

What to Expect from your Anterior Cruciate Ligament (ACL) Reconstruction Surgery

A Guide for Patients

HOUSTON
Methodist



The American Orthopaedic
Society for Sports Medicine



AANA
Arthroscopy Association of North America

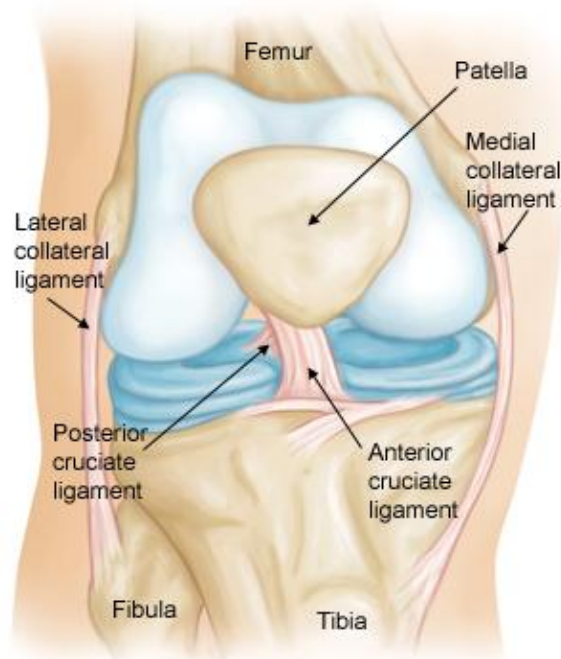


INTERNATIONAL SOCIETY
FOR HIP ARTHROSCOPY

AAOS AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS
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Sources of Information:

- <http://orthoinfo.aaos.org>
- <http://www.orthoinfo.org/informedpatient.cfm>
- <http://www.sportsmed.org/patient/>
- <http://www.methodistorthopedics.com>



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

What ligaments are in the knee? There are 4 major knee ligaments. All 4 connect the femur (thigh bone) to the tibia (shin bone) or fibula. These are the:

- MCL (medial collateral ligament)
- LCL (lateral collateral ligament)
- ACL (anterior cruciate ligament)
- PCL (posterior cruciate ligament)

Why is the ACL important? The ACL stabilizes the knee. Without an ACL, the knee may be unstable and "buckle" or "give out" or "give way", especially while playing sports involving cutting, pivoting, or twisting.

What is the meniscus? There are 2 menisci in the knee (one medial and one lateral). The medial meniscus is on the inner side of the knee and the lateral meniscus is on the outer side of the knee. These cartilage structures are "C"-shaped disks that function as shock-absorbers and also help stabilize the knee if the ACL is injured.

Mechanism of Injury

How does an ACL tear? The most common mechanisms of injury are rapid change in 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 tear based on the sport I play? Maybe. It depends on which sport(s) you play. There is a higher incidence of ACL tear in football, soccer, skiing, basketball, wrestling, and volleyball. This is due to the contact, cutting, twisting, and pivoting involved in these activities. There is a lower (but not zero) risk with participation in non-contact and linear sports like cross-country, track and field, and swimming.

At the time of injury, what things indicate that I tore my ACL? Some patients feel or hear a "pop" at the time of injury. Most patients have significant swelling within the first 12 hours of injury. Most patients are unable to continue playing the sport they were playing at the time of injury. Some patients need help walking off the field after the injury because the knee feels unstable, loose, or wobbly, or is too painful.

Do I have to worry about other damage to my knee if I tear my ACL? The most common injury with an ACL tear is a tear of the meniscus cartilage. The meniscus can tear either at the time of the injury or with recurrent episodes of instability. This is because of the increased looseness of the knee due to the ACL tear. Depending on the injury mechanism, other ligaments may be damaged at the same time of the ACL tear.

Diagnosis



How can Dr. Harris tell if my ACL is torn? While on the field, in the training room, or in the office, Dr. Harris will examine your knee. There are 3 special tests done to test your ACL. These are the anterior drawer, Lachman (shown in picture), and pivot-shift tests. If there is increased laxity of the injured knee (versus the other knee), the diagnosis of ACL tear may be suspected.

How do I know for sure if my ACL is torn? An MRI is often ordered to evaluate not only the ACL, but also the other structures in the knee, including the menisci, articular cartilage, and other ligaments.

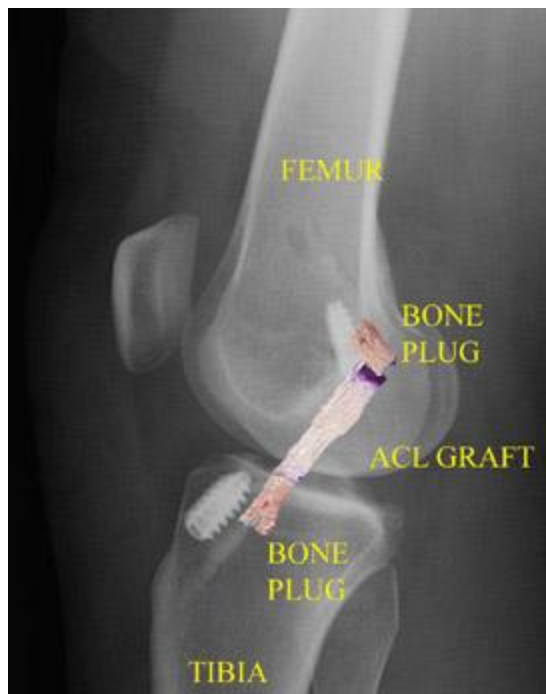
Treatment Options

After we know that I tore my ACL, what do we do next? The next step is dependent upon your activity level and your goals. There are many patients that function well in daily life without an intact ACL. However, most patients that would like to continue participation in sports or activities that require any cutting or pivoting usually elect to undergo surgery.

