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## ANTERIOR CRUCIATE LIGAMENT TEAR

### ■ ■ ■ **Indications** (Who Needs Surgery, When, Why, and Goals)

- Athletes who regularly perform sports that require pivoting, cutting, and jumping and landing
- Patients with recurrent giving way or knee instability, despite 3 to 6 months of an adequate rehabilitation program
- Patients with an anterior cruciate ligament (ACL) tear and a reparable meniscus tear
- Patients with an ACL tear and other ligament injuries in the same knee

Surgery usually is not recommended until the injured knee has full range of motion and muscle control of the thigh (usually 3 or more weeks following injury). In surgical repair of an ACL tear, the torn ligament is replaced because the ligament, when torn, usually cannot be repaired (sewn together). Results after repair of the ligament are not as good as after reconstruction (replacement) of the ligament.

The goal of the operation is to restore the function of the torn ligament—that is, to allow a return to sports that require pivoting, cutting, change of direction, and jumping and landing. ACL grafts undergo a degeneration process (the graft is usually at its weakest 6 weeks after the surgery) followed by a regeneration process, which may take up to 1½ years.

### ■ ■ ■ **Contraindications** (Reasons Not To Operate)

- In those individuals who do not perform sports that require pivoting, cutting, and jumping and landing frequently, surgery usually is not required.
- Individuals who exercise by jogging, cycling, or swimming only usually do not require ACL surgery.

- Persons who demonstrate an inability or unwillingness to complete the postoperative program or to perform the rehabilitation necessary should not have surgery.
- Infection of the knee, current or previous, is a concern but not an absolute contraindication.
- If the patient is not yet fully grown (skeletal immaturity), surgery may not be recommended until the patient is fully grown, but this is not an absolute contraindication.
- Persons with severe knee arthritis should not have surgery.

### ■ ■ ■ **Risks and Complications of Surgery**

- Infection; bleeding; injury to nerves (numbness, weakness, paralysis) of the knee, leg, or foot (it is not uncommon to have some numbness, temporary or permanent, on the outer part of the upper leg)
- Rupture or stretching of the reconstructed ligament, causing recurrent instability
- Knee stiffness (loss of knee motion)
- Rupture of the patellar tendon or patellar fracture (both uncommon)
- Pain from screw used to hold the graft (rare)
- Clot in the veins of the calf or thigh (deep venous thrombosis, phlebitis) that may break off in the bloodstream and go to the lungs (pulmonary embolus) or brain (causing a stroke)

### ■ ■ ■ **Technique** (What Is Done)

Surgery is usually performed with the assistance of an arthroscope; it may be done on an outpatient basis (you go home the same day), or you may stay in the hospital overnight. The torn ACL is replaced by a graft. Grafts most commonly used include (1) the central third of the patellar tendon, from the same or opposite knee; (2) hamstring tendon; (3) quadriceps tendon; and (4) allograft (transplant from a cadaver) patellar tendon or Achilles tendon. Each graft has its benefits and risks, and the type used for your graft is

determined based on a discussion between you and your surgeon.

When the torn ACL is removed, some bone in the knee is shaved to help the surgeon see where the graft goes and to help reduce pressure on the graft. Other structures in the knee are examined at the time of reconstruction, including the meniscus and articular cartilage. Bone tunnels are drilled in the leg bone

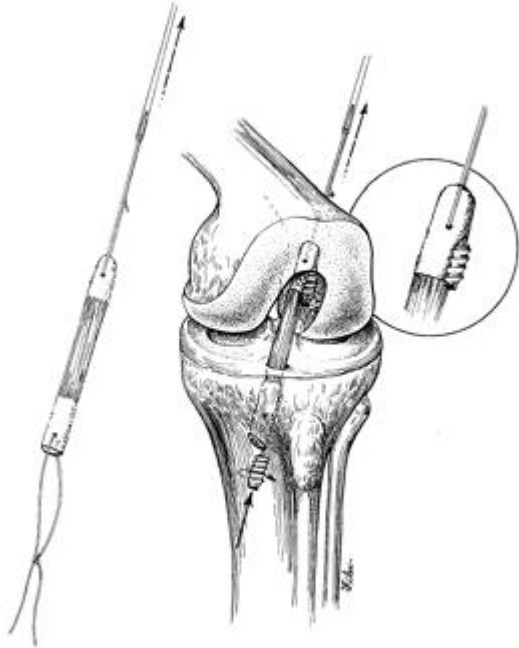


Figure 1

From Nicholas JA, Hershman EB: *The Lower Extremity and Spine in Sports Medicine*. St. Louis, Mosby Year Book, 1995, p. 852.

and the thigh bone to place the ligament in almost the exact same position as the torn ACL was. The graft is held in position with screws, heavy sutures (stitches), spiked washers, or posts. The devices used to hold the graft in place usually do not need to be removed.

### ■ ■ ■ Postoperative Course

- This surgery is often felt to be therapy dependent. In other words, much of the success of ACL reconstruction is dependent on the patient and therapist and being able to follow through on and maintain the therapy schedule.

- Keep the wound clean and dry for the first 10 to 14 days after surgery.
- Ice the knee for 20 minutes every 2 to 3 hours while awake for the first 1 to 2 weeks after surgery.
- Your physician will prescribe pain medications. Take only as directed and only as much as you need.
- You may be given a knee brace after surgery.
- Goals for rehabilitation of ACL reconstruction include reducing knee swelling, regaining knee range of motion, and regaining strength in the leg and thigh muscles. Check with your surgeon or physical therapist for the exact exercises to perform. Often a graduated program is specified.

### ■ ■ ■ Return To Sports

You may return to sports when there is no pain and when full knee range of motion, muscle strength and endurance, and functional use has been restored. This usually requires 4 to 6 months following ACL reconstruction.

### ■ ■ ■ Notify Our Office If

- You experience pain, numbness, or coldness in the foot and ankle
- Blue, gray, or dusky color appears in the toenails
- You experience increased pain, swelling, redness, drainage, or bleeding in the surgical area
- You have signs of infection (headache, muscle aches, dizziness, or a general ill feeling with fever)
- New, unexplained symptoms develop (drugs used in treatment may produce side effects)

**Do not eat or drink anything before surgery. Solid food makes general anesthesia more hazardous.**

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