

What to Expect from your Anterior Cruciate Ligament Reconstruction Surgery

A Guide for Patients

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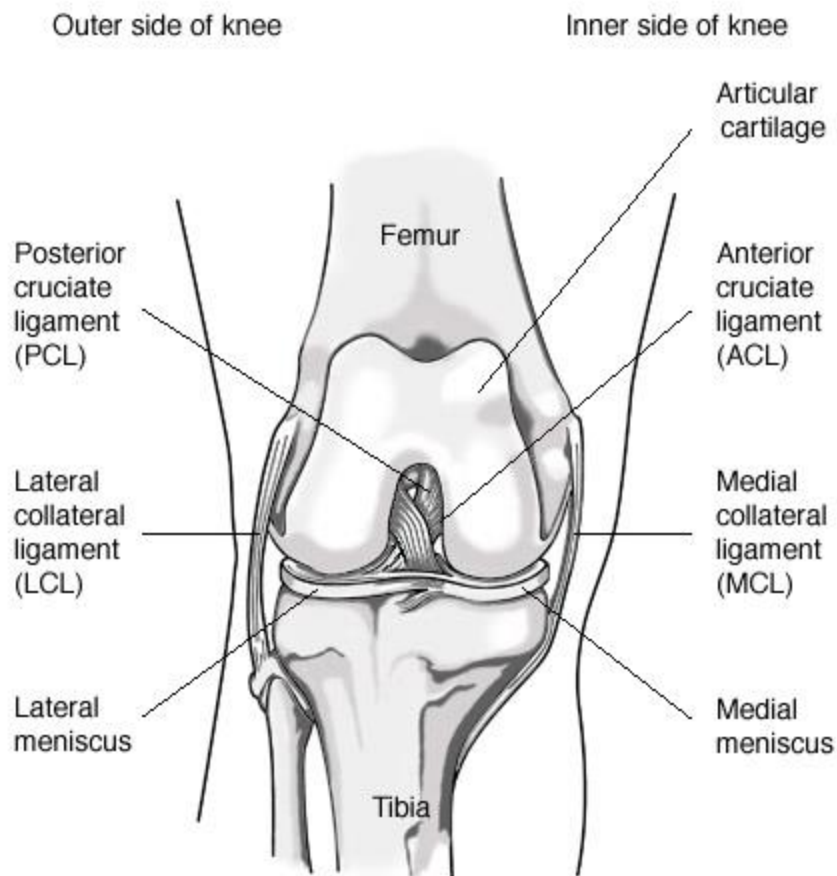
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Anatomy



What is a ligament? A ligament is a dense connective tissue that connects bone to bone.

What are the ligaments in the knee? There are 4 major ligaments in the knee, the medial collateral ligament (MCL), the lateral collateral ligament (LCL), the posterior cruciate ligament (PCL), and the anterior cruciate ligament (ACL). All four ligaments connect the femur (thigh bone) to the tibia (shin bone).

Why is the ACL an important ligament? The ACL functions as a knee stabilizer. Without the ACL the knee becomes unstable and often “gives way”, especially with sports activities that include cutting, pivoting, and twisting.

What is the meniscus? The menisci are 2 cartilage “C” shaped disks in the knee. There is one on the inner portion (medial) and outer portion (lateral) of the knee. The meniscus

works as a shock absorber in your knee. It also can work as a secondary stabilizer if the ACL has been injured.

Mechanism of Injury

How does an ACL injury occur? The most common mechanisms of injury are rapid change of direction, planting of the foot with twisting of the knee, decelerating, landing from a jump, or a direct blow to the knee.

Am I at higher risk of an ACL injury based on the sports I play? There is a higher incidence of ACL tears in football, skiing, soccer, basketball, wrestling, and volleyball. This is due to the contact, cutting, and twisting that is involved in these activities. While you are not risk free participating in other sports, the risk is lower in non-contact and linear sports such as swimming, track and field, and cross country.

At the time of injury, what things are indicators that my ACL was torn? Some patients will feel or hear a “pop” at the time of the injury. Most patients will have significant swelling in their knee within the first few hours after injury. Most patients are unable to continue participation in their activity after the injury. Some patients will sense that their knee is unstable or “wobbly” and they have difficulty even walking.

Do I have to worry about any other damage to my knee if I tear my ACL? The most common associated injury is a tear of the meniscus. The meniscus can either be torn at the time of the initial injury, or more commonly, with recurrent episodes of instability. This is due to the increased laxity in the knee allowing anterior-posterior (front to back) translation of the knee. Depending on the force that injured the knee, other ligaments can be damaged at the same time.

Diagnosis

How can Dr. Garcia tell if my ACL is torn? While you are in the office, Dr. Garcia



will examine your knee. There are three special tests that are done to test the stability of your knee. These are the anterior drawer, the Lachman, and the pivot shift. These maneuvers test the anterior-posterior translation of the knee and the rotational stability of the knee. If there is increased laxity (movement) when compared to the uninjured knee, the diagnosis of an ACL tear is suspected.

What other tests are done in the office? At the time of your appointment Dr. Garcia may use a device called the KT 1000 to measure your ACL laxity or instability. The KT 1000 is a joint arthrometer. It will measure how far your tibia moves anterior (forward). These numbers are compared to the uninjured knee and can help to determine if the ACL is ruptured.

