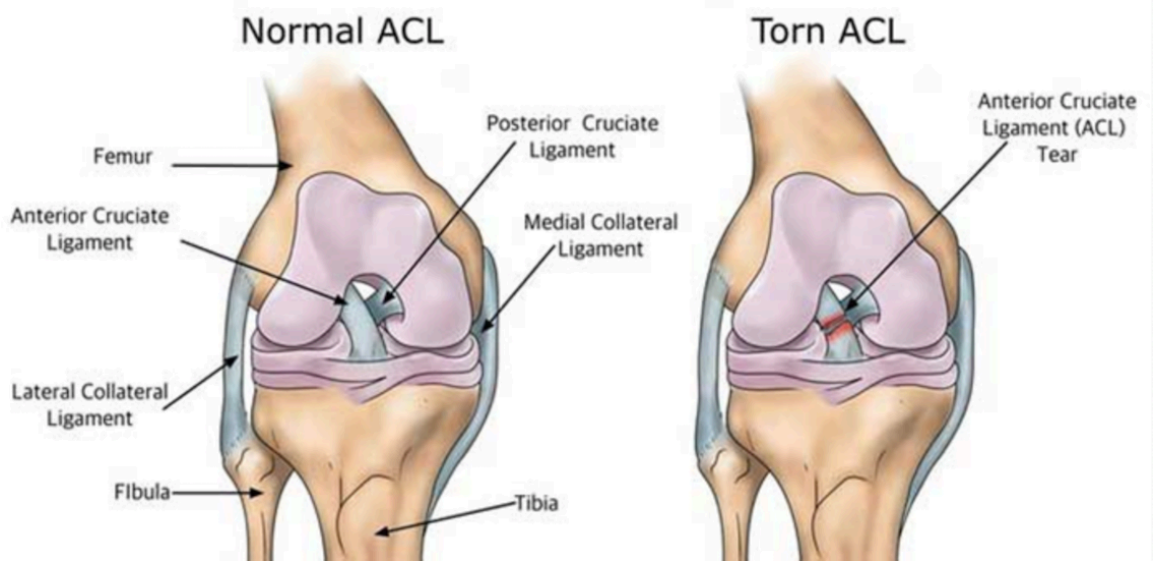
KELOWNA BONE & JOINT HEALTH

Anterior Cruciate Ligament (ACL) Reconstruction

The Role of the ACL:

The ACL is a centrally located ligament in the knee, which prevents rotation and forward motion of the tibia (leg bone) on the femur (thigh bone). When it is torn, the knee can suffer from instability (giving way of the knee), which can lead to further damage, to the soft cartilage (meniscus) or the hard cartilage within the knee joint. Injury to the meniscus (which act as the shock absorbers), or the hard cartilage of the knee can lead to degenerative arthritis.

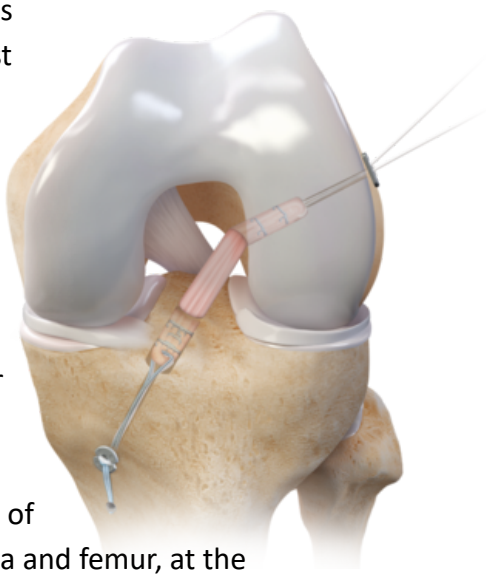


I have torn my ACL, now what?

