

What You Need to Know About ACL Reconstruction

*for information on this and
other injuries, see our web site at
VanderbiltOrthopaedics.com*

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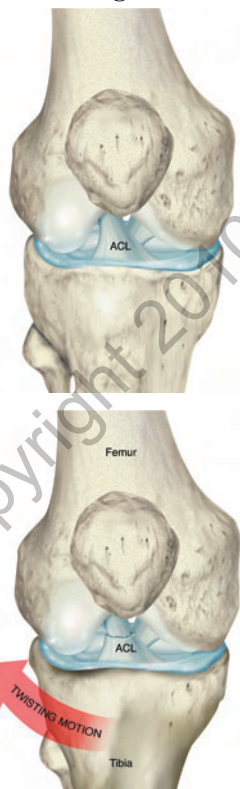
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What is an ACL Tear?

The ACL (anterior cruciate ligament) is the main anterior stabilizer of the knee. It is a strong ligament inside your knee that allows you to be able to turn, cut, twist and pivot. While a torn ACL used to be an injury exclusive to athletes, with today's active lifestyles it is becoming more common in any age group and at various activity levels. There may also be other structures in your knee that are injured at the same time. These may include your meniscus (fibrocartilage cushion in your knee), or other ligaments. The treatment plan will be influenced by what structures are involved, your current activity level, and what your desired activity level will be. The final plan of care will be decided upon by you and your doctor.

There are four ligaments that connect the knee joint. The best known of these ligaments is the Anterior Cruciate Ligament or ACL. The ACL connects the Tibia, a bone of the lower leg to the Femur, the bone of the upper leg. It prevents the Tibia from sliding (translating) too far forward from the Femur.



The ACL is especially crucial in sports where it provides stability during stop/go/pivot motions (Basketball & Football). Most injuries to the ACL occur when an individual makes a sudden cut or turn and the foot stays planted on the ground. Injuries can also take place when landing improperly from a jump (Volleyball & Basketball).

Signs and Symptoms:

- Immediate Swelling
- Pain
- Often a “pop” is heard
- Pain with walking
- Pain bending the knee
- Feeling of instability

An injury to the ACL may require surgery followed by an aggressive rehabilitation program for a healthy return to high levels of activity. If you suspect that you have injured your knee, seek out a qualified physician for an evaluation.

Treatment Options

Non Operative Approach:

Some individuals who tear their ACL in an occasional recreational activity may choose to have only rehabilitation to their knee and may elect not to have surgery. People who decide not to have surgery usually don't have a very active lifestyle or participate in sports that would place stress on the knee. Most people with this type of lifestyle will be able to function normally without having surgery to reconstruct their ACL.

Active individuals often question whether they should have surgery or wear a knee brace. Research has shown that custom and off-the-shelf braces do not protect against further knee injury in the athletic, active population. If you and your physician choose a brace, please discuss the risks of additional knee injuries, and the type of brace to be worn.

Prior to undergoing ACL reconstruction, most patients are required to achieve normal walking, nearly full motion and strength, and reduced swelling.

Operative Approach:

Once you have decided on surgery to treat your torn ACL, you will meet with one of the surgery schedulers. This is where you will set a surgery date, schedule your follow-up visit with the doctor, and if you will be receiving therapy here at Sports Medicine, set up your first physical therapy appointment. Your physical therapy will begin the day after your surgery. Some patients may require a preoperative visit with the Anesthesiology office and will be scheduled at this time as well.

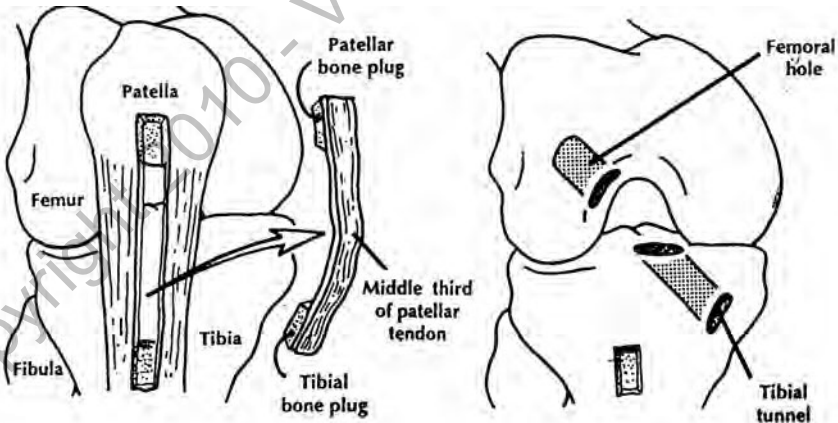
Although it is uncommon, due to different lifestyles and activity levels, some people may be able to function without surgical intervention. If you are one of these patients, you will be referred to physical therapy to work on walking normally, strengthening, range of motion, and controlling your swelling and pain.

