Lancashire Teaching Hospitals
NHS Foundation Trust

Information for patients and carers

Patella (Kneecap) Dislocation

This leaflet is designed to help you understand your injury and how to manage it. It is important to remember that your injury is specific to you and this information is a guide only and should not be substituted for care from a healthcare professional.

What is a normal knee?

The knee consists of two joints; one joint connects the thigh bone (femur) to the shin bone (tibia), the other connects the kneecap (patella) to a groove within the lower aspect of the thigh bone. Whilst supporting the weight of the body, the main movements of the knee include bending and straightening, however it also provides a small amount of rotation.

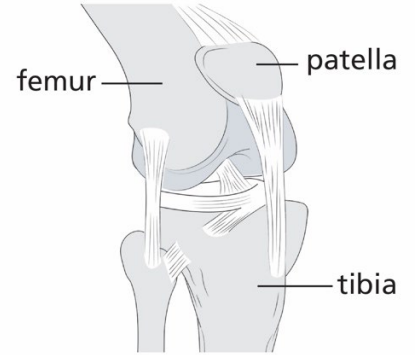
There are several structures within the knee joint, these include:

Bones which support the knee

Muscles which create movement at the knee

Ligaments which help to stabilise the knee

Cartilage which protects the bones and allows for smooth movements of the knee

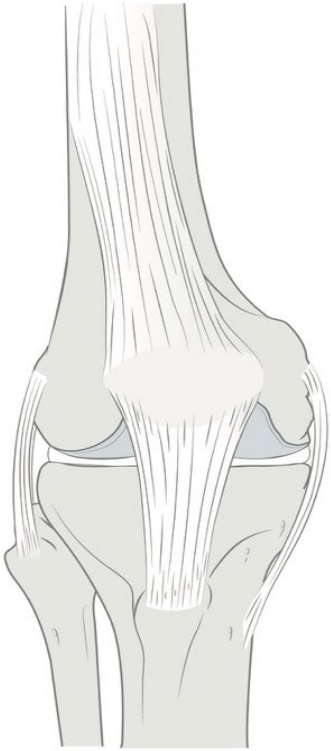


What is a Patella dislocation?

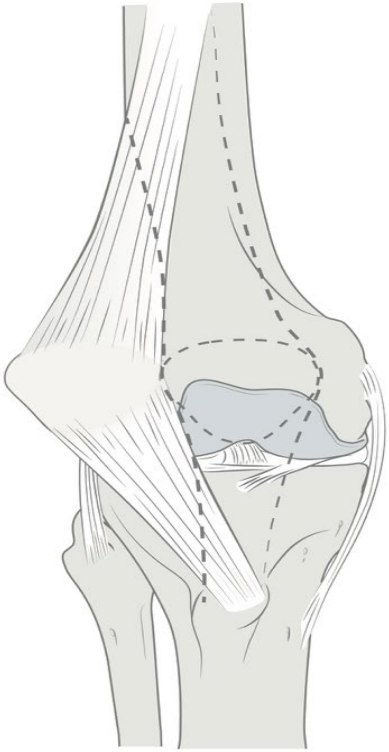
The patella sits at the front of the knee within the quadriceps tendon and is attached to the tibia by the patella tendon. It runs over a groove in the joint when you bend and straighten your knee.

During dislocation, the patella comes out of the groove, usually outward to the side (laterally).

Often the patella pops back into place itself. If not, it may be necessary to do this at hospital – this process is known as a reduction. An X-ray may be required to check the patella is in the correct position and that you have no bony injuries.



normal position of the patella



dislocated patella

Causes of Patella dislocation

Dislocations usually happen with non-contact twisting injuries or a direct blow to the knee. Some people are at more risk of having this injury such as those with lax/stretchy joints and with differences in their bony anatomy; such as a patella which sits too high up (patella alta), a shallow, flat or concave groove (trochlear dysplasia) or where the attachment of the patellar tendon (the tibial tuberosity) sits too far to the side. Patella dislocations are more common in adolescents with 70% of patients being under the age of 20. Participating in sports that involve sudden changes of direction or uneven ground also increase your risk. A patella dislocation can cause a tear to one of the ligaments that helps to keep your patella secure. Ongoing/ recurrent dislocations may be because of this tear and /or underlying risk factors.

Symptoms

Symptoms are variable following patella dislocation. The kneecap can look out of position or at an unusual angle. You may have felt a popping sensation. Other symptoms may include pain, swelling, difficulty weight bearing and inability to continue with activity.

Management

Non-surgical management is recommended after a first-time patellar dislocation unless your x-ray has found a bony injury that needs operating on.

If you continue to have further dislocations, you may be referred to an orthopaedic consultant to find out what may be causing this, such as the risk factors mentioned earlier. You may have an MRI scan and further discussion with the consultant about the possible surgical options available to you.

