Anterior Cruciate Ligament (ACL) Repair

Introduction

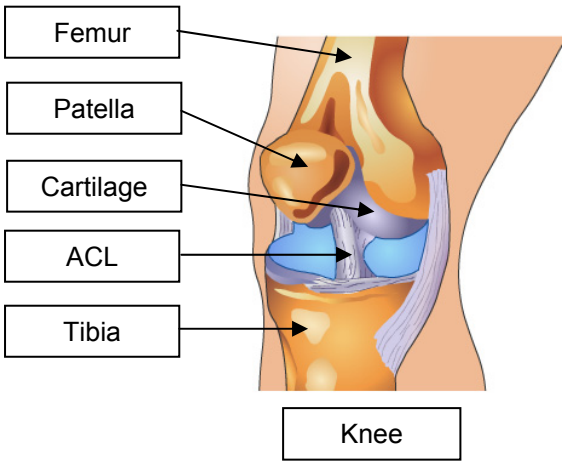
The anterior cruciate ligament, or ACL, is a ligament in the center of the knee. Ligaments help connect bones to other bones. Ligaments of the knee joint help stabilize and protect the knee from injury.

The most common knee ligament injury is a tear in the ACL. ACL repair is a surgery that fixes a tear in the ACL.

This reference summary will help you understand the benefits and risks of having an ACL repair surgery.

The Knee

The knee joint connects the femur, also known as the thighbone, to the tibia, also known as the shinbone. The patella is also included in the knee joint. The patella is a floating bone that gives the knee its round shape.



Knee

These bones are covered by special tissue called cartilage, or meniscus. The smooth surface of the meniscus allows for smooth, painless movement at the knee joint. The knee joint allows the leg to bend up and down only, not side to side.

Ligaments protect the knee from going sideways and getting injured. Ligaments also connect the bones in the knee joint and help stabilize the knee. Two ligaments are located on the sides of the knee. These are called the medial collateral ligament and the lateral collateral ligament. They are also known as the MCL and LCL.

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There are also two ligaments in the center of the knee that cross each other. These are called the anterior cruciate ligament and the posterior cruciate ligament. They are also known as the ACL and PCL.

Even though the joint allows movement, the muscles of the legs perform the actual motion.

Symptoms and Their Causes

An ACL injury is the main reason an ACL repair surgery may be needed. ACL and other knee injuries are common sports injuries.

The ACL may be injured in different ways. Most often, people injure their ACL with a sudden twisting motion. This may happen when they suddenly stop or quickly change direction.

A direct blow to the knee is another common way for the ACL to be injured. A blow to the knee can force the knee into an abnormal position. This causes the ACL or another ligament in the knee to tear.

An ACL injury may cause your knee to swell, which can make walking painful. Your knee may also feel unstable. This is because the ACL keeps the tibia from moving forward too far. Many people who have injured their ACL also say they heard a “pop” in their knee. This popping sound is due to the tearing or damage to the ligament.

Treatment for an ACL injury depends on how severe the injury is. One treatment that is available for an ACL injury is surgery. Surgery is followed by rehabilitation.

Alternative Treatments

Some ACL injuries may not require surgery.

Nonsurgical treatment is an option for people who have:

- Partial ACL tear and no problems with knee instability
- Complete ACL tear but are willing to give up high-demand sports

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Nonsurgical treatment is also an option for people who:

- Live inactive lives
- Perform light, undemanding work
- Have bones that are still growing, such as children

Nonsurgical treatment involves physical therapy and rehabilitation. The goal of these treatments is to restore the knee to its pre-injury condition as much as possible. Physical therapy and rehabilitation also teach you how to prevent instability. Sometimes a knee-brace is used to give the knee support.

Nonsurgical treatments may be the right choice for some people. However, choosing not to have surgery may result in further injury to the knee due to instability.

Surgical repair of the ACL may be considered if the knee is too unstable. It may also be done if the patient wants to return to sports that put a high-demand on the knees.

