

Patella (kneecap) dislocation

Patella dislocation injuries are relatively uncommon. Studies report they occur in between six and 29 people per 100,000 people. They can be traumatic injuries due to a specific incident, or atraumatic and occur over a period of time with associated stretching of knee joint ligaments. Often they occur with twisting movements or direction change but may also occur due to direct contact to the patella.

Anatomy

The patella sits in the tendon of the thigh muscle (quadriceps) and moves within this tendon as the knee moves. The back of the patella is in the shape of a bump which glides between the groove on the front of the thigh bone (femur). Dislocation occurs when the patella moves out of this groove in the front part of the knee. Often the supporting ligaments are torn, as well as other damage to the joint surfaces and/or bone. A subluxation may occur when the patella moves partially out of the groove, but not completely. There is often less structural damage with a subluxation.

Normal patella position



Dislocated patella



Initial management

RICE - Rest, Ice, Compression, Elevation (please refer to the RICER 'Fix Up' handout you have been given.) The initial 48-72 hours following injury is a very important time to start treatment.

No HARM – means no Heat, Alcohol, Running or Movement and no massage for the first 48-72 hours following injury.

Pain medication - medication can help control pain and swelling following injuries. This is vital for the early rehabilitation, movement and return to activity. These include paracetamol (for pain relief) and Ibuprofen (for reduction of swelling). Please consult your doctor or pharmacist for further information.

Brace – A straight knee brace (Zimmer splint) is often prescribed to rest and protect your knee whilst the ligaments start to heal.

Treatment/rehabilitation

Normally, non-operative management is recommended for first time traumatic incidents. Generally the knee will be in a brace for between one and six weeks. Special circumstances for operative management include associated bone fracture, significant ligament disruption, a second-time patella dislocation, no improvement with rehabilitation or sometimes high level athletes.

Times for recovery from a patella dislocation vary depending on severity of damage and the level of activity that the injured person hopes to return to. Between four-12 weeks recovery time is usually expected. However recurrences are common and severe injury awaiting. Return to sport can take up to five months.

1. RICER, No HARM, analgesics, knee brace with knee straight
2. Quality quadriceps strengthening while in brace
3. Exercise program once out of brace, supervised by physiotherapy
4. Correction of any factors which may have contributed to injury
5. Cycling and swimming
6. To return to sport: core training to regain pelvic and thigh control. Restart gently running, progress to multi-directional activity, team training and skills and resume playing following one week of full contact training with no knee pain.

Exercises and goals

Initial exercises to control swelling, achieve and keep a straight leg and activate quadriceps muscles.

1. Static quads
2. Muscle activation
3. Standing knee extension 10-15 degrees theraband



Further exercises to increase the range of knee movement and achieve whole leg strengthening.

4. Active knee movement
5. Full body strengthening (mini squat)
6. Full body (step ups)



Prevention of re-injury

Patella re-dislocation is common. A thorough rehabilitation under the guidance of a physiotherapist is important to prevent re-injury. Often there is skeletal misalignment which makes the patella more likely to dislocate and this may require assessment from an orthopaedic surgeon.

Contact the physiotherapy department on 5454 8783 should you have any questions or concerns.