



The American Orthopaedic  
Society for Sports Medicine

## SPORTS TIP

# Patellofemoral Pain

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### What is patellofemoral pain?

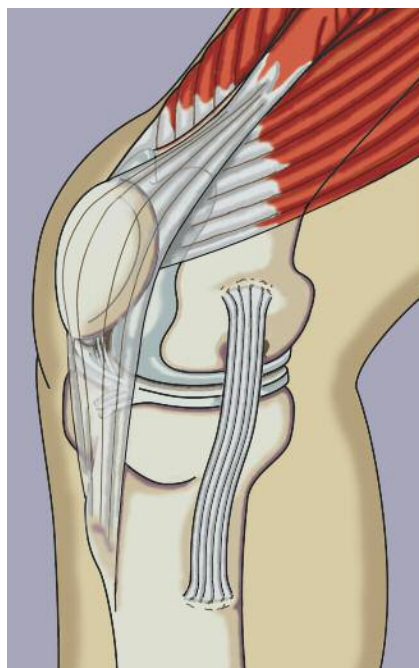
Pain around the front of the knee is often referred to as patellofemoral pain. This pain may be caused by soft cartilage under the kneecap (patella), referred pain from another area such as the back or hip, or soft tissues around the front of the knee.

In athletes, soft tissue pain in the retinaculum (tendon tissue) of the anterior (front of the knee) is fairly common. This may come from strain of the tendon—which connects the kneecap to the lower leg bone (patellar tendon), upper leg bone (quadriceps tendon), or the retinaculum (which supports the kneecap on both the left and right sides).

Some patellofemoral pain is caused because the kneecap is abnormally aligned. If the patella is not correctly aligned, it may come under excessive stress, particularly with vigorous activities. This can also cause excessive wear on the cartilage of the kneecap, which can result in chondromalacia (a condition in which the cartilage softens and may cause a painful sensation in the underlying bone or irritation of the synovium [joint lining]).

### Treatment of Patellofemoral Pain

Treatment depends on the specific problem causing the pain. If the soft tissues (retinaculum, tendon, or muscle) are the source of the pain, stretching, particularly in the prone (face down) position, can be very helpful to make the support structures more resilient



and flexible. One simple stretch is to lie prone, grab the ankle of the affected leg with one hand and gently stretch the front of the knee. Hamstring stretching (rear thigh) can also be very helpful. It helps to warm up before doing these, or any other stretches.

Other treatments may involve exercises to build the quadriceps muscle, taping the patella, or using a specially designed brace which provides support specific to the problem. Using ice and non-steroidal anti-inflammatory medications can also be helpful. It is often necessary to temporarily modify physical activities until the pain decreases.

In more extreme situations, a specific surgical procedure may be needed to help relieve the pain. If the cartilage

under the kneecap is fragmented and causing mechanical symptoms and swelling, arthroscopic removal of the fragments may be helpful. If the patella is badly aligned, however, a surgical procedure may be needed to place the kneecap back into proper alignment, thereby reducing abnormal pressures on the cartilage and supporting structures around the front of the knee.

In some people, particularly those who have had previous knee surgery, there may be a specific painful area in the soft tissue around the patella which may require resection (removal).

### Controlling or Preventing Patellofemoral Pain

Good general conditioning is important. Stretching, particularly in the prone position, will keep the supporting structures around the front of the knee flexible and less likely to be irritated with exercise. Proper training, without sudden increases of stress to the front of the knee, will help avoid pain. Weight reduction and activity modification may be necessary in some people.