

ACL RECONSTRUCTION

The Anterior Cruciate Ligament

The knee is a modified hinge joint between the end of the femur (thigh bone) and the top of the tibia (shin bone). There are four main ligaments connecting these two bones.



The **medial and lateral collateral ligaments (MCL / LCL)** run along the inner and outer parts of the knee respectively and prevent the knee from bending outward and inward.

The **anterior cruciate ligament (ACL)** lies in the middle of the knee. Its function is to stop the tibia from sliding out in front of the femur. It also provides rotational stability to the knee.

The **posterior cruciate ligament (PCL) which is not labelled in the diagram** prevents the tibia from sliding backwards under the femur. These two ligaments cross each other inside the knee forming an "X". This is why they are called "cruciate" (cross-like) ligaments.

The Injury

When an ACL injury occurs, the knee becomes less stable. This can be a problem because this instability can make sudden, pivoting movements difficult. Many patients are able to compensate for an ACL injury by either modifying their recreational activities or strengthening the knee, however, in some individuals, particularly in high demand sports, recurrent instability or 'giving way' can occur. This may make it impossible for the individual to take part in these types of activity. In addition recurrent episodes of instability can cause damage to the joint surfaces of the knee or the knee cartilages (menisci) and make patients more prone to developing arthritis.

ACL Reconstruction

Once it has been ruptured the ACL is unable to heal. It is possible in selected patients to stabilise the knee by performing an operation to reconstruct the ligament. This procedure does not however make the knee normal and may result in some initial stiffness and discomfort. A new ACL can be 'made' using either tendons taken from the hamstrings behind the knee or from the patellar tendon at the front of the knee. The choice of graft is dictated by a number of factors that will be assessed by your surgeon and may be discussed during the preoperative consultation.

In addition to undertaking cruciate ligament reconstruction your surgeon will perform a thorough arthroscopic (keyhole) examination of the knee to assess the cartilages and joint surfaces for any evidence of damage. Injured structures will be treated by either repairing or removing the damaged parts as appropriate.

Complications

Although the risks of surgery are minimised wherever possible, no procedure is entirely risk-free. Possible complications of surgical reconstruction of the ACL include anaesthetic complications, wound infections and deep venous thrombosis (DVT) or blood clots in the calves. It is common to have some numbness around the scar which usually becomes less noticeable with time. Stiffness and pain in the knee can occur following surgery but are unlikely if rehabilitation protocols are followed. Rupture of the ACL graft can occur but this is a rare occurrence.

The Operation

You will be given a time and date for your surgery along with any special instructions. Please ensure that you bring any x-rays or scans to the hospital on the morning of the operation. Both the surgeon and anaesthetist will see you before the operation. They will explain the procedure and ask you to sign a consent form. You should confirm which knee is to be operated on and take the opportunity to ask for more information if you wish. At the end of your operation the knee will be filled with local anaesthetic to help with pain relief. In addition your anaesthetist may have used a local nerve block to numb the area in the postoperative period. You will usually stay in hospital for one night following surgery.

ACL Rehabilitation

Your rehabilitation programme is detailed separately. It is important that you proceed through the programme at a steady pace if necessary with guidance from your physiotherapist. The programme involves a series of activities including walking, home and gym exercises, and periods of time on an exercycle. In the initial stages the goals are to reduce the swelling around the knee and regain full extension of the knee. Later in the process the programme works on knee strength and control prior to beginning sports specific training. You must be walking without crutches and you must have full control of your leg to be safe driving.