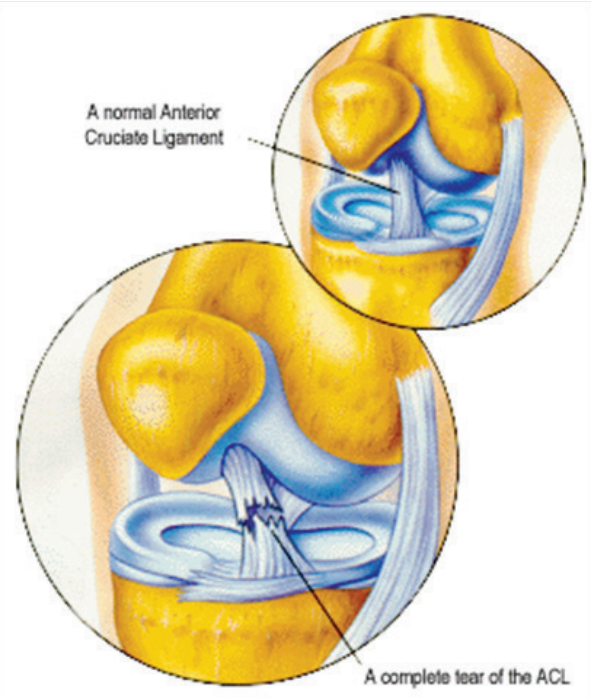
SSC
SPORTS SURGERY CLINIC

ACL Injury and Reconstruction

Mr. Mihai Vioreanu



The anterior cruciate ligament (ACL) is a 38mm long band of fibrous tissue that connects the femur (thigh bone) to the tibia (shin bone). Its function is to control stability when performing twisting actions. The cruciate ligament is usually not required for normal daily living activities, however, it is essential in controlling the rotation forces developed during side stepping, pivoting and landing from a jump.

THE CLASSIC HISTORY OF INJURY

The ACL is commonly injured whilst playing ball sports or skiing. Whilst playing balls ports up on attempting a pivot, sidestep or land from a jump, the kneegivesway. When rupturing the ACL patients frequently hear or feel as nap, or crack accompanied by pain. Swelling commonly occurs within the hour. Frequently pain is felt on the outer aspect of the knee. The medial ligament of the knee joint may also be disrupted resulting in severe pain and swelling about the inner side of the joint.

RATIONALE FOR TREATMENT

The goal of treatment of an injured knee is to return the patient to their desired level of activity without risk of further injury to the joint. Treatment may be surgical or non-surgical (conservative treatment). Patients who have a ruptured ACL and are content with activities that require little in the way of side-stepping (i.e. running in straight lines, cycling and swimming) may opt for conservative treatment. Surgical treatment cannot guarantee that further injury to the joint will not occur.

Conservative Treatment

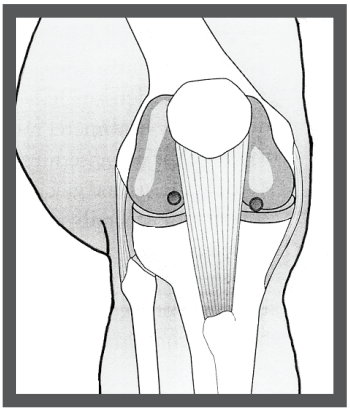
Conservative treatment is by physical therapy aimed at reducing swelling, restoring the range of motion of the knee joint and rehabilitating the full muscle power. Intense proprioceptive training to develop the necessary protective reflexes are required to protect the joint for normal daily living activities. As the cruciate ligament controls the joint during changes of direction, it is important to alter your sports to the ones involving straight-line activity only. Social (non-competitive) sport may still be possible without instability as long as one does not change direction suddenly. Skiing is possible with conservative treatment. A brace and adherence to groomed runs may be required.

Surgical Treatment

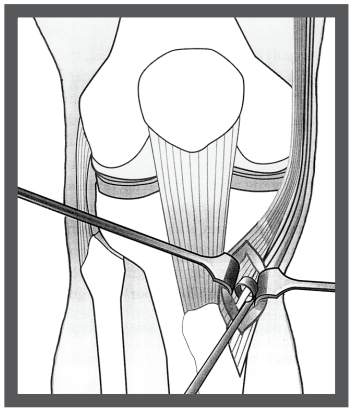
Those patients who wish to pursue competitive ball sports, or who are involved in an occupation that demands a stable knee are at risk of repeated injury resulting in tears to the menisci, damage to the articular surface leading to degenerative arthritis and further disability. In these patients, surgical reconstruction is recommended. ***Surgery is best carried out on a pain free, healthy joint with a full range of motion***. This is achieved with a pre-habilitation program supervised by a Physiotherapist.

All reconstructive procedures for the ACL require a graft. Most commonly my reconstructive technique involves grafting the torn ACL with segments of your hamstring tendons. This technique uses specially designed screws allowing secure immediate fixation of the tendon within the joint allowing for a rapid rehabilitation. Although ACL 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 upon a satisfactory rehabilitation and the presence of other damage within the knee joint. Advice will be given regarding the return to sporting activity, depending on the amount of joint damage found at the time of reconstructive surgery.

