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SPORTS SURGERY CLINIC

Iliotibial Band (ITB) Release And Arthroscopy with Fat Pad Resection

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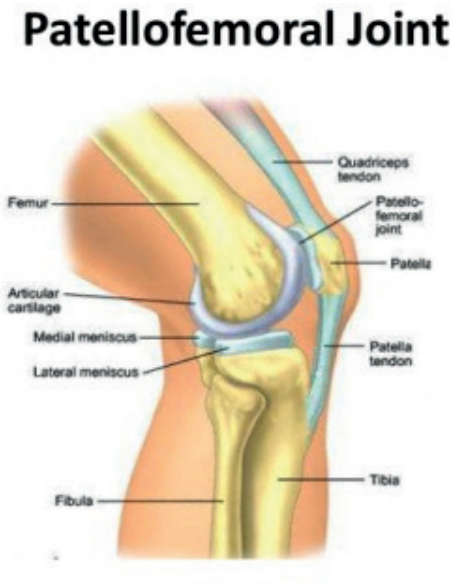


Anterior knee pain is a very common presentation that can be caused by many different structures around the front of the knee. It is particularly prevalent in younger people who are physically active. In addition, females are reported to be at higher risk for the development of anterior knee pain.

Anatomy:

There are many components to the anterior knee. Fat, fascia and bursae make up the most superficial layer followed by the patellar and quadriceps tendons and patellar stabilizing ligaments. The next layer includes the fat pads followed by the intra articular surfaces which include the patella and the trochlea groove of the distal femur. The posterior aspect of the patella and the intercondylar or trochlea grove are covered in articular cartilage.

The iliotibial band is a longitudinal fibrous sheath which originates from the ilium and the greater trochanter and inserts onto the patella and gerdy's tubercle distally. It functions to extend, abduct, and laterally rotate the hip proximally. Distally the function of the ITB contributes to knee stabilisation and depending on the position of the knee joint, it helps to either flex or extend the knee. Many anterior knee patients present with tightness in their iliotibial band which may contribute to their symptoms.

Anterior knee pain can present in many different ways:

Patellofemoral osteoarthritis (PFJ OA) occurs when the articular cartilage on the patella, trochlear grove or both wears down. PFJ OA can affect young people, generally developed after an injury or fall, and older people, primarily developed from chronic non-traumatic degeneration due to malalignment or previous patellar instability. Symptoms include pain ascending stairs, pain squatting, pain after prolonged sitting, pain jumping or running, stiffness in the morning or after being static and weakness in the surrounding thigh muscles.

Patellar tendinopathy generally affects young, predominantly male, athletes who are participating in sports such as GAA, Football, Athletics, Volleyball and Basketball. These sports can put repetitive strain and load on the patellar tendon causing chronic inflammation that leads to anterior knee pain and stiffness. Gender, weight, body mass index and overtrain or overuse are also risk factors for developing patellar tendon pain. Many of these athletes are very strong in their lower limb muscles and compete at a very high level of their chosen sport.

Fat pad impingement or Hoffa's fat pad impingement or syndrome is seen predominantly in female patients. The development of it is not well known however due to its posi ioning it can be exposed to increased load from a patient's biomechanics (the position of their patella, their lower limb biomechanics and their weight), repetitive strain in particular with knee extension and repetitive trauma such as kneeling or falls directly onto the knee. The fat pad can become chronically inflamed and painful. It often presents associated with patellofemoral OA or patellar tendinopathy.

Signs and symptoms:

The vast majority of individuals with this condition have recurrent or chronic symptoms. The most common symptom is **pain**. This may be felt anywhere around the front of the knee for the PFJ OA and fat pad impingement patients. The patellar tendon patients will usually be painful at the inferior pole of the patella.

For the PF OA and fat pad impingement patients their pain will often increase as they increase their activities. For patients with patellar tendinitis the pain can occur at the start of their activity and it can often reduce during their activity and then worsen after the activity.

Some anterior knee patients will have **swelling**, this can either be a persistent subtle swelling on the outside of the knee for the PFJ OA and impingement patients or a sudden acute onset of swelling if there has been a sudden increase in load or impact to the knee.

Some patients will describe a **locking or catching** feeling at the front of their knee. This is usually when they are moving from extension into the first 20 degrees of flexion or vice versa. This can often be **pseudo-locking** from the pain, swelling and quadriceps muscle inhibition present or could be a catching feeling dependent on the position of the patient's patella and how it tracks during movement.

