Ligament reconstruction: anterior cruciate ligament

What are the symptoms?
When you injure your anterior cruciate ligament (ACL), you may experience the following symptoms:

- A popping sound or a crack
- It is likely to be very painful
- Your knee may swell up within 24 hours, usually this occurs straight away
- Your knee may feel unstable or give way
- You might not be able to take your full weight on the leg, causing you to limp
- You may lose the full movement, in particular straightening your leg.

In around half of all ACL injuries, other parts of the knee are also damaged. This could be another ligament, the menisci or articular cartilage. The menisci are cartilage discs that act as shock absorbers. Articular cartilage is a smooth protective layer that allows the bones to glide smoothly over each other.

Partial tears
If you have a partial tear to your ACL, the ligament may be stretched or there may be a tear part way through the ligament. Surgery is not always necessary and you may find that physiotherapy helps. In some cases, you may be left with a joint that does not feel as stable as it did prior to the injury.

Complete tears
If you have a complete tear of your ACL, the ligament has been split in two and the knee joint is usually very unstable. A discussion with your consultant will determine whether the ligament needs to be repaired. Those that have the repair are normally people who take part in certain sports, particularly anything that requires you to change direction or stop suddenly.

Why is surgery necessary?
Depending on how serious the injury is to your ACL, surgery may be necessary to restore stability to your knee and enable you to return to sports.

Preparation
You cannot have surgery immediately after the injury. In most cases, you will
need to wait until:

- any swelling has gone down
- the full movement has returned to your knee
- the muscles at the front of your thigh (the quadriceps) and back of your thigh (the hamstrings) are as strong as possible.

**Exercises**

**Here are some exercise you can try before and after surgery to gain movement and strength in your knee.**

1. Heel slide
   Lying down, slide your heel up by bending your knee and hip. Repeat regularly.

2. Knee extension
   Place your knee on a pillow; lift your heel up off the floor try to straighten your knee. Hold for 5 seconds.
3. Static quadriceps
Straighten your knee by tightening your thigh muscles. Hold for 5 seconds.

After surgery

Weeks 1-2 of recovery
For a few weeks, your knee is likely to be swollen and stiff, and you may need to take painkillers. Your surgeon or GP will advise about pain relief.

Weeks 2-6 of recovery
As well as specific exercises, other activities that do not put much weight on your knee may be recommended, such as swimming and cycling. After two or three weeks, you should be able to walk without crutches but some surgeons like patients to use crutches for up to 6 weeks.

Weeks 6-24 of recovery
You will be encouraged to continue exercises, such as cycling and swimming, but you cannot yet take part in sports that involve a lot of twisting, jumping or turning. This is because you need to allow enough time for the new ligament to anchor itself in place inside your knee.

After 6 months
After six months, you should be able to return to playing any type of sport. Some people may take more time to feel confident enough to play sports again, and professional athletes may need longer to return to their previous level of performance.

ACL reconstruction surgery is successful in 82-95% of cases. This does not mean that your knee will be exactly the same as it was before your injury, but
you should be able to resume your normal activities after 9 months. Your surgeon will have the final say as to when you can return to contact sports.

**Physiotherapy**
You may be referred to physiotherapy to help improve your strength and enable you to return to sport. For more information go to the following NHS website:
http://www.nhs.uk/Conditions/repairotendon/Pages/Introduction.aspx

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*If any of the exercises or advice in this leaflet causes your symptoms to worsen please stop the activity and seek advice*