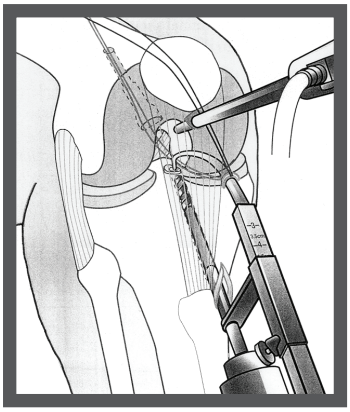
SURGICAL TECHNIQUE



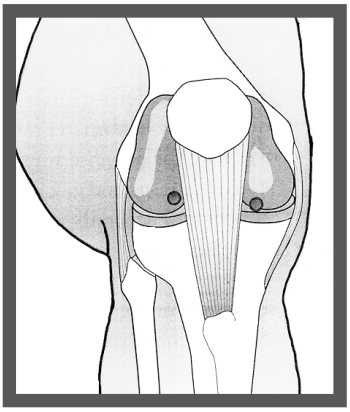
Arthroscopy:
Using an arthroscope through the two small incisions the Surgeon will remove the torn ACL and perform required meniscal surgery.



Graft Harvest:
Through a single incision the hamstring tendons are removed to be used for the graft.



Tunnel Drilling:
Small tunnels are drilled in the bone to prepare for graft fixation.



Graft Fixation:
The graft is inserted into the drilled tunnels and fixed in place with screws.

POTENTIAL COMPLICATIONS RELATED TO SURGERY

General 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 may have their surgery postponed. Patients with asthma should bring their inhalers to hospital.
- Deep vein thrombosis and pulmonary embolus: Although this complication is rare, a combination of knee injury, prolonged transport and immobilisation of the limb, smoking and the oral contraceptive pill or hormonal replacement therapy (HRT) all multiply to increase the risk. Any history of thrombosis or clotting should be brought to our attention.
- Excessive bleeding resulting in a haematoma is known to occur with patients taking aspirin or nonsteroidal anti-inflammatory drugs, such as Voltaren, Arcoxia, Mobic or Naprosyn should be stopped at least one week prior to surgery.

Complications specifically related to your knee reconstruction surgery.

- Postoperative bleeding & marrow exuding from the bony tunnel may track down the shin and calf causing red inflamed painful areas. When standing up the blood rushes to the inflamed area causing throbbing. This should ease with elevation and ice packs. This is a normal postoperative course.
- Due to the 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 and does not affect the result of the reconstructed ligament.
- 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 tear and is felt as a "pop" or tear behind the knee on the inner side. This will usually set your rehab back a few days only and usually occurs before 6 weeks.
- Graft failure due to poorly understood biologic reasons occurs in < 1% of grafts.
- Surgery is carried out under strict germ free conditions. Antibiotics are administered intravenously at the time of your surgery. Despite these measures, following ACL surgery there is a < 1 in 400 chance of developing an infection within the joint.

WHAT IS INVOLVED FOR YOU AS THE PATIENT

Before admission into hospital:

You will need to book your surgery at Sports Surgery Clinic. You will receive a package of information from us containing your admission, consent and questionnaire forms, which need to be completed and sent to Sports Surgery Clinic. You should also inform Mr. Vioreanu and the Anaesthetist of any medical conditions, previous treatments or allergies as this may affect your operation. You must contact our office before you go into hospital if there is any evidence of pimples, ulcers or broken skin around the area to be operated on OR if you have a cold, cough or infection evident. Check with the doctor as to whether you need to stop taking any of the medication prior to your surgery.

QUESTIONS COMMONLY ASKED

Q. Anaesthetic?
A. General anaesthetic

Q. Duration of operation?
A. Approximately 60-90 minutes.

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

Q. Do I need crutches?
A. Yes. You will need to bring these with you on the day of your surgery and they can be organised through your own physiotherapist or your local chemist. With the help of your physiotherapist you should be able to walk without crutches by the 10-day mark.

Q. When do I see a physiotherapist after the surgery?
A. Physiotherapy is commenced immediately. Your physiotherapist will supervise strengthening and walking.

Q. Should I see a Physiotherapist prior to having the surgery?
A. Yes, this is known as pre-habilitation and is beneficial.

Q. What medications should I cease prior to the surgery?
A. Any blood thinning medication should be stopped.

Q. Driving a car?
A. Driving an automatic car is possible as soon as pain allows after left knee surgery. Should the right knee be involved driving is permitted when you are able to walk without crutches and 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 off work?
A. Sedentary and office workers may return to work approximately 2-5 days following surgery.

Q. When can I travel?
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 the PEP program). 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 return for removal of the superficial dressings and a wound check at 7-10 days from surgery, then at the 6-8 week mark and then the 6 months mark after surgery.