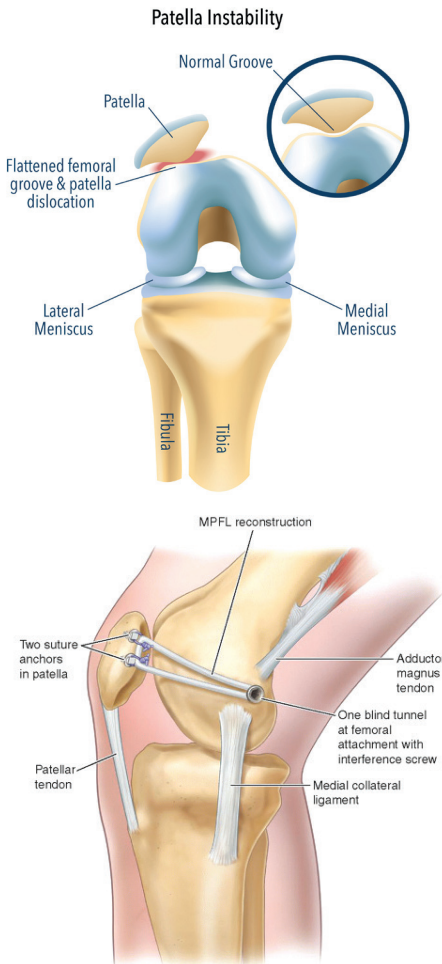




Medial Patellofemoral Ligament (MPFL) Reconstruction using hamstring tendon graft and Iliotibial Band (ITB) release

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Background

Kneecap (patellar) instability is a condition in which a subluxation or dislocation of the kneecap occurs. This can be due to acute trauma, chronic ligamentous laxity, bony malalignment, connective tissue disorder, or due to an individual's anatomy.

Anatomy

The medial patellofemoral ligament (MPFL) is an hourglass shaped ligament that attaches the kneecap to the femur (thighbone). Its main function is to stabilise the kneecap. It is the most important structure commonly injured during a kneecap dislocation or subluxation and its rupture accounts for 3% of total knee injuries.

Injury

During acute lateral kneecap dislocations, the MPFL is ruptured >90% of the time. These types of injuries most often occur when the foot is planted and a rotational force is applied to the knee. MPFL reconstruction surgery is often performed in patients with patellofemoral instability who have suffered recurrent dislocations. The goal of MPFL reconstruction is to restore kneecap stability.

Rationale for treatment

The goal of treatment for an injured knee, after patellar dislocation is to return the patient to their desired level of activity without risk of further injury to the joint. Treatment can be surgical or non-surgical (conservative treatment). Patients who have suffered with patellar instability while playing a pivoting or cutting sport (ie soccer, GAA, rugby, basketball etc) and who are content with activities that require little change of direction (i.e. straight line running, cycling and swimming) may opt for conservative treatment.

Conservative Treatment

Conservative treatment involves physiotherapy aimed at reducing swelling, restoring range of motion of the knee joint and rehabilitating muscle strength fully. Intense proprioceptive training to develop necessary protective reflexes are required to protect the joint for normal daily living activities.

Surgery

Those who suffer with recurrent instability but wish to pursue competitive ball sports or who are involved in an occupation that demands a stable knee may consider surgical intervention such as an MPFL reconstruction and iliotibial band release.

MPFL reconstruction surgery involves a combination of arthroscopic and open, minimally invasive techniques. It involves harvesting one of the hamstring tendons to make a graft to reconstruct the MPFL. Through two small (1 inch) incisions at the medial (inside) aspect of the knee the prepared graft is inserted in the patella (kneecap) and femur medial condyle to correct and stabilise the patella tracking. Tunnels are created in the patella (kneecap) and the femur to allow for passage of the graft. The positions of the tunnels are confirmed using X-rays to ensure accuracy. The hamstring graft is then passed through the bone tunnels and tensioned until the patella is in a normal position within the groove of the femur. The graft is held in position using screws and suture anchors. Another small surgical (1 inch) wound is performed at the lateral side (outside) of the thigh. The ilio-tibial band is then released longitudinally within this incision. Routine closure of all wounds is then performed with resorbable sutures.

Although MPFL reconstruction surgery has a high probability of returning the knee joint to near normal stability and function, the end result for the patient depends largely on satisfactory rehabilitation and the presence of other damage within the knee joint. Advice will be given regarding the specific strengthening postoperative program and the return to sport plan and time frames.

