



| Anterior Cruciate Ligament (ACL) Tears

Knowing what to expect for ACL surgery is key for a healthy surgery and recovery. Our sports medicine specialists are committed to providing excellent care to help you throughout your journey.

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Your knee and the ACL

KNEE ANATOMY

Four bands of tough tissue, or ligaments, make it possible for the human knee to be flexible and still remain stable and strong. One of these ligaments likely to suffer damage is the anterior cruciate ligament, or ACL.

The ACL is a strong ligament that allows you to pivot, twist and turn. It connects the tibia in the lower leg with the femur in the thigh, preventing these two bones from separating and keeping the tibia from sliding too far forward.

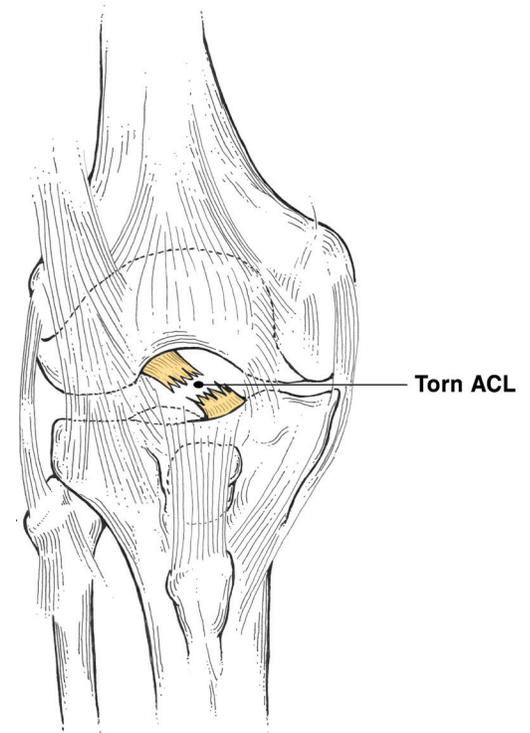
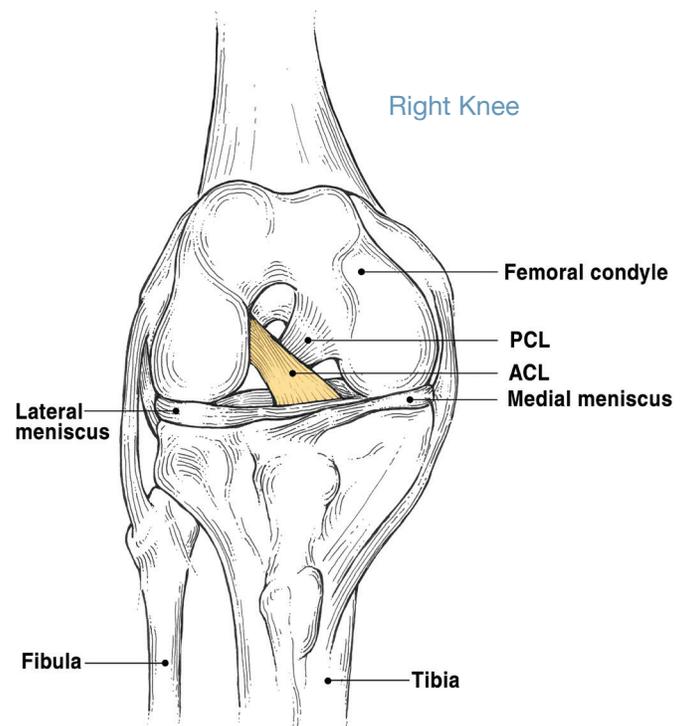
The ACL is under stress in athletic activity, where it provides stability during stop-and-go action and pivoting motions. Soccer, basketball and football all require participants to make vigorous and repeated motions that work the ACL. Many injuries to the ACL occur when an athlete initiates a sudden turn or “cut”, but the foot stays planted on the court or ground. Landing from a jump with a twisting motion, as might happen in volleyball or basketball, also can injure the ACL. Not everyone who injures his or her ACL is an athlete. Active lifestyles make it more common for people at any age to suffer an injury to the ACL.

SYMPTOMS AND DIAGNOSIS

The signs that you may have damaged or torn your ACL include:

- A noise like a “pop”
- Pain at the joint, especially with walking or bending
- Immediate swelling
- A feeling of instability in the knee

An injury to the ACL often, but not always, requires surgery. If you suspect that you have torn your ACL, an orthopedic physician will evaluate the damage and work with you to devise the most appropriate therapy. If surgery is required, it will be followed by an extensive rehabilitation program customized to help you return to full activity levels, work, and athletics.





Treatment options

NONSURGICAL TREATMENT

People who choose not to have surgery to repair a torn ACL usually do not participate in sports or activities that involve running, twisting, cutting or jumping, or in aggressive activities that place stress on the knee.

By undertaking a rehabilitation program, it is possible to function normally without having surgery to reconstruct a torn ACL. Those who foresee only occasional recreational activity may choose rehabilitation over reconstruction.

If your lifestyle permits and you elect not to have surgery, you will be referred to a physical therapist for the development of a plan that will strengthen the knee joint, build your range of motion, control swelling and pain and return you to a normal walking gait.

SURGICAL TREATMENT

Most often, surgery is required to replace a torn ACL to reestablish normal knee stability. Attempts to repair a torn ACL by suturing the fibers back together have proved unsuccessful. Instead, surgeons introduce another piece of tissue, called a graft, that will serve as your new ACL. Surgery is done on an outpatient basis, and the complete surgery typically takes about an hour depending on any coexistent injuries.

