

Patellofemoral pain

Knee pain arising in the absence of a traumatic incident is a common complaint among athletes involved in several different sports. Although there are various potential causes of knee pain, probably the most prevalent is patellofemoral pain syndrome (sometimes called ‘runners knee’).

Symptoms

Pain may be felt anywhere in the front of the knee and may be on one or both legs. Stairs are very often problematic with pain usually worse going down, walking downhill may be painful as with running, prolonged sitting (eg. on a plane or at the movies), squatting or kneeling. Pain is usually described as an ache, although certain movements may cause sharp pain or a burning sensation, some patients may also feel as if their knee occasionally gives way from under them. Symptoms most commonly follow commencement of a running program or an increase in distance or intensity.

How does it occur?

As the knee bends and straightens, the underside of the kneecap (patella) slides up and down in a groove at the end of the thigh bone (femur). If the patella is not aligned correctly with the groove there may be irritation of the articular cartilage as the knee bends and straightens. Irritation results in inflammation and pain and may eventually result in early degenerative change at the joint if provocative activities are not ceased.



The biomechanics of joints above and below the knee play a major role in patellofemoral disorders. Particularly, poor hip - pelvic control due to deficient deep gluteal muscle function can place stress on structures about the knee. Excessive hip internal rotation places the patellofemoral joint in a disadvantageous position. The femur becomes internally rotated which results in a lateral displacement of the patella in relation to the femur. This can cause an acute injury as well as degeneration over time.

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Just as forces located proximal to the knee can have a significant impact on the patellofemoral joint, forces distal to the knee may also contribute. Rotation of the tibia will cause displacement of the patella. Treatment for patellofemoral patients should include a thorough assessment of the foot and ankle to establish biomechanical factors that need to be addressed.

Management

The pain is an indication that the joint surfaces are being irritated, so obviously painful activities need to be limited to allow healing. Avoidance of aggravating movements in the initial stages is key to recovery from this condition. It may also be shown how to tape your knee or fitted with a brace. Soft tissue massage and knee joint mobilisation will assist in release of tight structures around the lateral thigh and you will be given stretches that target specific muscles and tissues. Most importantly your physiotherapist will give you specific hip-pelvic strengthening exercises designed to reduce internal femoral rotation and assist you with progressing these exercises as symptoms improve. Orthotic fabrication may also be necessary if foot and ankle biomechanics are contributing to your pain.

What to expect

The two factors that exert the greatest influence over how long the recovery process will take are; the duration of the symptoms and the degree to which painful activities can be avoided. Running or weight-bearing exercise should be avoided until day-to-day activities (including stairs) are completely pain-free and return should be carefully planned and progressed, starting with short runs on flat, soft surfaces. This rest period may take 2-6 weeks depending on history, severity and effectiveness of strengthening, stretching and soft-tissue release. Strengthening exercises should be continued for a period of 3 months to help prevent recurrence and stretching should become part of your regular routine.

Physiotherapy Tips

1. Discontinue running/painful weight bearing activities to allow symptoms to settle.
2. Tape or brace as directed.
3. Maintain fitness cycling or in the water.
4. Perform the strength exercises and stretches as directed by your Physio.
5. Carefully plan a progressive return to exercise

Other sources of knee pain

1. Patellar tendonopathy.
2. Fat pad impingement.
3. ITB friction syndrome

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