Surgical Treatment

A torn ACL cannot be stitched back together. Instead, the torn ACL is replaced with a piece of tendon. The tendon is usually taken from another part of your leg. However, it may also be taken from a donor. This is known as a graft.

The operation is usually done through a few small incisions in the knee area. Scopes are inserted through these incisions so the surgeon can look and work inside the knee.

The scopes allow the surgeon to replace the torn ACL with the graft. The surgeon will make sure the knee has the full range of motion and the graft is stable before the surgery is over.

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At the end of the operation, the small incisions are closed. Usually the patient can go home the same day.

Risks and Complications

This operation is very safe. There are, however, several possible risks and complications. These are very unlikely but possible. You need to know about them just in case they happen. By being informed you may be able to help your doctor detect complications early.

The risks and complications include those related to anesthesia and those related to any type of surgery.

Risks of general anesthesia include nausea, vomiting, urinary retention, cut lips, chipped teeth, sore throat and headache. More serious risks of general anesthesia include heart attacks, strokes and pneumonia.

Your anesthesiologist will discuss these risks with you and ask you if you are allergic to certain medications.

Blood clots in the legs can happen due to inactivity during and after the surgery. These usually show up a few days after surgery. They cause the leg to swell and hurt.

Blood clots can become dislodged from the leg and go to the lungs where they will cause shortness of breath, chest pain and possibly death. Sometimes the shortness of breath can happen without warning. Let your doctor know if you experience shortness of breath or chest pain. Getting out of bed shortly after surgery may help decrease the risk of blood clots causing complications.

Some of the risks are associated with any type of surgery. These risks include:

1. Infection, deep or at the skin level
2. Bleeding, either during or after the operation
3. Skin scars that may be painful or ugly

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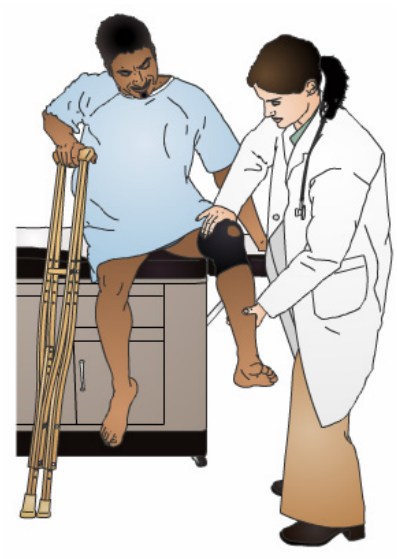
Other risks and complications are related specifically to this surgery. These are also very rare. However, it is important to know about them.



After the operation, the knee may not have the normal full range of motion. The knee may also be stiff or weak.

Though rare, there is the risk that the area the graft was taken from may not heal well.

If the graft tissue comes from a donor, there is a small risk of disease transmission. However, most grafts are taken from one of your own tendons. Ask your doctor if your own tendon will be used for the graft or if the graft tissue will come from a donor.

In young children or teens, ACL repair may affect bone growth due to growth plate injury. For this reason, surgery is usually delayed until the bones are mature.

Sometimes the pain may not be relieved by the operation. It may even be worse than before the surgery, especially in the kneecap. However, this rarely happens.

There is also a very small risk of injuring structures close to the knee, such as arteries, veins and nerves. Such an injury can lead to weakness, paralysis and decreased sensation in the leg. Other surgeries may be necessary to fix such problems.

After the Surgery

Most patients go home the same day as the operation.

You may be given a knee brace to wear for a short period of time after the operation. You may also need to use crutches to keep weight off your knee as it heals.

Physical therapy is needed after the operation to rehabilitate your knee.

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Summary

The ACL is a ligament in the center of the knee. Ligaments of the knee joint help stabilize and protect the knee from injury. An ACL injury is the main reason an ACL repair surgery may be needed. The most common knee ligament injury is a tear in the ACL.

ACL repair surgery is very successful in decreasing pain and stabilizing the knee. It also helps athletes return to their sports. This operation is very safe with good results. However, as you have learned, complications may happen. Knowing about them may help you detect them early if they happen.

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