Surgical Techniques

Since a repair (or suturing together) of torn ACL fibers is not effective, another piece of tissue (graft) is chosen by you and your doctor to place within your knee using the arthroscope. Autograft means your own tissue. These choices include your patellar tendon (the tendon from your kneecap to the bottom leg bone) or your hamstring tendons. Allograft tissue comes from a donor. These tissues include either a patellar tendon or other soft tissue including most commonly the hamstrings or achilles tendon.

In scientific review of autograft choice, the graft does not influence outcome. Rather, the accurate placement by surgeons, stable initial fixation of the graft, patient compliance, and rehabilitation are believed to optimize the results.

Your surgeon performs the surgery through the arthroscope. The skin incisions are only for the surgeon to harvest the graft if you choose autograft and to drill tunnels at the original site of the ACL. The graft is placed within the tunnels and fixed by a variety of choices to provide immediate stability prior to healing and to help stabilize the graft to the bone.

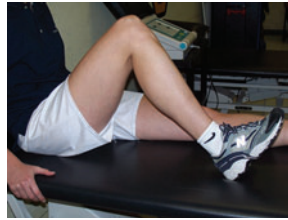


Preoperative Care

If you will be having surgery, you will have an evaluation with a physical therapist who is a member of the team responsible for your care. The team consists of the doctor, PT, and ATC. 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:

1. Decrease swelling
2. Increase range of motion
3. Improve gait so you walk without a limp
4. Increase the strength in your leg
5. Educate you on postoperative exercises
6. Educate you on crutch walking



Your rehabilitation team will discuss these things with you, and show you exercises that will help you get ready for surgery and make your postoperative therapy easier.

Preoperative Requirements

Prior to your surgery you may be instructed to perform a series of exercises in order to build up your strength and maintain normal motion. This will greatly help your recovery process after surgery. Please perform all the following 1 to 2 times a day and 3 sets of 10 repetitions on each exercise.

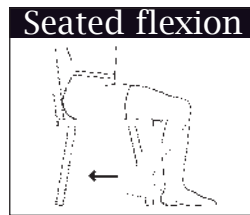
Here are a few things we will want to see prior to going into surgery:

- You must be able to demonstrate normal gait, or walk with out a limp. Some of you, however, due to the extent of your injury, will be instructed to stay on your crutches.
- You must obtain at least 120 degrees of flexion or bend.

These are the exercises you can perform to help achieve this:

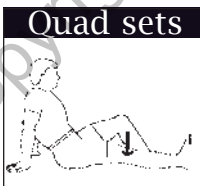


Slide heel back as far as possible

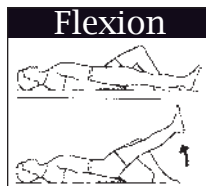
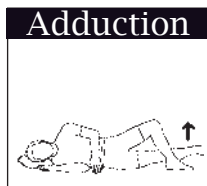


Slide heel back, bending knee

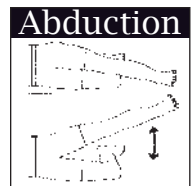
These exercises will help you stay strong:



Push knee down



Lift leg up as demonstrated above



- Next you must have minimal swelling. You can achieve this by using an ice pack with elevation for 15-20 min. 3-5 times a day.

Postoperative Care

After surgery you will be given a written instruction sheet, pictures of your surgery, and a prescription for therapy (pink rehab sheet), a copy of rehabilitation guidelines, and a questionnaire, all in a Vanderbilt Sports Medicine folder. This information will answer most of the questions you may have during your recovery.



You will be going to physical therapy (PT) the day after your surgery. At the initial evaluation you will meet with the PT who, along with an Athletic Trainer (ATC), will be responsible for your rehabilitation. During this visit, you will be instructed in Phase 1 exercises, wound care and how much weight you should place on your operated leg. In addition, your therapist will ask you to help set your goals for rehabilitation. If you have an ACL reconstruction with no meniscal repair, you will be weight bearing when you are able to feel your leg again after surgery. If you have a meniscal repair along with your ACL reconstruction, you will be on crutches from 4 to 6 weeks.

The entire rehabilitation process will take 5 to 6 months. During the early phase of your rehabilitation you will be closely monitored. As you progress, you will be able to do more exercises on your own. If you have any questions concerning your rehabilitation process, they should be directed to your Rehabilitation Team.

Crutch Use

To walk with crutches:

- Pull crutches under your arms and press them into your ribs.
- Move the crutches ahead of you 6 to 12 inches.
- Push down on the handgrips as you step up to or slightly past crutches.
- Make sure to bear weight on your hands, not under your arms.
- Check your balance before you continue.

