

## ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION (ACL)

The Anterior Cruciate Ligament (ACL) is a cord of tissue in the middle of the knee connecting the femur and tibia and acts as a key stabiliser for rotation and change in direction activities. When it is torn, it allows the knee to move abnormally resulting in an unsteady knee which is prone to giving way when changing direction, especially if trying to slow down at the same time. The incidence of ACL ruptures in the general community is approximately 1 person in 20 or 5% of the population but some people are more at risk than others. The likelihood of rupturing your ACL is influenced by a number of variables, including your anatomy (size of ACL, bone structure surrounding the ACL - intercondylar notch, body mass) and activity level.

At risk activities include any sport or activity that involves changing direction whilst trying to slow down or stop (netball, touch football, skiing) as this is the most common mechanism of rupturing your ACL. Other ways that an ACL may be injured is a blow to the outside of the knee with associated rupture of the medial collateral ligament (MCL) or towards the front of the knee with a foot planted on the ground resulting in hyperextension such as in a football tackle or landing awkwardly after a jump in the air (basketball or AFL). Repeated episodes of giving way over time puts the knee at risk for damage to the meniscal and articular cartilage with increased risk of developing arthritis.

Reconstruction of the ACL is done using a predominantly key hole procedure with three small incisions, two of which are made in a horizontal orientation on the front of the knee and usually measuring less than 1cm each with the third incision being vertically oriented and positioned on the inner aspect of the lower part of the knee and usually measuring 3cms or less. The two horizontal incisions are used for the keyhole or arthroscopic visualisation and instrumentation of the knee and the vertical incision is used to harvest two small tendons from the medial thigh to reconstruct the ACL and to also drill the tibial bony tunnel for passage of the graft. Once the two tendons have been joined together and fashioned into an ACL like structure, it is firstly passed into the tibial drill hole and then into the knee joint before passing and securing in both the femur and tibia with titanium screws. Two small drains are positioned within the knee to allow for drainage of any bleeding, a temporary extension splint is fitted and patients are admitted to the hospital for an overnight stay.

The day following surgery, the drains are removed and patients undergo an X-ray to confirm positioning of the femoral and tibial tunnels and screws. Patients usually will use crutches for comfort for the first week or two with most patients able to walk without crutches after two weeks unless a torn meniscus was also repaired with sutures, in which case crutches may be needed for up to 6 weeks. Patients commence a self directed exercise protocol with intermittent physiotherapy supervision to help regain their strength and range of motion and are usually able to recommence leg weights and gym work by 3 months, unidirectional running by 4 months, multidirectional drills by 5 months, sports drills by 6 months and return to sporting competition by the end of their 6th month of rehabilitation. Most patients are able to return to work duties within a week or two if office based and more slowly if performing heavy manual duties. Once completing your ACL rehabilitation, the likelihood of rupturing your reconstructed ACL is usually lower than the likelihood of injuring the ACL in your other knee and patients should be able to resume all sporting and outdoor activities with confidence.