

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. Stair climbing aggravates symptoms with pain usually worse going down than up, walking downhill may be painful as is 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 the beginning 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 covering the joint surfaces 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.



Patella alignment problems may occur if the thigh muscle on the inside of the knee (called VMO) is not functioning properly and/or structures on the outside of the knee are too tight. Any time there is knee pain or swelling, VMO can become inhibited and lose strength, this results in the imbalance of forces on the patella as described above and potential alignment problems, resulting in more pain.

The biomechanics of joints above and below the knee may also play a role in patellofemoral disorders. Particularly, poor pelvic control due to deficient deep abdominal or buttock (gluteal) muscle function can place stress on structures around the knee. Dysfunction of the joints of the foot or ankle may also contribute,

this may occur through stiffness or reduced range of motion or an abnormal pattern of movement such as excessive pronation of the foot.

Management

The pain is an indication that the joint surfaces are being irritated, so obviously painful activities need to be limited to allow healing to occur. Avoidance of aggravating movements in the initial stages is therefore a key to recovery from the condition, you may also be shown how to tape your knee or be 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 the specific muscles and tissues that are an issue for you. Your physiotherapist will also give you strengthening exercises designed to improve VMO strength and endurance and assist with progressing them as your capacity increases and symptoms improve.

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 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 stretching and soft-tissue release. VMO strengthening exercises should be continued for a period of at least 6-8 weeks to help prevent recurrence and stretching should become part of your regular routine.

Physiotherapy Tips

1. Discontinue running or painful activities to allow symptoms to settle.
2. Tape or brace as directed.
3. Maintain fitness cycling or in the water.
4. Perform the stretches as directed by your Physio.
5. Carefully plan a progressive return to running, this will start with short runs on soft, flat surfaces.

Other sources of knee pain

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