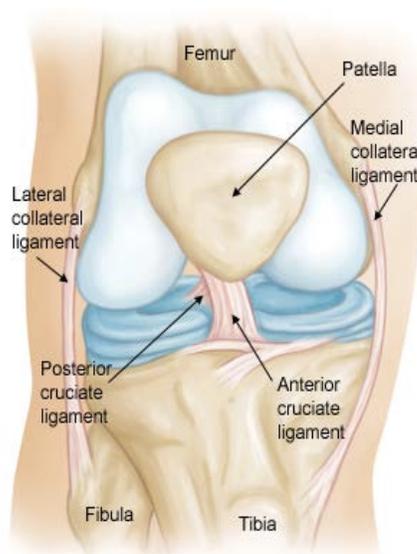




Anterior Cruciate Ligament (ACL) Injury

What is an ACL and it's function?

The Anterior Cruciate Ligament (ACL) is one of four major ligaments that connect bone to bone and give stability in the knee joint. This ligament coordinates function and promotes stability of the knee joint. It runs in a notch at the end of the femur (intercondylar notch) and originates at the back part of the femur (postero-medial aspect of the lateral femoral condyle) and attaches to the front part of the tibia (tibial eminence). In the knee, the ACL prevents forward movement of the tibia. It also provides roughly 90 percent of stability in the knee joint.



Symptoms:

Symptoms of a severe and sudden (acute) anterior cruciate ligament (ACL) injury include:

- Feeling or hearing a "pop" in the knee at the time of injury.
- Sudden instability in the knee. For example, the knee feeling wobbly, suddenly buckles, or gives out. This may happen after a jump, a sudden change in direction or after a direct blow to the side of the knee.
- Pain on the outside and/or back of the knee.
- Limited knee movement because of swelling and/or pain.
- Knee swelling within the first few hours after injury. This may be a sign of bleeding inside the joint. Swelling that occurs suddenly is usually a sign of a serious knee injury.

Diagnosing an ACL injury:

An anterior cruciate ligament (ACL) injury is diagnosed through medical history and a physical exam.

- You will be asked how you injured your knee, about your symptoms at the time of injury, whether you have had any other knee injuries, and general questions about your health.
- The doctor will assess the knee for stability, strength, range of motion, swelling, and tenderness. Tests for stability include a Lachman test and a pivot shift test. The Lachman test compares the degree of looseness (laxity) in your knees.
- Looking at an X-ray, which is usually done for any knee injury if there is pain, swelling, or you cannot put your weight on the leg. Although an X-ray cannot directly diagnose an ACL injury, it can show whether a bone is broken, loose fragments, if the ACL is torn from the bone (avulsion), or if blood is present in the knee (effusion).
- A magnetic resonance imaging (MRI) will be obtained to confirm present of tear or rupture.

Non-surgical Treatments



A small percentage of people can do well after an ACL tear without surgical reconstruction. These individuals tend to be older and less active. Pediatric and adolescent patients are much more active and usually participate in sports that involve pivoting or "cutting." Even though knee braces can help prevent instability episodes by "hobbling" the knee and assisting with sensory feedback; the most expensive custom knee braces cannot prevent knee instability and further injuries. Also, before

deciding on non-surgical treatment it is important to make sure that there is no other injury such as an additional tear to the meniscus or other surrounding ligaments. The MRI scan will help determine whether additional injuries are present.

Surgical Treatment

ACL instability will result in a reduction in activity, especially sports. More



importantly, the instability will usually lead to additional damage such as a meniscus tear and/or articular cartilage damage if left untreated. Once you decide on surgical intervention, ACL reconstruction is performed using arthroscopy. Two to four skin incisions, or "portals," are placed in different areas in the front of the knee, dependent on tissue used. Through one of these portals the arthroscope (a small video camera the size of a pencil) is placed into the knee. With the magnification of the arthroscope, your physician can visualize any damage that has occurred. Through the other portals, instruments are placed into the joint to remove, smooth or repair the tissues. If any other damage is present, this will also be repaired at the same time.



What to Expect

- Physical Therapy will begin immediately with a Pre-hab ACL regimen. This will strengthen all muscles supporting your knee.
- Once a surgery date has been given, you will return within 30 days for a pre-op appointment with the physicians assistant (PA).
- There is no physical education (PE) or contact sports from the time of injury until 6 months post surgery.