

# Surgical Options for ACL Tears

The anterior cruciate ligament, better known as the ACL, is one of the two ligaments in the center of your knee that connect the femur to the tibia. It's also one of the most commonly injured, especially among athletes.

Unlike many other ligaments in the body, the ACL does not have the ability to heal on its own. A thick liquid – called synovial fluid – reduces friction when you move your knee. As important as this fluid is for proper knee function, it also prevents the formation of blood clots that are critical for healing. As a result, ACL tears are often treated with surgery. The current treatment options include ACL reconstruction, a procedure called primary repair and ACL restoration with the BEAR® Implant.

## What is ACL reconstruction?

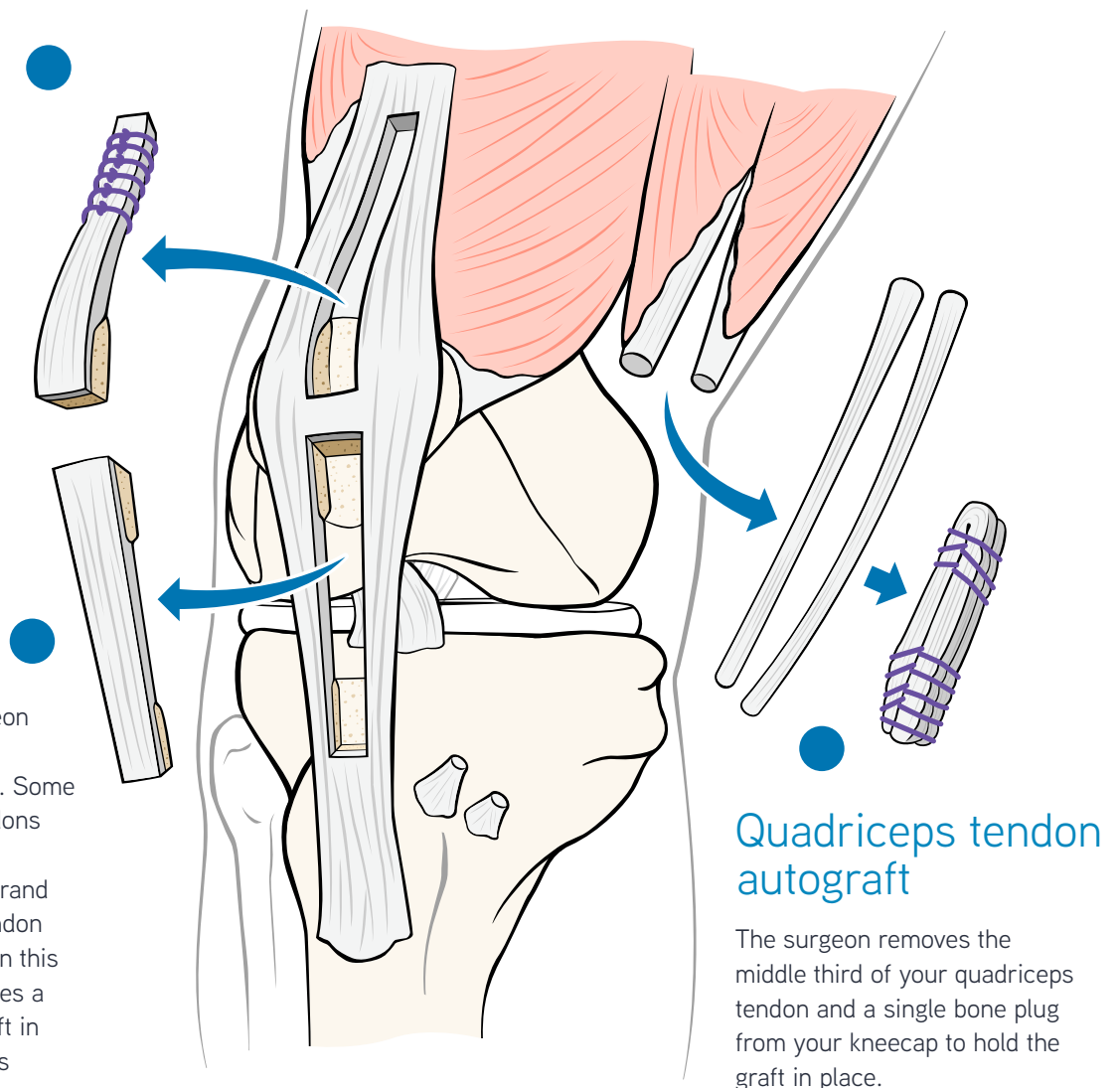
During an ACL reconstruction, the orthopedic surgeon removes all the remaining ACL tissue from your knee, drills holes in your thigh and shin bones, and inserts a graft to replace the ACL. The graft comes from another part of your leg (called an autograft) or a deceased donor (called an allograft).

