

## Anterior Cruciate Ligament Reconstruction

### Introduction

Most anterior cruciate ligament injuries occur as a result of a twisting injury whilst playing sport. However, this important ligament can be damaged in road traffic accidents or following a simple fall. Unfortunately, once the anterior cruciate ligament (ACL) is torn, it does not heal, unlike some of the other ligaments around the knee.

### Indications for surgery

The ACL is injured in approximately 80% of cases where there has been a rotation injury to the knee, followed by an audible "pop", an inability to carry on and rapid early swelling of the knee within the first four to six hours.

Approximately 1/3 of patients will make a near full recovery and are then able to return to their normal pre-injury activity level. A further 1/3 of patients will have to modify their sporting activity somewhat and may always feel the knee is slightly vulnerable.

A similar number of patients will, however, find the knee too unstable to continue with either normal activities of daily living or participation in their chosen sport. In this group of patients with significant rotatory knee instability then an anterior cruciate reconstruction can be considered.

### Operative technique

There are a number of different techniques utilised for the reconstruction of the ACL. In general these include either intra-articular reconstruction, extra-articular reconstruction or a combination of the two methods. Currently, intra-articular reconstruction is the favourite option as this gives good or excellent results in approximately 80% of cases. As the ligament does not heal, the ligament must be replaced with other tissue. This tissue could be from the patellar tendon, the hamstrings, an allograft or synthetic tissue. The "gold standard" is most probably the central third of the patellar tendon.

The operation is performed under general anaesthetic, often incorporating local anaesthetic nerve blocks to reduce postoperative pain.

The inside of the joint is examined with a small telescope (arthroscope) to not only confirm the diagnosis, but also to treat any other associated injuries. Once the meniscal tears, chondral damage etc has been dealt with then attention is turned to reconstruction of the ligament. The exact origin and insertion of the ligament are identified and a drill is passed through the tibia to the insertion, then through the knee to the origin of the ligament in the femur. The graft is then passed through the tibia and locked securely in the femur with a small screw and after appropriate graft tensioning, is locked securely in the tibia, again with a small screw. At the end of the procedure a small drain is left in the knee to remove any excessive accumulation of blood.

Occasionally, other surgery is required, but this depends on any other associated ligamentous injury or instability of the knee.

### **Postoperative care**

It is important to start the knee moving rapidly after the operation to avoid any stiffness developing. The physiotherapist will visit you regularly whilst in hospital and start an exercise programme to allow you to flex and extend your knee and to get you up walking with the aid of crutches. You will usually be in hospital for a maximum of two nights, but this depends on your pain and range of joint movement

### **Wound dressings**

There will be a small wound dressing over the front of your knee, which will be changed whilst you are in hospital and the sutures (which are dissolvable) will be trimmed at your postoperative consultation in two weeks.

### **Physiotherapy**

The Physiotherapist will play a vital part in the postoperative management and will review you, not only in hospital, but also as an outpatient. A separate physiotherapy handout will be given to you detailing the exercises that you should do.

### **Return to work**

You will be on crutches for approximately ten days and during this period of time the knee will be very stiff and painful.

Very light office based work is possible, although I would recommend that you take at least a week off work. Those patients who perform light or heavy manual work will have to be very cautious. The graft is not strong enough to test the knee at all for the first six to eight weeks and heavy manual work would be discouraged for approximately three months following the surgery.

After this three month period you will be able to start exercising more vigorously and the vast majority of patients are able to start swimming, cycling and running at this time. Gradually, under the supervision of the physiotherapists, we will start you on twisting, turning and cutting movements. We will encourage you to avoid sporting activities for the first six months following surgery, although you must remember that you are able to go to the gym and keep the rest of your body fit.

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