

ANTERIOR CRUCIATE LIGAMENT

Knee Clinic
SPIKE ERASMUS

INTRODUCTION

In a simplified way we can say that there are four ligaments supporting your knee. There are two ligaments on the outside of the knee, the collateral ligaments; the one on the inside is called the medial ligament complex (MCL) and the one on the outside the lateral ligament complex (LCL). There are also two ligaments inside the knee, one in front called the anterior cruciate ligament (ACL) that prevents the lower leg moving forward on the upper leg and one at the back called the posterior cruciate (PCL) ligament preventing the lower leg moving backward on the upper leg. One can have an isolated tear of the ACL but it is also relatively common to have damage to other supporting ligaments like the LCL and MCL. Of special interest is a ligament on the outside of the knee that forms part of the lateral ligament complex called the antero lateral ligament (ALL) – this little ligament is of importance preventing the lower leg rotating inwards on the upper leg. The cartilage (menisci) can also be damaged in combination with an ACL tear.

If an ACL injury is not treated and fixed you should not participate in so called cutting, jumping or pivoting activities as it will cause further damage to your knee. Straight line running, cycling and swimming is best but not always advisable.

In contrast to the collateral ligaments, especially the MCL, which have some healing potential the ACL has none and will not heal. In order to fix the ACL a reconstruction needs to be done. A new ACL can be obtained from three possible sources namely; an autograft where the tissue is obtained from your own body, an allograft where the ligament is obtained from a donor or an artificial graft.

In most instances we would use an autograft and there are three potential sources, a hamstring, patella tendon or quadriceps tendon graft. In quads dominated sports like netball and volleyball we prefer a hamstring graft, while in hamstring dominated sports like rugby and soccer we prefer either a quadriceps or patella tendon graft.

We see no benefit, as most other surgeons worldwide, in the so called double bundle technique.

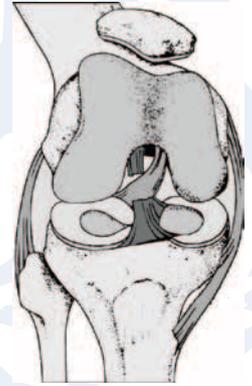
We do however feel that in some cases a reconstruction of collateral ligaments especially the ALL might be indicated.

The quality of allografts in South Africa is suspect and we would very seldom use it.

Artificial grafts are experimental and are only used in highly selected and very specific cases of professional sportsman nearing the end of their career.

POSSIBLE COMPLICATIONS and PROGNOSIS

Like all surgical interventions there is a small possibility of having a complication like infection, bleeding and even a blood clot. Regaining full range of motion might sometimes be a problem but in most instances would clear with intensive rehabilitation, in very few unresponsive cases it might be necessary to do further surgery.



In our experience of over 3,000 reconstructions over a thirty year period, we believe that you have a 95% chance to have a stable knee that would enable you to continue with your sports of choice.

THE OPERATION

You would be admitted to hospital the day of the operation and be required to stay overnight. Depending on your comfort you would be discharged the next day, but if you fail to mobilize well we would keep you another day.

REHABILITATION

It is important to understand that complete healing of ligaments is a slow process and probably takes about 18 months to be completed.

Immediately after the surgery it is important to regain and keep full range of motion. That will be followed by slow progressive rehabilitation and return to sports approximately 8 months after surgery.

In most cases a brace is prescribed to prevent reinjury in the early phase of healing should you slip or fall. The following is a guide line to rehabilitation and it is recommended that you get some help from a physio and biokineticist especially in the later phases of recovery (4 – 18 weeks)

0 – 4 weeks postoperative:
Concentrate on full range of motion without excessive load on the reconstructed ligaments

4 – 12 weeks postoperative:
Start full weight bearing, cycling and swimming

12 – 24 weeks postoperative:
Progressive intensive rehabilitation especially muscle strengthening

After 24 weeks:
If fully rehabilitated, start things like touch rugby, running between markers etc.