Will physical therapy (PT) help my ACL to heal? Physical therapy is great to help strengthen the muscles in your leg and around your knee. Having strong and flexible muscles (quadriceps, hamstrings, calf) helps provide extra stability to your knee. However, once the ACL is torn, it cannot heal on its own.

If PT won't help my ACL heal, then why do I need to go before surgery? It is very important to have full motion in your knee before surgery, in addition to good strength and muscle control. This is important because it will help your recovery. You are also at higher risk for stiffness 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? Because the ACL cannot heal on its own, we must use a graft to reconstruct and replace your old ACL. We drill tunnels in the femur and tibia bone to securely hold your new ACL in place (photo shown). The type of fixation device that holds the graft in place depends on the type of graft used. The bone-patellar tendon-bone autograft has long been considered the "gold-standard" graft used in ACL reconstruction (photo shown). This surgery is done under general anesthesia takes about 60-90 minutes.



What is a graft? A graft is a tissue that's used to replace or substitute for your ACL. There are two types of grafts used: Autografts and allografts. Autograft is a graft that comes from your tissue. Allograft is a graft that comes from a donated cadaver graft. The two most common autografts are the patellar tendon and the hamstring tendons.

What graft is right for me? The type of graft selected is a personal choice that we will help you through. Typically, the bone-patellar tendon-bone autograft are used in athletes that are in contact or non-contact sports such as football, soccer, rugby, and basketball. Hamstring grafts may be used in those that are less physically active and those not wanting an allograft. A hamstring may be used in younger patients who are skeletally immature, meaning 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 allografts? There is a less than one in one million chance that any disease transmission with the allograft. The grafts are universally tested for HIV, hepatitis, and many other viruses and bacteria. All grafts are provided by an AATB-accredited bank (American Association of Tissue Banks). You do not need any special medications such as immunosuppressants after surgery when using an allograft. While there is a small risk of graft rejection, this is not the same as whole organs like kidney or liver transplant. If there is graft rejection, then there is continuous swelling and occasional instability. This risk is very small.

What are the risks of surgery? The risks are similar to the risks of any surgical procedure. There is a less than 1% risk of infection. We minimize this risk by giving you antibiotics prior to the start of surgery. There is a less than 1% risk of bleeding or nerve injury. We are very familiar with the anatomy of the nerves and blood vessels around the knee. There is a very low risk of blood clots in the leg (called deep vein thromboses and pulmonary embolus if goes to lung). In order to further reduce this risk, we recommend you take an aspirin (regular or baby strength) for 10 days following surgery. There is a risk of graft re-rupture. This may occur with graft rejection (in allografts) or re-injury. There is a risk of arthrofibrosis (stiff knee). This occurs when there is too much scar tissue that forms in your knee. Most often this can be treated with physical therapy, but there are cases when you would need a second arthroscopic surgery to remove scar tissue.

Post-operative Treatment

Will I be in a brace after surgery? You will be in a brace for two to four weeks following surgery. This brace protects the graft until your muscles are strong enough to support your leg without buckling or giving out.

How long will I be on crutches after surgery? You will be using crutches for two to four weeks following surgery.

How long will it be until I can shower after surgery? Wounds should stay dry until the sutures are removed. You may shower 24 hours after surgery, but you must cover the incision with plastic so that it does not get wet. If it does get wet, then use a clean towel and pat-dry the wet areas. Do not submerge or soak your knee in water until 3 weeks after surgery.

What should I expect on my knee when I wake up after surgery? You should expect to find an Ace wrap from your ankle to your thigh. Over that will be an ice pack and a knee brace.

What should I do if there is blood on my dressing? It is not uncommon for dried blood to appear on the Ace wrap in the first 24-48 hours after surgery. Please keep your post-operative dressing on for 48 hours following surgery. After 48 hours, you may remove and throw away the post-operative dressing. You will see two sutures (one at each end) sticking out of the skin and multiple Steri-Strip small band-aids on the incision. Do not remove the sutures or the Steri-Strips. At this time, you should ensure the incision is dry and cover the incision and Steri-Strips with waterproof band-aids.

When do I get my sutures out? 7 - 10 days after surgery, you will return to the office and we will remove your sutures for you. We will then see you again in the office to evaluate your post-operative recovery at 6 weeks, 3 months, 4.5 months, 6 months, and 12 months after surgery.

When do I start physical therapy (PT)? We will give you a prescription for physical therapy to begin the same week as your surgery. In addition, we will give you a sheet of exercises that you can do easily on your own before beginning PT.

When am I allowed to start jogging or running? At 3 months after surgery.

When am I allowed to start sports-specific training? At 4.5 months after surgery.

When am I allowed to return to competitive sports? At 6 to 9 months after surgery, depending on your progress and which sport you play.