Immediately after your injury follow the RICE protocol. RICE stands for Rest, Ice, Compression and Elevation.

- **Rest**. Take a break from the activity that caused the injury and reduce activities that irritate your knee.
  You might need to use crutches initially until you can walk normally. You may also be given a stiff knee brace to wear but it is important that you wean out of this as soon as possible and get your knee moving
- **Ice**. Use cold packs for 20 minutes at a time, several times a day. Do not apply ice directly to the skin
- **Compression**. To prevent additional swelling and blood loss, wear an elastic compression bandage/Tubi grip
- **Elevation**. To reduce swelling, lie down when you rest, and put your leg up higher than your heart

Nonsteroidal anti-inflammatory drugs (NSAIDs) such as Ibuprofen, and Naproxen can help to reduce pain and swelling. Please read the information in the pack carefully and consult your GP or pharmacist for alternatives if you are not able to take these medications.

Physiotherapy

Exercises are important whether or not you go on to have surgery. Exercise has been shown to improve knee function and reduce pain.

Initially the exercises will be designed to improve your range of movement, initiate muscle activity and control pain and swelling.

Your physiotherapist will then guide you through exercises of increasing intensity, focusing on improving strength, endurance, and stability to enable your safe return to your usual sports / activities.

To reduce your risk of further injury, it is very important that you follow the guidance of your physiotherapist before progressing your exercises and returning to your usual activities/sports.

Some early range of movement, strength and stability exercises follow on the next page. Aim to do these 3-4 times a day.

Phase 1 (approximately 0-2 weeks post injury)

These exercises will be mostly bed/chair based.

Progress to phase 2 exercises once your swelling and pain has settled down, you have regained almost full movement in your knee, you are able to activate your thigh muscles and lift your leg up keeping your knee straight and you are walking normally.

Phase 2 (approximately 2-6 weeks)

These exercises aim to improve your strength and function through weight bearing. It is important that you control the movements, ensuring that your knees are pointing straight ahead and not moving inward.

Please be guided by your physiotherapist if you are unsure about your exercises and for further progressions beyond phase 2, as needed to enable you to return to your usual sports and activities.

Phase 1 exercises

Static quads:

Pull your toes up towards you. Tense your thigh muscle and try to straighten your knee and hold for 10 seconds. Repeat x 10.

Inner range quads:

Sitting with your legs out straight put a rolled-up towel under your knee. Tense your thigh muscles and lift your foot off the floor or bed. Hold for 5 seconds and slowly lower down. Repeat x 10.

Straight leg raise:

Keeping your knee straight and your toes pulled up towards you, lift your leg off the bed and slowly lower it back down. Repeat x 10

Knee bends:

Bend and straighten your knee trying to get as much movement in each direction as comfortable. Repeat x 10.

Knee extensions:

Sitting on a chair with your knee bent, slowly straighten the knee and hold for 5 seconds and then slowly lower the leg down. Repeat x 10.

Single leg balance:

Practice trying to stand on your injured leg and balance. Aim to increase the amount of time you can balance for.

Phase 2 exercises:

Sit to stand:

Try to get up from sitting without using your hands - lean forwards with your weight over your feet and stand up and then return slowly to sitting.
Repeat x 10.

Bridge:

Lying on your back with knees bent and feet flat on the floor. Tense your bottom muscles and lift your bottom off the floor, hold for 5 seconds and slowly lower back down.
Repeat x 10.

Step ups:

Lead with your injured leg and step up and down on a step.
Repeat X 10.

Single leg balance:

Try to stand on 1 leg on a cushion or folded up towel.

Contact details

Should you require further advice or information please contact:
Chorley Physiotherapy Outpatients Department:**01257245755**
Royal Preston Physiotherapy Outpatients Department:**01772522376**

Sources of further information

www.lancsteachinghospitals.nhs.uk
www.nhs.uk
www.accessable.co.uk
www.patient.co.uk

All our patient information leaflets are available on our website for patients to access and download:

www.lancsteachinghospitals.nhs.uk/patient-information-leaflets

Lancashire Teaching Hospitals is a smoke-free site. Smoking is not permitted anywhere on any of our premises, either inside or outside the buildings. Our staff will ask you about your smoking status when you come to hospital and will offer you support and advice about stopping smoking this will include Nicotine Replacement Therapy to help manage your symptoms of withdrawal and the opportunity to speak to a nurse or advisor from the specialist Tobacco and Alcohol Care Team. If you want to stop smoking, you can also contact Smokefree Lancashire on Freephone **08081962638**

Please ask a member of staff if you would like help in understanding this information.
This information can be made available in large print, audio, Braille and in other languages.

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