports or other physical activity, it is important to warm up before participating.
- Warm-up activities should include stretching of the hand muscles.
- Regular conditioning exercises should be performed frequently so the participant remains physically in shape.
- Conditioning exercises may include those designed to increase gripping strength in the hands, lowering the risk of injury to the hand muscles.

Risk factors

- Activities that place unusual force on the hands
- Activities or movements that require grip strength
- Athletic activities or job-related tasks requiring use of the hands
- Participation in contact sports
- Previous injuries to the hand muscles



Diagnosis

- **Medical history and symptom review.** During your appointment, a medical provider will review your symptoms and take a thorough medical history, including a look at your lifestyle habits and activities.
- **Physical examination.** To determine whether you have a muscle tear or muscle rupture, your medical provider will perform a physical exam, moving the hand around to check for areas of sensitivity or discomfort. This exam will also help ascertain whether the range of motion in your hand is negatively impacted, which helps determine the severity of your injury.
- **Imaging tests.** Depending on what your provider learns during the medical review and physical exam, he or she may order imaging tests. These imaging scans may include an X-ray or CT scan to rule out bone fracture, an MRI to view images of the muscles and other anatomy in the hand, and/or an ultrasound to visualize the tendons and soft tissue in the hand.



Treatment

- If your injury is minor, or until you can undergo a surgical procedure, your medical provider may recommend immobilization of the hand using a cast or splint.
- You can alleviate discomfort by applying ice in short intervals, even over the cast or splint.
- If you experience persistent discomfort due to a muscle tear or muscle rupture, a provider may recommend over-the-counter or prescription pain or anti-inflammatory medications, along with injected corticosteroids.
- After or instead of surgery, a medical provider may prescribe physical or occupational therapy to help regain strength and abilities following your injury.
- In the case of a third-degree muscle strain, where the entire muscle is ruptured, your provider may recommend surgery to reattach or stabilize the muscle.