How do I know for sure that my ACL is torn? The best way to ensure the correct diagnosis is to obtain an MRI of your knee. By reviewing the MRI, Dr. Garcia can determine if your ACL is torn. Additionally, any other damage that may have occurred at the time of injury can be identified.

Treatment Options

After Dr. Garcia has determined that my ACL is torn, what do I do next? The next step in caring for your knee is based upon your activity level and your goals. There are many patients that function well in daily life without an intact ACL. Patients who would like to continue participation in sports or activities that require cutting or pivoting, usually elect to undergo surgical intervention.

Will Physical Therapy (PT) help my ACL to heal? Physical therapy is great for helping to use your muscles to help stabilize your knee. Having strong and flexible quadriceps, hamstrings, and gastrocs (calf muscles) will help to provide extra stability to the knee. Once the ACL is torn it will not heal.

If PT won't help my ACL to heal, why do I need to go before surgery? It is very important that you have full range of motion of your knee, in addition to good muscle strength and control. This is important because it will help your recovery. You are also at higher risk for losing range of motion after surgery if you don't have your full range of motion before surgery.

If I need to have surgery, what is done to my knee? If surgery is required, or you elect to undergo surgical fixation of your knee, a graft is used in place of your old ACL.



Tunnels are drilled into your tibia (shin bone) and femur (thigh bone) and the new ACL is held securely by a fixation device. The type of fixation used depends upon the type of graft that is used. This surgery is done under a general anesthetic and takes approximately 60-90 minutes.

What is a “graft”? A graft is a tissue that is used to substitute for your ACL. There are two types of grafts that can be used, allografts and autografts. Allografts are donor grafts, this means that they come from a cadaver. The most commonly used allograft is a patellar tendon. An autograft is a graft that comes from your own tissues. The two most common autografts are the patellar tendon and the hamstring tendons.

How do I know what type of graft I should use? The type of graft used is a personal choice that we will help guide you through. Typically, patellar tendon autografts are used in high school and college athletes that are in contact sports such as football, soccer, and basketball. Hamstring tendons are used for patients who are no longer in contact sports at the high school or college level and do not want to use a cadaver tendon. A hamstring tendon is also used in younger patients who are not skeletally mature (their growth plates are open and they are still getting taller). Allografts are used in patients who want the least painful and easiest rehabilitation.

What risks are associated with using a donor graft? There is a less than one in one million chance that there will be any disease transmission using the allograft. The grafts are tested for HIV, Hepatitis, and a multitude of other diseases. We use Allosource, a non-profit tissue bank, for our allografts. You can read about their company at www.allosource.com. Patients do not need any special medications after surgery when using an allograft. While there is a small risk of graft rejection, this is not the same as an organ (kidney, liver, etc.) rejection. If there is graft rejection there is continuous swelling and occasional instability. Again, this risk is quite small.

What are the risks of surgery? The risks of ACL reconstruction are similar to the risks of any surgical procedure. There is a less and 1% risk of infection. We minimize this risk by giving you antibiotics prior to the start of your surgery. There is a less than 1% chance of bleeding or nerve injury. We are very familiar with the anatomy of the nerves, veins and arteries and do not foresee any problems. There is a risk of graft re-rupture. This can happen with graft rejection, or repeat injury. There is a risk of arthrofibrosis. This occurs when there is too much scar tissue formed in your knee. Most often this can be treated with physical therapy, but there are cases when you would need a second surgery to remove scar tissue.

Post Operative Care and Rehabilitation

Will I be in a brace after surgery? Our patients are in a knee brace for one to four weeks after surgery. We utilize this brace to protect the graft until your muscles are strong enough to support your leg without risk of your knee buckling.

How long will I be on crutches? As you bear full weight, it stimulates your muscles and helps to strengthen them. Most patients use crutches for 3-10 days.

How long will it be until I can take a shower? Wounds should stay dry until sutures are removed. You may shower, but the incision should be covered with plastic. You cannot submerge your knee in water (bath tub or hot tub) until your stitches have been removed.

After surgery, when do I come back to the office? We will see you the day following surgery to check your knee and ensure that there isn't too much swelling. We then see you about 7-10 days later to remove your sutures. We then see you at 6 weeks, 12 weeks, 3 months, 6 months and one year post-op. At each visit we will check your knee with the KT-1000 again to be sure that your graft is healing well.

Do I start physical therapy right away? You will go home with exercises that you need to begin the day of surgery. For the first week you will concentrate on these exercises. Formal physical therapy will begin approximately a week after surgery. The first 6 weeks of therapy are focused on regaining your full range of motion and strengthening your muscles. You can use the bike and the elliptical during this time frame.

When can I start running? During the second 6 weeks of physical therapy you will begin more functional activities. Most patients begin running at week 12.

When do I begin sports based activities? During the third 6 weeks of therapy we will allow you begin sports specific activities like cutting, pivoting, and jumping.

When can I start playing sports again? Most patients return to full sports activity within 4.5 to 6 months. The return time varies with all patients. We will monitor your progress and let you know when you are ready to return.

Will I need a brace to play sports again? Braces are used in cases where patients wish to return to competitive sports that involve cutting, pivoting, or contact such soccer, basketball, or football.