To sit down in a chair:

- Back up to the chair until you feel the chair on your legs.
- Put both crutches in your hand on the affected side, reach back for the chair with the other hand.
- Lower yourself into the chair.

To get up from the chair:

- Hold both crutches on your affected side.
- Slide to the edge of the chair.
- Push down on the arm of the chair on the good side.
- Stand up and check your balance.
- Put crutches under your arms, pressing crutches into ribs.

Going Upstairs:

- Start close to the bottom step, and push down through your hands.
- Step up to the first step, remember the good foot goes up first!
- Next, step up to the same step with the other foot, making sure to keep the crutches with your affected limb.
- Check your balance before you proceed to the next step.
- Make sure someone is there to help if you need it.

Going Downstairs:

- Start at the edge of the step, keeping your hips beneath you.
- Slowly bring the crutches with your affected limb down to the next step (the bad foot goes down first)!
- Be sure to bend at the hips and knees to prevent leaning too far forward, which could cause you to fall.
- Check your balance before you continue.
- Make sure someone is there to help if you need it.

Initial Postoperative Instructions

Medication: You will be given 2 prescriptions:

1. One for pain, which is a codeine derivative and should be taken if necessary.
2. One to control inflammation, which should be taken as directed.

Dressing:

- Leave your dressing on unless your first postoperative doctor or therapy visit is more than 48 hours after your surgery.
- After 48 hours you may remove your dressing.
- LEAVE THE TAPE STRIPS OVER YOUR INCISIONS. These will stay on for 1_ to 2 weeks and will slowly peel off.

Showering:

- You may shower and get your incisions wet 48 hours after your surgery.
- DO NOT soak in a tub or pool for 7-10 days to avoid excessive scarring and infection.

Cryocuff:

- Keep the Aircast cuff on at all times, exchanging with cold water every hour.
- Icing is very important to decrease swelling and pain and improve your mobility.
- After 24 hours, continue to use the cuff or ice 3 times a day, 15-20 minutes each time for two weeks.

Weight Bearing:

ACL Reconstruction only: You may begin to put weight on your leg when you have the feeling back in your leg focusing on striking the ground with your heel.

ACL with Meniscus Repair: You will be non-weight bearing for 4-6 weeks

Femoral Nerve Block:

You were given an injection to block the conduction of your femoral nerve which conducts pain and controls your quadriceps muscle. Therefore, you should be relatively pain free, but have little control of your leg.

Immobilizer:

You should wear your immobilizer until the feeling returns in your leg.

Activities:

- Rest and elevate your leg for the first 24 hours by placing a pillow under your calf and/or ankle.
- DO NOT place a pillow under your knee.

** It is very important to get your leg as straight as possible, as soon as possible.

*****Complications--Notice:**

Call us at (615) 322-7878 weekends, day or night if:

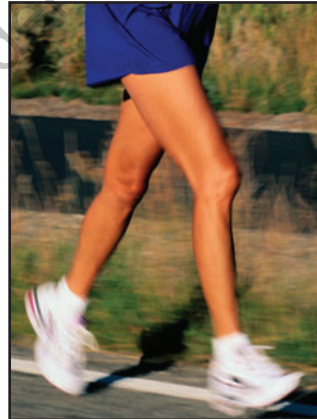
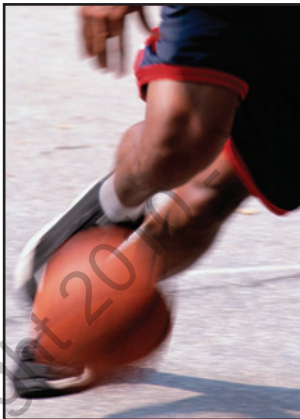
- You experience severe pain that is not relieved by your medicine
- You experience a temperature over 101.5°, redness or swelling in your thigh or calf

Return to Sports/Work

The type of activity you want to participate in will help determine when you can return to it after surgery. The other consideration is physiology, which cannot be influenced by anything other than time to heal. The most important thing you can do is to regain your strength. This cannot be accomplished without exercising your leg.

After the biology of healing has been considered, and your strength and stability fully restored, you should be able to return to the activity of your choice. Your doctor may, however, recommend lifestyle changes for you if you present with joint changes such as arthritis or instability that could not be corrected with surgery.

A common question people ask when returning to sports is whether or not they need a knee brace. Current research has shown that wearing a knee brace does not decrease chances of ACL re-injury. If you and your physician choose to brace, please discuss the risk of additional knee injury and the type of brace to be worn.



The rehab team will help you relearn normal movements and pain free activities to meet your particular lifestyle needs. After you have successfully eliminated most of your pain and have returned to your normal function, it is important for you to continue to be involved in some form of orthopaedic fitness to insure continued good physical health and activity levels. You should consider a lifestyle of organized physical activity to help prevent future complications. Your rehab team can advise you on this step.

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