### Patellar tendon autograft

The surgeon removes the middle third of your patellar tendon and pieces of bone (bone plugs) from your shin and kneecap. After removing the torn ACL, the surgeon drills two holes – above and below your knee – creating a tunnel to insert the graft. Then, they seal the tunnel up with the bone plugs, securing them with screws. Over time, the plugs will fuse with the surrounding bone.

### Hamstring tendon autograft

Through a small incision, the surgeon removes a piece of your hamstring tendon from the back of your thigh. Some surgeons might use additional tendons from the same area, stitching them together to create a two-or-four-strand graft bundle. Unlike the patellar tendon autograft, no bone plugs are used in this procedure. Instead, the surgeon uses a suture and a screw to hold the graft in place, and over time, the graft fuses with your bone.

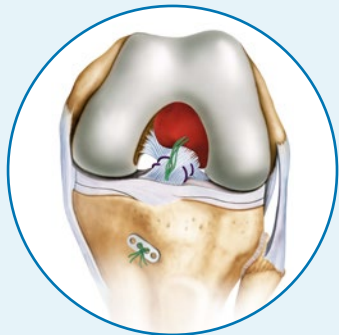


### Quadriceps tendon autograft

The surgeon removes the middle third of your quadriceps tendon and a single bone plug from your kneecap to hold the graft in place.

## What is primary ACL repair?

In primary repair of a torn ACL, the surgeon places stitches in the injured portion of the ACL and uses an anchor to reattach it back to the bone where it tore away. Sometimes an additional stitch is added as an “internal brace” to protect the healing ligament.



## What is ACL restoration?

With ACL restoration, it is not necessary to take a graft from part of your leg or use tissue from a deceased donor. An implant (called the BEAR® Implant) is placed between the torn ends of your ACL which enables your own ACL to heal back together. During the procedure, the surgeon adds your own blood to the BEAR Implant and inserts it between the torn ends of your ACL. The BEAR Implant holds and protects your blood to allow the formation of a clot, which is necessary for healing, and is then resorbed and replaced with native tissue.



### Do patients with ACL tears have to undergo surgery?

No. Surgical intervention for ACL tears is elective surgery. Many patients live full, active lives without a functioning ACL. The risks of not getting ACL surgery vary by individual and depend on their activity level and degree of injury. Patients with complete ACL tears might experience increased instability while walking and might be unable to participate in sports that require quick, pivoting movements – such as soccer, basketball and tennis. If left untreated, instability can cause damage to the nearby meniscus and articular cartilage, and osteoarthritis may develop over time.



### Is rehab and recovery time the same for all the procedures?

Rehabilitation protocols differ for each procedure, but overall recovery time is similar. ACL reconstruction and primary repair enable greater mobility soon after surgery, whereas BEAR Implant rehabilitation is slower over the first six weeks while healing takes place. Regardless of the procedure, return to high levels of activity and sports is usually nine months or more after surgery.

You should consult with your doctor to determine if surgery is recommended and if so, which approach is best for you. All surgical options carry the risk of complications.



Scan or visit [miachortho.com](http://miachortho.com) learn more about ACL restoration with the BEAR Implant.



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