

ACL Injuries

ACL (anterior cruciate ligament) injuries are a knee injury that is seen in football. Statistics vary, yet based on recent data in a 2011 Swedish elite football study a male team will have 0.4 ACL injuries per season (ie – from all players in a team, approximately 1 ACL injury every 2 seasons). Several great players such as Roy Keane, Michael Essien, Michael Owen and Ruud van Nistleroy to name a few have sustained this injury at some stage during their career.

The ACL is the main stabilising ligament in the knee and without it the knee is vulnerable to giving way. Due to the design and tension of the ligament, the odds of this healing on its own once it has ruptured are less than 1 in 100. The ligament tends to fray like a horses' mane when it ruptures so for it to heal naturally is quite some task. Sometimes, you can get lucky and the scarring of the injury may lead to a functionally 'stable' knee, but for most people sustaining this injury surgery is the advised option.

These are some events you may experience to suggest you have torn your ACL:

- 1) A traumatic event that often involves twisting of the knee. 70% of ACL injuries are non-contact as commonly seen in football such as Michael Owen in the 2006 World Cup.
- 2) Swelling that usually develops relatively quickly (within 2 hours) after the injury.
- 3) Acute pain that will often get better quite quickly, however is usually enough to stop the player continuing.
- 4) A 'pop' sound at the time of injury and a sense that the knee temporarily 'came apart.'
- 5) A giving way of the knee after injury particularly on twisting or changing direction.

So I've ruptured my ACL, do I have to have a knee reconstruction? The simple answer is no, but it generally means you have to modify your lifestyle to straight-line activities. Contrary to what you may think, a small group of people known as "copers" can develop the muscle control and balance reactions to play sport without an ACL. However, this is not the norm and generally if you want to be involved in directional-change activities knee reconstruction is usually recommended, which is why a younger more active patient will usually be advised to take this route.

There is a school of thought that stabilising the knee via surgery will lead to less degenerative changes over time as there is less 'wobbliness' of the joint. Whilst this makes clinical sense, in reality it appears that the initial injury is enough to cause wear and tear later in life whether or not you have a reconstruction. Surgery will reduce secondary meniscal (cartilage) tears over time.

The good news is that you are much better off having this procedure done now than 25-30 years ago. The surgical techniques are far more advanced now and the entire procedure is performed arthroscopically (via a camera) and usually as a day procedure. You should be walking very soon afterwards and only need crutches for 1-2 weeks.

There are generally 3 types of ACL repair techniques being used:

- 1) Hamstring graft – a strand of the hamstring tendon is cut from behind the knee and then looped 4 times and inserted into the bones where the ACL attached and held in place with screws. This is currently the most commonly used technique. Occasionally patients will have hamstring strains in the early phases of rehab, but this is usually not a long term issue.
- 2) Patella tendon graft – this procedure involves a strand of your patella tendon with a piece of bone off either end that is then screwed into the bones where the ACL was attached. This is less suitable for those who have to kneel a lot or possibly in jumping athletes due to the loads on the patella tendon with this activity.
- 3) Allograft, from a cadaver. This is generally only used for repeat offenders when the hamstring or patella tendon has already been used, but is gaining popularity due to the lack of extra trauma to the body.

There is also a new procedure called the LARS technique which involves using a synthetic graft. This is not widely practiced and it will be interesting to see the development of this technique. The benefits are that the rehab takes about half the time, and for an elite athlete this could be the difference between missing a season and not, but it is unlikely to ever be the first choice for an amateur.

What does the rehab involve?

Depending on your surgeon, rehabilitation will start anywhere from the next day to 2 weeks post operatively. Many surgeons are not even using a brace post operatively now. The goals of rehabilitation are similar regardless of the technique used. Rehab is imperative to your recovery under the supervision of a knowledgeable physiotherapist. It will focus on regaining range of motion, reducing swelling, improving strength and balance reactions, and a graded return to sport. A general rule of thumb is a full return to sport at 6-9 months for an elite athlete and closer to 9-12 months for the amateur.