Stiffness can be present in the PFJ OA patients in particular after being static for a while. Most of these knees will feel more mobile with some basic mobility exercises but occasionally if there is significant PF OA then end of range of movement into flexion and extension may be restricted due to the degenerative process.

Rationale for treatment:

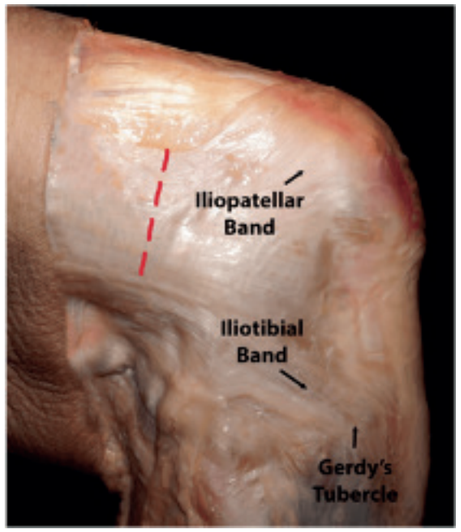
Anterior knee pain patients are routinely **treated conservatively** with activity modification, weight loss, specific strengthening programmes, anti-inflammatory medication and intra-articular injection if indicated. However, a small percentage of patients will be resistant to conservative treatment and surgical treatment is then indicated.

For PFJ OA, Patellar Tendinitis and Fat Pad Impingement patients that are resistant to a structured conservative treatment plan Mr. Vioreanu will discuss **surgical treatment** in the form of Ilio-Tibial Band (ITB) Release and Arthroscopic Fat Pad resection. An ITB release is a simple, minimally invasive and effective day-case surgical procedure that involves performing an incision on the lateral aspect (outside) of the knee that lengthens / releases the ilio-tibial band. The goal of this surgery is to take pressure off of the patellofemoral joint and patellar tendon. For PFJ OA and Fat Pad Impingement patients a tight ITB could cause lateral patella tracking, patella tilt and compression so this release reduces that risk. For the Patellar Tendinitis patients the ITB release takes the pressure off the patellofemoral joint and tendon facilitating the healing of the tendon.

Surgery:

This is a day case procedure. A knee arthroscopy using two small portals is performed. Through the first portal a small camera is inserted into the joint to assess the severity and location of the osteoarthritis on the patella or the trochlea if present. In the second portal special instruments are inserted to perform a fat pad debridement and removal of the inflamed fat-pad using coblation (laser-like therapy using ionised plasma).

A surgical wound is performed at the side of the thigh. The wound is usually an inch in length. The ilio-tibial band is then released longitudinally within this incision. Routine closure is then performed with resorbable sutures.



Potential complications related to surgery

As with all operations if at any stage anything seems amiss it is better to call up for advice rather than wait and worry. A fever, redness or swelling around the line of the wound or an unexplained increase in pain should all be brought to the attention of the Surgeon.

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 will also be asked to complete a questionnaire pre operatively and again at 3, 9 and 24 months post surgery. This is for research purposes and to ensure Mr. Vioreanu and his team are keeping track on patient outcomes and surgical results.

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. You 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 will be required to follow your patellofemoral pain rehabilitation guidelines given to you by Mr. Vioreanu at your initial consultation. 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.

Potential complications

- 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.

Questions commonly asked:

Q. Anaesthetic?
A. General Anaesthetic.

Q. Duration of operation?
A. Approximately 30-60 minutes.

Q. Is this procedure day only?
A. Yes, unless advised otherwise by Mr. Vioreanu.

Q. Do I need crutches?
A. Yes, these will be given to you on the day of your surgery. You should discard the crutches a few days after surgery when you are walking comfortably.

Q. When do I see a Physiotherapist?
A. You should see your own physiotherapist between 7 and 14 days post surgery who will begin the patellofemoral rehabilitation program.

Q. What medication should I cease prior to Surgery?
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. When can I drive?
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. At 2-3 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 2-4 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. You can travel domestically after 3 days and internationally after 2 weeks.

Q. When can I play sport?
A. This will vary depending on your surgical outcome. Please discuss it with Mr. Vioreanu.

Q. When do I need to see Mr. Vioreanu after the surgery?
A. You will see Mr. Vioreanu and/or his Clinical Knee Specialist Physiotherapist in Mr. Vioreanu's practice around 3-4 weeks after the surgery.

Q. Will I have bruising?
A. Some patients have lots of bruising around their ITB wound and others have none. It is normal if you have bruising and your basic exercises and icing will help reduce it.