Not every person who suffers an ACL injury requires a surgery. There are multiple muscles around the knee that can confer some stability to the knee. These injuries can be treated operatively or non-operatively. The decision is ultimately based on findings on physical examination (stability testing), the desire to continue pivoting and shifting sports, and age. If non-operative treatment is pursued, a hinged-knee brace designed for ACL deficient knees can be worn during activity to attempt to prevent instability episodes.

Goal of ACL Reconstructive Surgery:

The main goal of surgery is to reconstruct the ACL, to tighten and stabilize the knee, to prevent giving way episodes, and protect the cartilage from further injury. Any injury to the meniscus will be addressed at the time of surgery. The ACL is recreated using portions of tendons from around the knee, most commonly the hamstring, patellar or quadriceps tendons.



How is the surgery performed?

Initially the knee is examined under anesthesia to confirm the instability of the joint. Surgery is preformed primarily through poke hole incision in the knee using the arthroscope (camera). An examination of the entire knee joint is preformed looking for and addressing loose bodies, cartilage damage, or tears in the meniscus. The hamstring tendons or a portion patellar/ quads tendon are then obtained through a 3-6 cm incision at the front of the knee. This graft is then passed through drill holes in the tibia and femur, at the normal attachment points of the ACL, and fixed to either bone, recreating the ACL.

What should I do while awaiting surgery?

It is imperative to regain strength and motion in the knee before surgery, as this will drastically improve recovery following the operation. Regaining normal range of motion will decrease the risk of post-operative stiffness. Increasing muscle strength in legs and core will not only help improve balance, but can help speed overall recovery. See pre-habilitation hand-out for exercise guidance.

Potential Complications

Any surgery comes with possible complications, although quite rare with ACL reconstruction.

- Infection (all patients receive antibiotics just prior to surgery)
- Post operative bleeding
- Excessive knee stiffness
- Blood clots
- Anesthetic risk factors
- Recurrent instability
- Graft failure without repeat injury
- Re-Tearing of ACL with repeat injury

What can I expect?

The surgery does not restore the knee to its original state, but instead has the goal of regaining stability, and preventing further damage to the soft and hard cartilage within the knee. Approximately 50-75% of patients resume activities at the same level, 20-30% resume activities, but to a lesser intensity, leaving 5-30% who do not make it back to previous activities. These outcomes are dependent upon injury pattern, age, genetics, anatomy, motivation, psychological attitude and adherence to the post-operative protocols.

In addition, a significant amount of patients with ACL injuries develop significant arthritis within 15-20 years. It has not been proven that ACL surgery will prevent this, but the goal is to prevent further instability episodes that can cause ongoing cartilage injury.

Special Equipment Required

Brace:

For standard ACL surgery, you will not require a brace in the post-operative period. If a brace is found to be a necessity, the surgeon will either place one at the time of surgery, or provide you with a prescription to obtain the appropriate brace.

Ice-Compression Device:

The use of a “Cryo-Cuff” or “Game Ready” device combines consistent flow of cold liquid, with compression to help control swelling. Patients who use an ice-compression device often require less pain medication, and better swelling control. These are highly recommended by the surgeons at Kelowna Bone and Joint Health to improve knee pain and function in the post-operative period.

Home Preparation and Equipment:
You will need to obtain a set of crutches, and prepare your home for your arrival on your operative day. Try to avoid cords, or bulky rugs that you could catch your crutches on and have a risk of fall. If you have a significant amount of stairs, you may want to sleep on the main floor for the first night or two, and should plan accordingly.

Post Operative Protocol:

Discharge from hospital is typically same day. The key to the early post op period is controlling swelling (with a ice and elevation). Crutches are used for balance and support until the pain and swelling are well controlled. Weight bearing is allowed, unless specifically directed otherwise. Formal physiotherapy is initiated within two weeks of surgery. A formal post-operative protocol will be provided in the post-op period. Plan to take 2-3 weeks off of work for an office job, and 6-10 weeks off for a physical labour job. Its important to note there are some aspects of physical labor that will not be allowed for 3-6 months (ie, pivoting and shifting activity that could loosen the ACL graft).