

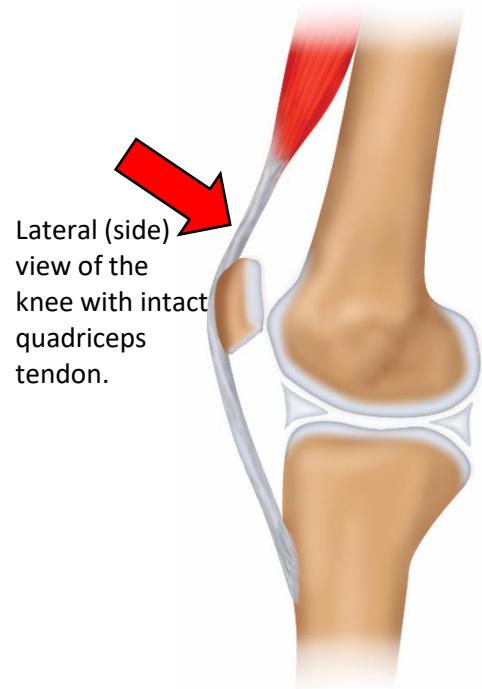
Quadriceps Tendon Rupture

The quadriceps muscles are the large group of muscle on the front of your thigh that are responsible for fully extending the leg. There are four muscles of the quadriceps that come together to a central tendon that attach to the top of the patella (knee cap). Partial tears of the quadriceps tendon can make it difficult to walk or participate in sport. Full rupture of the quadriceps tendon is a debilitating injury and requires early surgical intervention to restore the extensor mechanism of the knee.



MRI lateral view of the knee with a torn quadriceps tendon indicated by the red arrow.

MRI image courtesy of Dr. Domineco Nicoletti, Radiopedia.org/, rID:69403



Lateral (side) view of the knee with intact quadriceps tendon.

Frequent Signs and Symptoms

- Pain, tenderness, swelling, bruising, or redness over the quad tendon, usually near the superior pole of the patella
- Pain and loss of strength (occasionally) with forcefully straightening the knee (especially when jumping or when rising from a seated or squatting position) or bending the knee completely (squatting or kneeling)
- Crepitation (a crackling sound) when the tendon is moved or touched



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Etiology (Causes)

- Sudden episode of stressful over activity, such as jumping, hurdling, or beginning a sprint.
- Direct blow or injury to the knee.

Risk Factors

- Sports that require sudden, explosive quadriceps contraction (jumping, quick starts, or kicking)
- Running sports, especially running down hills
- Poor physical conditioning (strength and flexibility, such as with weak quadriceps or tight inflexible muscles)

Prevention

- Appropriately warm up and stretch before practice or competition.
- Allow time for adequate rest and recovery between practices and competition.
- Maintain appropriate conditioning:
 - Cardiovascular fitness
 - Thigh and knee strength
 - Flexibility and endurance

Outcomes

With early and appropriate surgical intervention, patients are typically able to return to their pre-injury level of competition. This injury requires approximately four to six months of formal rehabilitation following surgical repair.

Potential Complications

- Prolonged healing time if not appropriately treated or compliant with post-operative rehabilitation protocol.
- Recurrence of symptoms if activity is resumed too soon.

Treatment Considerations

Initial treatment consists of medication and ice to relieve the pain. The patient is often placed on crutches to assist with walking. An MRI is often ordered to evaluate the integrity of the tendon. Surgery to repair the ruptured tendon is usually recommended within three weeks of the initial injury. Following surgery, the patient is referred to outpatient physical therapy and should expect approximately four to six months of formal physical therapy to restore pre-surgical function



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Possible Medications

- Nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take within seven days before surgery), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician. Contact your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.
- Pain relievers may be prescribed by your physician. Use only as directed and only as much as you need.
- Cortisone injections are not given. Cortisone injections may weaken tendons, so it is better to give the condition more time to heal than to use them.

Modalities (Heat and Cold)

- Cold is used to relieve pain and reduce inflammation. Cold should be applied for 10 to 15 minutes every two to three hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage with a cloth between the ice and your skin to prevent burning /freezing your skin.
- Heat may be used before performing stretching and strengthening activities prescribed by your physician, physical therapist, or athletic trainer. Use a heat pack or a warm soak.

Notify My Office If Symptoms Worsen



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