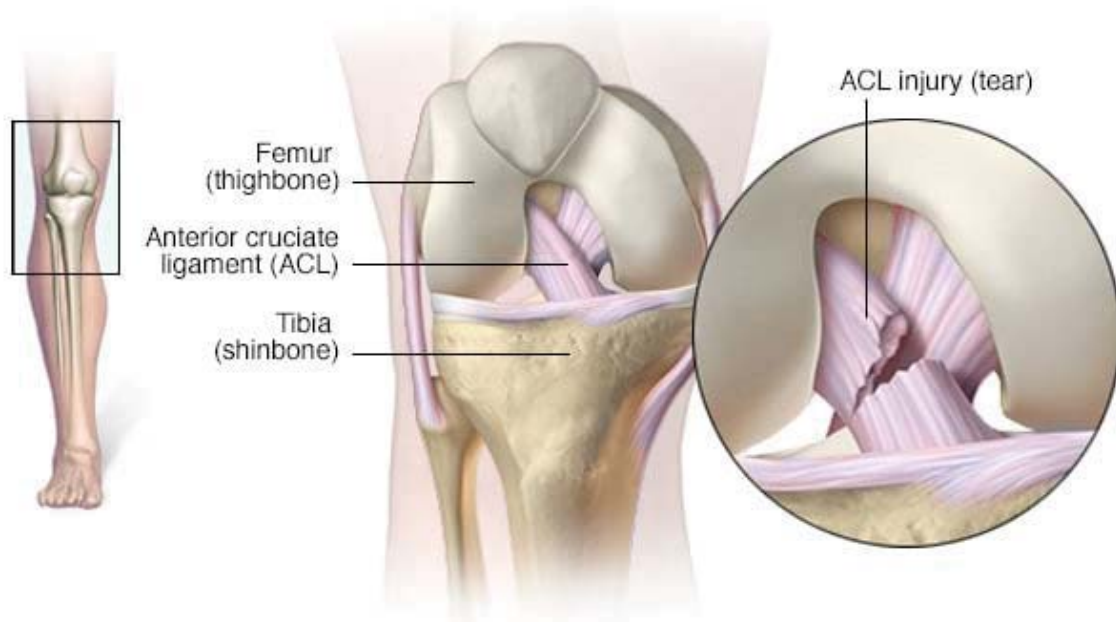




Anterior Cruciate Ligament (ACL) reconstruction

What is the ACL and what is its role in the knee?

The ACL is an important stabilising ligament of the knee. It is located centrally within the knee joint, attaching the surface of the tibia to the femur. It stabilises the knee by preventing excessive forwards movement of the tibia relative to the femur and preventing excessive rotation of the tibia. This stabilising effect on the knee is important for knee function, and preventing injury to other structures within the knee, such as the meniscus and articular cartilage.



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An ACL tear, or rupture, is one of the most common sporting injuries of the knee. It commonly occurs with a non-contact pivoting injury, or a blow to the outside of the knee (eg in a tackle). ACL

rupture is often associated with injuries to other structures in the knee such as the medial or lateral meniscus, articular cartilage, or medial collateral ligament (MCL).

What symptoms do people with an ACL rupture get?

At the time of injury, people often describe feeling a pop within the knee. Immediately after an ACL rupture, people will typically experience swelling and deep pain within the knee joint. They may or may not feel able to walk.

After a few weeks, as the immediate pain and swelling settles, people may not feel any symptoms with day-to-day activities. They may even feel as if they could return to sport. Others may experience knee instability (the sensation that the knee is going to give way or collapse underneath them).

What should I do in the acute setting (first few days and weeks) after an ACL rupture?

If you or your doctor/physiotherapist suspect an ACL rupture, this should be confirmed with an MRI scan. Ice, a compression sleeve (eg tubigrip) and anti-inflammatory medications can be helpful to try to reduce swelling and pain. Crutches may be useful for a few days if the knee feels too painful or unstable to walk on. You should aim to wean off crutches as your pain allows. Most people do not require a knee brace after ACL rupture, unless there is an associated injury to the MCL. An important goal in the weeks following the injury is to commence exercises to restore knee range of motion and quadriceps muscle strength. It may be useful to have a physiotherapist prescribe and supervise this. If you choose to have ACL reconstruction surgery, we usually wait until your knee swelling and range of motion is close to normal, before proceeding with surgery.

What are the treatment options?

An ACL rupture does not necessarily mean you need surgery. If you feel that your knee is stable with day-to-day activities, and you do not wish to return to pivoting sports (soccer, rugby league/union, touch footy, AFL, basketball, netball, tennis etc) it may be reasonable to trial non-surgical treatment. This would involve physiotherapy to strengthen your knee followed by a gradual return to straight-line sports (eg jogging, swimming, golf, skiing). The disadvantage of this however, is that if you were to have an episode of knee instability, you risk damaging the meniscus and articular cartilage in your knee. Studies suggest that this may accelerate osteoarthritis in the future.

If your knee does not feel stable and/or you wish to return to pivoting sports, ACL reconstruction surgery is usually recommended. Surgery helps to stabilise your knee, and thereby protect the other important structures within your knee (meniscus and articular cartilage).