Potential complications related to surgery:

- Pneumonia: Patients with a viral respiratory tract infection (common cold or flu) should inform the Surgeon as soon as possible and will have their surgery postponed until their chest is clear. Patients with a history of asthma should bring their inhalers to hospital.
- Deep vein thrombosis and pulmonary embolus: Although this complication is rare following arthroscopic surgery, a combination of knee injury, prolonged transport and immobilisation of the limb, smoking and the oral contraceptive pill or hormonal replacement therapy all multiply to increase the risk. Any past history of thrombosis should be brought to the attention of the Surgeon prior to your operation. The oral contraceptive pill, hormonal replacement therapy and smoking should cease one week prior to surgery to minimise the risks.
- Excessive bleeding resulting in a haematoma is known to occur with patients taking aspirin or nonsteroidal anti-inflammatory drugs - such as Voltaren, Mobic, Naprosyn or Indocid. They should be stopped at least one week prior to surgery.
- Infection. Surgery is carried out under strict germ free condition. Antibiotics are administered intravenously at the time of your surgery. Any allergy to known antibiotics should be brought to the attention of your Surgeon or Anaesthetist. Despite these measures there is a less than 1 in 500 chance of developing an infection within the joint.
- Your hamstring musculature will recover quickly and tendon regrowth may be felt at 14 days following surgery. However, scar tissue forms around the reformed tendons. This may be felt as a "pop" or tear behind the knee on the inner side. This will usually set your rehab back a few days and usually occurs before 6 weeks.
- Due to skin incision you may notice a numb patch on the outer aspect of your leg past the skin incision. The numb patch tends to shrink with time.

What is involved for you as the patient?

After the consultation with Mr. Vioreanu, you will book your surgery. You will receive some information from our clinic containing your admission details, surgery information and rehabilitation guidelines.

You should inform Mr. Vioreanu and your Anaesthetist of any medical conditions or previous medical treatment as this may affect your operation. It is extremely important that there are no cuts, scratches, pimples or ulcers on your lower limb as this greatly increases the risk of infection. Your surgery will be postponed until the skin lesions have healed. You should not shave or wax your legs for one week prior to surgery.

After the surgery you should complete rehabilitation under the guidance of a chartered physiotherapist. The Physiotherapist on the ward will guide you on how to start these before discharge and then your local physiotherapist will guide you in the weeks and months post-surgery. This is imperative as the outcome of surgery depends on a good post operative rehabilitation process.

Questions commonly asked:

- Q. Anaesthetic?
A. General Anaesthetic
- Q. Duration of operation?
A. Approximately 60-90 minutes
- Q. Do I need crutches?
A. Yes, you will be given crutches post-operatively. With the guidance of your physiotherapist you should be able to come off these by 10-14 days post-op.
- Q. When do I see Physio?
A. You should see your own physiotherapist between 7- and 14-days post-surgery who will begin your rehabilitation.
- Q. What medication should I cease prior to Sx?
A. Any blood thinning medication and contraceptive pills or hormonal replacement medication should be stopped prior to surgery. The specific time frame for stopping each medication will be discussed during the consultation with Mr. Vioreanu.
- Q. Driving a car?
A. Driving an automatic car is possible as soon as pain allows after surgery, this generally is 4-7 days after surgery. Should the right knee be involved driving is permitted when you are able to walk without crutches and are off medication.
- Q. How long does it take for the swelling to go away?
A. After 8 weeks most of the swelling should be gone.
- Q. How long do I need of work?
A. Sedentary and office workers may return to work approximately 2-5 days following surgery. Patients who have manual jobs should take 2-6 weeks off work to allow their wounds to heal and the knee swelling and pain to reduce before loading the knee.
- Q. When can I travel?
A. A. You can travel domestically after 7 days and internationally after 4 weeks.
- Q. When can I play sport?
A. Playing sport non-competitively or training is possible at 6 months. A return to competitive sport is permitted at 9-12 months following surgery, provided that there has been a complete rehabilitation (including an injury prevention protocol). These sports should be discussed with Mr. Vioreanu to establish a reasonable time frame for them to occur.
- Q. When do I need to see Mr. Vioreanu after the surgery?
A. You will see Mr. Vioreanu approximately one week post-operatively, then at the 6-8-week mark and then at the 6 months mark post-operatively.
- Q. Will I have bruising?
A. Some patients have lots of bruising around their knee or hamstring area and others have none. It is normal if you have bruising and your basic exercises and icing will help reduce it.

