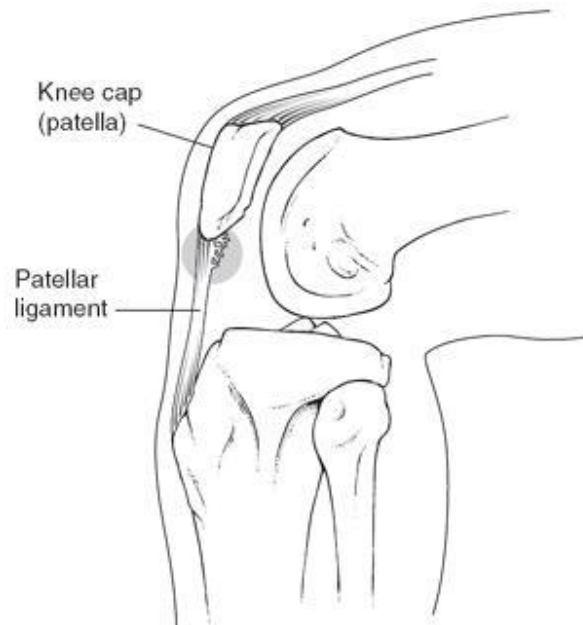


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Patellar Tendinosis (Jumper's Knee)

Patellar tendinosis is characterized by inflammation and pain at the patellar tendon (the tendon below the kneecap). This structure is the tendon attachment of the quadriceps (thigh) muscles to the leg. This structure is important in straightening the knee or slowing the knee during bending or squatting. This is usually a Grade 1 or Grade 2 strain of the tendon. A Grade 1 strain is a mild strain. There is a slight pull without obvious tearing (it is microscopic tendon tearing). There is no loss of strength, and the tendon is the correct length. A Grade 2 strain is a moderate strain. There is tearing of tendon fibers within the substance of the tendon or at the bone-tendon junction. The length of the tendon is usually increased, and there is decreased strength. A Grade 3 strain is a complete rupture of the tendon.



Frequent Signs and Symptoms

- Pain, tenderness, swelling, warmth, or redness over the patellar tendon, most often at the lower pole of the patella (kneecap) or at the tibial tubercle (bump on the upper part of the lower leg)
- 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)

- Strain from a sudden increase in amount or intensity of activity or overuse of the quadriceps muscles and patellar tendon
- Direct blow or injury to the knee or patellar tendon

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 hamstrings)
- Flat feet

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
- To help prevent recurrence, taping, protective strapping or bracing, or an adhesive bandage may be needed for several weeks after healing is complete.
- Wear arch supports (orthotics).

Outcomes

This condition is usually curable within six weeks if treated appropriately with conservative treatment and resting of the affected area.

Potential Complications

- Prolonged healing time if not appropriately treated or if not given adequate time to heal.
- Recurrence of symptoms if activity is resumed too soon, with overuse, with a direct blow, or when using poor technique
- Untreated, tendon rupture requiring surgery



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Treatment Considerations

Initial treatment consists of medication and ice to relieve the pain, stretching and strengthening exercises of the quadriceps and hamstring muscles, and modification of the activity that initially caused the problem. These all can be carried out at home, although referral to a physical therapist or athletic trainer for further evaluation and treatment may be helpful. Rarely, a leg cast may be recommended to 10 to 14 days to immobilize the tendon and allow the inflammation to settle down. Uncommonly, crutches may be needed for the first few days to weeks until there is good control of the quadriceps muscles and no limp exists. An arch support (orthotic) or a patellar tendon brace may be prescribed to reduce stress to the tendon. Surgery to remove the inflamed tendon lining or degenerated tendon tissue is rarely necessary and is only considered after at least six months of adequate rehabilitation and rest.

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.

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