The tissue that is harvested to serve in this role can be either an autograft (your own tissue) or an allograft (tissue from another donor). Autografts most commonly come from the tendon that connects your kneecap to the bottom leg bone (the patellar tendon) or from your hamstring tendons. Allografts can come from the patellar tendon or other soft tissue such as the Achilles tendon or the hamstring.

Surgery will be performed using a minimally invasive technique that employs an arthroscope — a modern tool that requires only tiny incisions to be made. These small incisions serve as ports through which the surgeon inserts long, thin instruments.

Tunnels are formed in the bones, and the ends of the graft are placed in the tunnels and affixed to the bones to stabilize them while healing occurs. The articular cartilage and meniscus in your knee will be examined and may require surgical repair or removal as to be determined by your surgeon.

Surgery

PREOPERATIVE CARE

Once you have decided to have an operation to treat your knee, a member of our team will schedule your surgery. Together, you will set a date for the surgery and discuss the surgery location will occur, taking into account convenience for you and your loved ones.

Prior to your surgery, you will be referred to a rehabilitation facility that is convenient for you. During preoperative rehabilitation, you will be instructed on walking as normally as possible, decreasing swelling in your knee, getting your knee to straighten out all the way, and getting as much bend back in your knee as possible.

Your preoperative therapy will:

- Decrease swelling
- Increase range of motion
- Improve your gait so you walk without a limp
- Increase the strength in your leg
- Educate you on postoperative exercises
- Educate you on walking with crutches

Your rehabilitation team will discuss these things with you and show you exercises that will help you get ready for surgery. These exercises should be done in your therapy session as scheduled and at home on a daily basis.

In order to decrease your swelling, you should use an ice pack and elevate your leg for 20 minutes, three to five times per day. All of the exercises you learn prior to surgery will make your post-operative therapy easier.

NIGHT BEFORE SURGERY

Be sure and eat a filling dinner. You cannot eat or drink anything after midnight.

DAY OF SURGERY

Arrive at the facility about 90 minutes prior to surgery.

AFTER YOUR SURGERY

After surgery, you will be evaluated by the anesthesiologist and recovery room nurses and will be discharged once you are alert, medically stable, and are comfortable using crutches. Most patients are discharged within an hour following surgery.

Medication: You will be given a prescription that will help with pain control.

Dressings: Leave your dressings on until instructed by your physician to remove them. **LEAVE THE TAPE STRIPS OVER YOUR INCISIONS.** These will stay on for one to two weeks following your surgery and will slowly peel off.

Showering: Your physician will let you know when you can begin showering. **DO NOT** soak in the bathtub or pool for 14 days to avoid infection and excessive scarring.

Icing: Icing is very important to decrease the swelling and pain and to improve your mobility. After 24 hours, continue to use the cuff or ice at least three times a day, for 20 minutes each time.

Weight Bearing: Your physician will give you specific instructions about putting weight on your leg following your surgery.

Activities: Rest and elevate your leg for the first 24 hours by placing a pillow under your calf/ankle. Continue to elevate your knee above your heart as much as possible for the first six weeks. It is very important to get your knee as straight as possible, as soon as possible.

CALL YOUR SURGEON IMMEDIATELY IF YOU HAVE:

- Severe pain that is not relieved by your medication
- Temperature over 101.5°
- Redness or increased swelling of your knee

Please call **(314) 514-3500** during normal business hours, or call **(314) 388-5550** after 5pm to reach our after-hours exchange. Additional contact information can be found on page 7.



POSTOPERATIVE REHABILITATION

After your surgery, you will receive pictures of your surgery, a written instruction sheet customized for your situation, and a set of rehabilitation guidelines. This information will answer most of your questions about recovery.

You will be scheduled to begin physical therapy sometime between 48 and 72 hours after your surgery. At an initial visit with your physical therapist, you will receive training in the exercise program developed for you. You will also learn how to care for your wound and how much weight you should place on the leg.

Your physical therapist will also work with you to set goals for your rehabilitation. How soon your leg will be able to bear weight depends in part on whether your surgeon has performed a meniscus repair in addition to the ACL reconstruction.

Complete rehabilitation will take five to nine months. At the beginning, your progress will be closely monitored, and you will be coached about the right way to do your exercises. As you progress, you will be able to do more of the exercises on your own. If you have any questions at all, you should contact your rehabilitation team.



CRUTCH USE TIPS

For an instructional video to help you use your crutches, visit:
ortho.wustl.edu/crutches



RETURNING TO SCHOOL, WORK AND SPORTS

When you will be able to return to your favorite sport or activity depends, in part, on what the activity is. Also in the equation is your physiology, or physical constitution and structural makeup, over which you have no control. It controls the speed at which you heal.

The most important thing you can do is carefully follow the exercise regimen designed to strengthen your leg. After enough time has passed for you to heal and after you have restored your leg strength, you should be able to return to the physical activity of your choice.

However, you should be aware that surgery does not always completely correct instability. Your doctor will recommend any lifestyle changes that he or she believes are necessary.

After you have regained your strength and eliminated most of your pain, it is important to continue to pursue a physical fitness program with an emphasis on orthopedic health and strength.

You should develop a lifelong plan for physical activity that takes into account both muscle strength and aerobic conditioning. An exercise plan will help you prevent future complications. Ask your rehabilitation team for advice.

Resources

+ **HOW TO FIT AND USE CRUTCHES:**
ortho.wustl.edu/crutches

+ **MEET OUR SPORTS MEDICINE TEAM:**
ortho.wustl.edu/sports

Schedule an appointment:

(314) 514-3500
ortho.wustl.edu



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