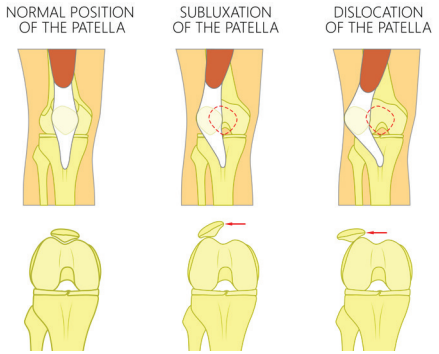
Medial Patellofemoral Ligament Reconstruction

Recurrent Patellofemoral Instability

Patellofemoral instability occurs when injury occurs to the structures that normally keep the patella (kneecap) tracking centrally on the knee. This can be due to a direct blow or more commonly as a non-contact, twisting injury. The kneecap dislocates (comes out of position), usually laterally (on the outer aspect of the knee). The kneecap may then spontaneously reduce or it may need to be manually reduced. It is a relatively common sporting injury. It usually occurs in individuals who have genetic and anatomical pre-dispositions. These are individuals with hypermobile joints (double-jointed) or individuals with certain variations in the resting height of the patella or in the shape of the tibia (shin bone) or femur (thigh bone). This condition often first occurs in adolescents or young adults.

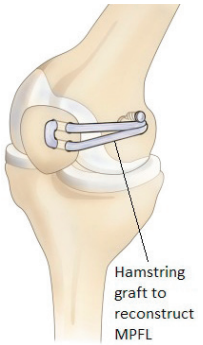
When the patella dislocates, the main stabilizer which is known as the medial patellofemoral ligament (MPFL), ruptures. This is a thick band of tissue which runs from the inner aspect of the patella to the femur. The lack of this stabilizing structure, combined with the predisposing factors, may make one susceptible to recurrent episodes of instability, where the patella dislocates or subluxates (comes close to dislocating). This may occur with varying degrees of force, depending on the severity of the instability.

The first line of treatment is usually a course of physiotherapy. Exercises to strengthen the quadriceps (thigh muscle) are encouraged. Taping of the patella is also commonly performed. A brace is generally not worn after the first few days following the injury, to prevent knee stiffness and deconditioning of the quadriceps.



Patellofemoral instability

Torn MPFL



Reconstructed MPFL

MPFL Reconstruction

If a proper, directed trial of physiotherapy, exercises and taping fails, surgery can be considered. The torn MPFL is replaced using one of the hamstring tendons from the same knee. At the same time, any other factors that may predispose to recurrence can also be corrected. This is usually evaluated prior to surgery with x-rays (including specialized views), a CT scan and / or an MRI scan.

The procedure can be usually done as a day procedure. It is done under a general anaesthetic which is supplemented with a local anaesthetic block. A knee arthroscopy (keyhole surgery) is also usually performed at the same time. This is used to treat any injury to the cartilage (lining of the knee joint) that may have occurred during episodes of instability. A hamstring tendon is harvested. The insertions of the MPFL on the patella and the femur are then identified with the aid of intraoperative x-ray guidance. These are then prepared to receive the graft, which is fixed in position using a combination of screws and suture anchors once the appropriate tension has been applied.

Ambulation begins straight away and crutches may need to be used for the first 2 weeks. A knee brace is usually worn for the first 4 weeks. Driving is discouraged for the first 4 weeks also. Physiotherapy begins immediately and generally continues for 3 months. These parameters may need to be modified if additional procedures such as an osteotomy (realignment) are performed at the same time.

Although the procedure is generally successful and will always be performed with the utmost of care, complications may occur, which include infection, bleeding, blood clots, fracture and nerve injury. Close postoperative follow up will occur to identify any potential problems and to treat them early.