What does ACL reconstruction surgery involve?

An ACL reconstruction involves taking tendon (graft) from elsewhere in your knee and using it to reconstruct the damaged ACL. Usually, this involves using two of your hamstring tendons (gracilis and semitendinosus). For some people, I may recommend using a part of your patellar tendon or quadriceps tendon. The tendon graft is re-positioned into the location of the original ACL and secured with specialised devices to the femur and tibia. The surgery is performed in conjunction with

an arthroscopy (keyhole surgery) of the knee to assess and address any other damage to the meniscus and articular cartilage. You will have at least 3 small incisions over your knee.

Surgery is performed under a general anaesthetic. You may be able to discharge from hospital the same day as surgery if your pain allows. Many patients choose to stay overnight in hospital. After surgery you may require crutches for 3-10 days, to be weaned as your pain allows. If you have a meniscus repair performed at the same time, you may require a knee brace, and may be required to use crutches for a longer period of time. You will be discharged from hospital with pain-relief medications and often a blood-thinner to help prevent blood clots (DVT).

What does recovery and rehabilitation involve?

You should be able to walk unaided by ~2 weeks after surgery. Return to work will depend on the demands of your work (approximately 2 weeks for office-based, 6 weeks for manual work). Driving depends on which leg is operated on, and whether you drive a manual or automatic car. If you are having a right ACL reconstruction, allow approximately 2 weeks before driving. If you have a left ACL reconstruction and drive an automatic car, you should be able to drive after a few days, once you are over the anaesthetic and are no longer taking strong pain-killers.

Rehabilitation should be supervised by a physiotherapist. You will commence gentle exercises straight away after surgery and gradually increase your rehabilitation over time. As a general guide: the first 6 weeks involve swelling management, regaining range of motion and light strengthening. Weeks 6-12 involve the addition of a more intense gym-based strengthening program. At 3-6 months, straight-line jogging can be added. At 6-12 months sport-specific drills can be added, preparing for your eventual return to sport. Most people can return to full sporting activities at 12 months after surgery.

Unfortunately, it is important to note that not everyone feels comfortable returning to sport at their previous level. Studies suggest that around 75% of patients return to sport after ACL reconstruction, but only 50% do so at their previous level.

What are the major risks and complications from ACL reconstruction?

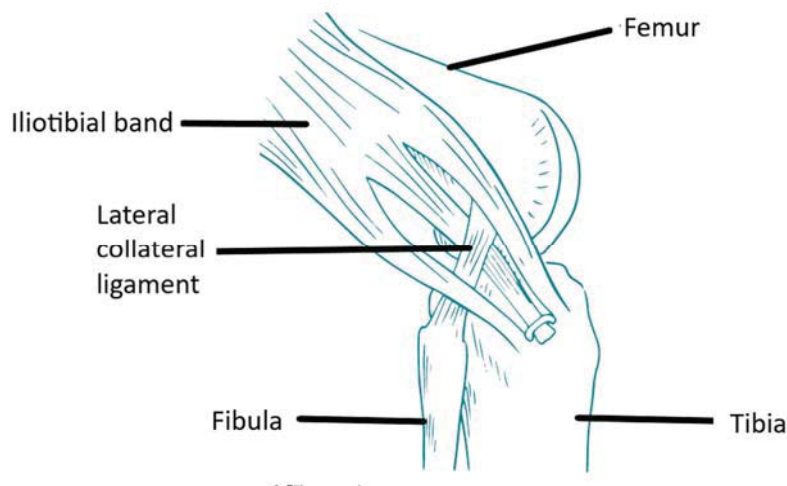
General risks of surgery include: anaesthetic risks, infection (~1%), blood clots (~1%).

Specific risks for ACL reconstruction include: pain, knee stiffness (arthrofibrosis), hardware prominence, neurovascular injury, re-rupture, osteoarthritis.

Lateral Extra-Articular Tenodesis (LEAT)

What is a LEAT?

For some patients I will recommend an additional procedure, called a lateral extra-articular tenodesis (LEAT), be performed at the same time as your ACL reconstruction. This involves an extra incision on the outer aspect of your knee, and re-routing a strip of your iliotibial band (ITB) underneath your lateral collateral ligament (LCL) before securing it to its normal attachment point on the tibia. This functions to provide additional stability against rotational forces at the knee. As such, the procedure has been shown to reduce the risk of re-rupturing your new ACL graft.



Why have I recommended a LEAT?

I recommend LEAT to patients who I feel may have a higher-than-normal risk of re-rupturing their new ACL graft. I base this decision on a number of factors, including age (more likely to recommend in younger patients), how unstable your knee feels on examination, whether you have generalised ligamentous laxity (stretchy ligaments/"double-jointed") and whether you wish to return to high-risk sports. Studies demonstrate that LEAT significantly reduces the risk of graft re-rupture in these high-risk patients.

What are the potential risks and complications of LEAT?

LEAT adds approximately 20 minutes to your ACL reconstruction. As there is an additional incision, patients usually have more post-operative pain and stiffness than after a standard ACL reconstruction. As such, it may slightly slow your rehabilitation in the first 2-3 months after surgery.