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## Anterior Cruciate Ligament Injuries

There are 4 main ligaments which hold the knee together – one on each side to stop the thigh (femur) and shin (tibia) bones from slipping sideways on each other, and two that cross in the middle running front to back and back to front that stop the bones from sliding forwards and backwards. These latter 2 ligaments are known as the anterior and posterior cruciate ligaments.

The position and structure of the anterior cruciate ligament (ACL) make it the most important stabilising ligament in the knee. There is some tension in the ligament in almost all positions of the knee, which makes it susceptible to injury. The ACL is commonly injured when attempting to change direction at speed or when an outside force is applied to the knee (such as a player falling across the knee). The injured person will commonly feel a popping or snapping sensation and the knee (usually) buckles underneath them. The injured knee generally swells very quickly and may feel unstable to stand on, particularly in the days following injury.

The ACL exists inside a fluid filled joint capsule, and so as the torn ligament bleeds, the blood disperses through the joint. This means that a blood clot cannot form between the torn ends of the ligament, which would allow it to heal itself. Thus, for most people, surgery can be performed to reconstruct the torn ACL.

The ACL is generally reconstructed using one of two methods. In both methods bone tunnels are drilled in the femur and tibia and the replacement ligament is fixed into place inside the tunnels:

Hamstring graft – the reconstructed ligament is made from the combined tendons of 2 or more of the hamstring muscles, which are doubled over and stitched together. This method is done mostly via an arthroscope, which means smaller incisions. You will have to work hard to regain the strength in the hamstrings and will probably get some pain in this area during the rehab process.

Patellar tendon graft – the reconstructed ligament is made from the middle one third of the tendon that joins the patella (knee cap) to the tibia. This method uses a much larger incision, and people who have this type of reconstruction will often get pain at the front of their knee during their rehab.

Whatever the type of reconstruction performed, you are generally looking at a minimum of 9 months before being allowed to return to sport, to give the graft a chance to strengthen and the muscles around the knee to regain their strength. It is very important that you are consistent with physiotherapy and the exercises your physio gives you to ensure a good outcome.

