

Anterior Cruciate Ligament Tear (ACL Tear)

The anterior cruciate (an 'TEER ier KROO she at) ligament (ACL) is one of four main ligaments in the knee. Ligaments are tissues that hold the bones together. The ACL is in the middle of the knee between the shinbone (tibia) and the thighbone (femur). The ACL provides support to the knee when pivoting, jumping and making quick turns. There is another area of tissue in the knee called the meniscus (men IS cus). The meniscus is the rubbery cartilage disc between the shin (tibia) and thighbone (femur). It acts as a “shock absorber” in the joint. When the ACL tears, there may often be an injury to the meniscus.

Common causes of injury

The most common cause of an ACL tear is a non-contact pivoting injury. Most often these injuries occur in sports, such as basketball, soccer, football, etc.

Symptoms

Your child may hear or feel a pop at the time of injury. He or she may also complain of knee pain. The child's knee may swell after an injury to the ACL. The tear does not keep your child from walking, but it may make the knee feel like it will give out.

Diagnosis

After an injury, your child's knee may be very swollen. If the doctor thinks there may be an injury to the ACL, he may suggest your child wait a few days before scheduling an appointment. This allows the swelling to go down. It will make the exam easier and less painful.

If the doctor examines the knee and feels unsteadiness or abnormal movement, there may be damage to the ACL. In some cases, your child's doctor may need X-rays to check for injury to the bone. The ACL and meniscus are made of soft tissue.

A tear in soft tissue will not show up on an x-ray, so the doctor may order an MRI (magnetic resonance imaging) test. This test allows the doctor to see if there is a tear in the ACL or injury to the meniscus.

Initial treatment

- **RICE:** Rest, Ice, Compression, Elevation
- Knee brace
- Crutches
- Pain relievers, such as Motrin[®] or Tylenol[®]: Motrin[®] helps reduce pain and swelling; Tylenol[®] may also help with discomfort. Motrin can often be taken every six hours and Tylenol can be taken every four hours. These medicines can be alternated every three hours as needed for pain control.

Surgery

When the ACL tears, the ends cannot be sewn back together. The ligament needs to be rebuilt to allow the child to function in sports or activities that are more physical. Surgery to rebuild the ACL is called arthroscopic (ar thro SKO pic) ACL reconstruction. The doctor rebuilds the torn ligament using part of your child's hamstring or other tissue. It is usually an outpatient surgery. Younger children who have the surgery may stay overnight to help manage their pain and swelling after surgery. An older child can go home after surgery when he or she is able to drink and to use crutches or a walker safely.

After surgery

▪ Brace and crutches

After surgery, your child will use crutches and wear a hinged knee brace. Your child will be taught how to use the brace and crutches. It is very important that he or she use the brace and crutches as instructed.

▪ Ice

You or your child will also be taught how to use the Polar Ice device. It is recommended that your child use the machine regularly for the first 24-48 hours after surgery to help decrease swelling. After 48 hours, you may begin using it off and on at times for 30 minutes, 3-4 times every day until the swelling lessens.

▪ Pain Medicine

Your child will get a prescription for pain medicine. The doctor may recommend that you add Motrin[®] for pain relief as well. Motrin[®] will help with swelling and will help your child stop using the pain medicine faster.

▪ Exercises

Your child will get exercises to do. The muscles at the site of surgery will be weak, but it is important for your child to do these exercises. They help build up the strength of the leg muscles. This helps with healing.

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After surgery, continued

Exercises, continued

At the first appointment after surgery, your child will get a prescription for physical therapy. The child should start physical therapy as soon as possible after the first follow-up appointment (usually one week after surgery). The exercises at home and in physical therapy will help your child recover quicker. They will help reduce swelling and improve the range of motion. See Helping Hand HH-II-50, *ACL Exercises*.

Follow-up

Your child's first follow-up appointment will be one week after surgery. At this time the incisions will be checked and any dressings will be removed. You can talk to your child's care team about amount of pain. You will get the prescription for physical therapy.

When to call the doctor

Call the Orthopedic clinic at 614-722-5175 any time with questions or if your child has:

- Pain that gets worse
- A new rash
- Fever higher than 101° F by mouth
- Chills
- Nausea or vomiting
- Drainage of any kind from the incision
- More redness and warmth at the incision

Expectations for recovery

In most cases, it will take 6 to 9 months of recovery until your child can return to normal sports or activities. Your doctor and physical therapist will work with your child to increase the strength and motion of the knee. Your child's doctor has a specific set of rules for activities following an ACL reconstruction surgery, and the physical therapist will follow this timeline. It is important for your child to not do activities until the doctor or physical therapist approves. This will allow the ACL to fully heal.