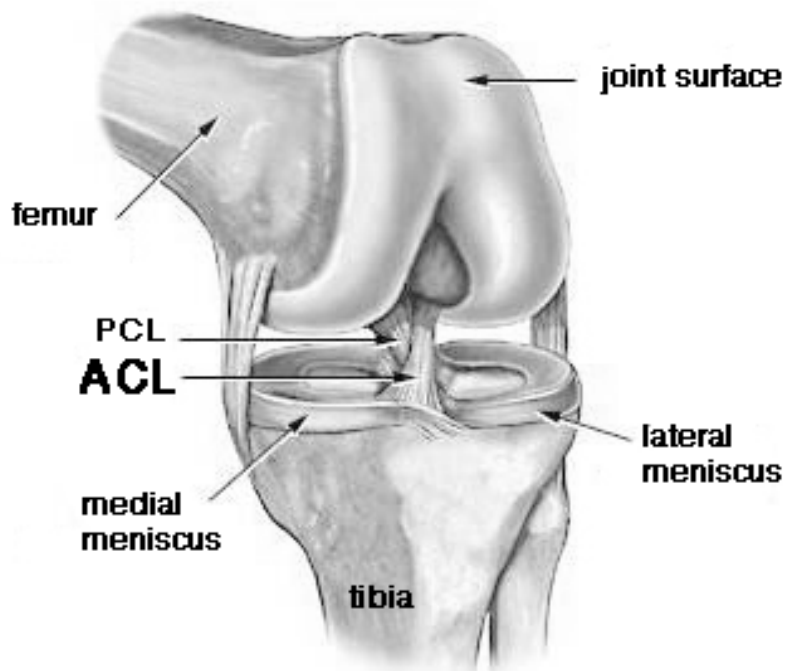


# ACL injury and surgery

## Anterior Cruciate Ligament injury and reconstruction

The knee is a complex hinge type joint that is supported by several ligaments. The Anterior Cruciate ligament (ACL) passes through the middle of the knee joint connecting the femur (thigh bone) to the tibia (shin bone). The ACL prevents the tibia sliding too far forwards, particularly during twisting movements, and is important in providing stability for the knee joint when side stepping, pivoting and landing from a jump.



The ACL is commonly injured during ball sports. The knee gives way during a side stepping type manoeuvre and a popping sensation is felt or sometimes a crack is heard. The knee is usually painful straight away and swelling occurs quickly. Most people are unable to continue playing sports. In severe or high energy injuries other ligaments (often the medial collateral ligament) may be injured. This can make the knee very unstable or 'wobbly'. Sometimes other structures

within the knee such as the meniscus (internal shock absorber) can be torn at the time of ACL injury or due to subsequent episodes of knee instability (giving way).

An ACL injury is often diagnosed on the story and physical examination alone. Sometimes Xrays and MRI scans are used to clarify the diagnosis and rule out other knee problems.

The initial treatment of an ACL injury is simple first aid. You are advised to use ice packs and a compression bandage (such as tubigrip) to reduce the swelling. Start weight bearing as soon as comfortable and try to move the knee and regain range of motion. The swelling takes 1-2 weeks

to settle and by 4-6 weeks the knee should be nearly normal. It is useful to do some simple thigh muscle exercises as directed by your physiotherapist.

The further treatment of an ACL injury is determined by each individual's goals, needs and level of activity. The aim of treatment is to return patients to their desired level of activity and prevent further injury to the knee. If your knee is injured repeatedly the joint surface and meniscus may become irreversibly damaged leading to a greatly increased risk of early osteoarthritis. Unfortunately the ACL does not heal itself well as it is in the middle of the knee joint and bathed in synovial (joint) fluid which prevents it joining together.

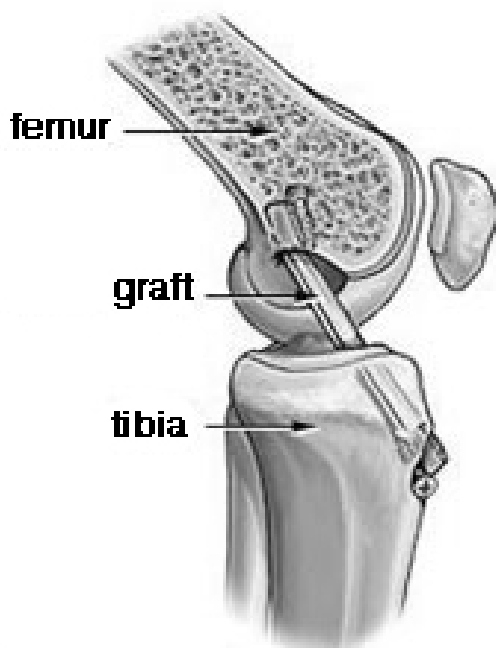
### **Non operative treatment**

Patients who have a lower demand of the knee and take part in activities that are mainly in a straight line such as cycling, swimming and walking may do well with physiotherapy alone. Once you have regained the range of motion in the knee it is important to work on joint position (proprioception) and strengthening exercises.

### **Operative treatment**

If you do not manage well with physiotherapy alone or wish to pursue activities (sports or work) that require a stable knee you are advised to consider surgical reconstruction of the ACL. You should discuss this with your orthopaedic surgeon, GP and physiotherapist. Prior to reconstruction you are advised to refrain from competitive sports as this can cause further damage to the knee.

The surgery is carried out arthroscopically (keyhole). A hamstring graft from the same leg is used. This is harvested via a separate small incision below the knee. This is fashioned into a new ligament and passed through bone tunnels in the femur and tibia under arthroscopic guidance. The graft is fixed in the bone tunnels with special screws and anchors. Any other internal damage in the knee is assessed at the same time and treated.



ACL reconstruction is carried out as a day case or overnight procedure. An anaesthetic block is often used to make the leg numb and this can cause some weakness for 8-12 hours. Your knee will be in a splint for two weeks and you will be advised by your physiotherapist regarding simple exercises to do during this time. You will need crutches for the first 1-2 weeks but immediate weight bearing is permitted.

The rehabilitation following ACL reconstruction is quite lengthy and involves significant input and determination to get a good outcome.

Your physiotherapist will advise you as your rehabilitation progresses. You may commence riding an exercise bike 2- 4 weeks following surgery, jogging (in a straight line) at 4-6 months and full training at 9 months with return to competitive sports at 1 year.

### **Risks and complications**

No surgery is risk free. The risks and complications will be assessed and discussed with you. There is always a small risk of infection, blood clots and anaesthetic problems and measures are taken to reduce these. Often, there is a small (2-3 cm) patch of skin numbness on the inside of the knee. This is due to the hamstring harvest, is unavoidable and does not cause any significant problem. There is a 1-2 % risk of early graft rupture during the rehabilitation period. The risk of late ACL graft rupture if you return to high-level competitive sports is 5-10 %. Overall a successful outcome is expected in approximately 95% cases.

### **Recovery**

Hospital stay	1 night
Rest & Elevation	1 week
Time in splint	2 weeks
Crutches required	2 weeks

### **Result times**

-Desk work	2 weeks
-Physical work	12 weeks
-Competitive sport	12 months

This brochure is a brief overview of anterior cruciate ligament injuries and their management. It is not designed to be all-inclusive. If you have any further questions, please discuss them with your surgeon.