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Anterior Cruciate Ligament Reconstruction Surgery

Indications for Surgery

- Athletes with an anterior cruciate ligament (ACL) tear who regularly perform sports that require pivoting, cutting, and jumping and landing
- Patients with recurrent giving way or knee instability despite an adequate rehabilitation program
- Patients with an ACL tear and a repairable meniscus or articular cartilage tear
- Patients with an ACL tear combined with other ligament injuries in the same knee
- Young patients who are physically active regardless of whether they have open growth plates
- Patients with failed previous ACL reconstructions



Normal ACL on MRI



ACL tear on MRI

Surgery is typically performed after the injured knee regains full range of motion and proper muscle control, generally 3 to 4 weeks following the injury. During ACL surgery, the torn ligament is replaced (reconstructed) with a graft because the ligament is so damaged that a simple repair is usually not sucessful. Common grafts used to replace the torn ligament include the hamstring tendons, bone-patellar tendon-bone, quadriceps tendon or allografts from cadavers. The goals of the surgery are to reconstruct the torn ligament, repair any other damaged structures (including meniscus, other ligaments, or cartilage) and restore function and stability to the knee.





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Contraindications to Surgery

- Individuals who do not need to perform sports/activities requiring frequent pivoting, cutting, jumping and landing may consider conservative management
- Persons who demonstrate an inability or unwillingness to complete the necessary postoperative rehabilitation program should not have surgery
- Infection of the knee, current or previous, is a concern, but not an absolute contraindication
- Severe knee arthritis

Potential Surgical Risks and Complications

- Infection
- Nerve injury (numbness) in the skin around the knee. It is not uncommon to have some small area of numbness, temporary or permanent, around the incisions
- A post-operative infection often requires ACL graft removal to treat the infection.
- Re-rupture or stretching of the reconstructed ligament, causing recurrent instability (more common with allografts)
- Knee stiffness (loss of knee motion) requiring prolonged rehabilitation or repeat surgery
- Rupture of the patellar tendon, patellar fracture, patellofemoral arthritis, kneeling pain for bone-tendon-bone grafts
- Pain from the fixation device used to hold the graft (rare)
- Rarely, a clot in the veins of the calf or thigh (deep venous thrombosis, phlebitis) that can break off in the bloodstream and go to the lungs (pulmonary embolus)

Hospitalization and Anesthesia

- Outpatient surgery (go home the same day)
- General anesthetic, femoral nerve block, or adductor canal block (See "Your Surgical Experience" packet)

General Surgical Technique

Dr. Chudik performs ACL surgery with the assistance of an arthroscope, a camera that he inserts through small incisions and allows him to view the inside of the knee joint. The surgery is usually performed as an outpatient procedure (go home the same day) with general anesthesia and an adductor or femoral nerve block. The nerve block involves injecting numbing medicine around the nerves of the leg by the anesthesiologist just prior to the surgery. The torn ACL is replaced by a graft. Each graft type has its own risks and benefits. Prior to surgery, Dr. Chudik will discuss the type of graft that is best for you. During the surgery, the other ligaments, meniscus and cartilage of the knee are evaluated and treated appropriately. Arthroscopically, the torn remnants of the ACL are maintained, the bone prepared, and the graft is placed **anatomically** where the injured ACL used to be. The graft is held in position with special fixation devices that usually do not need to be removed.



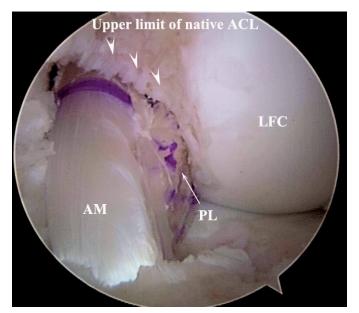
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Postoperative Course

- Crutches and partial weight bearing for approximately 4 weeks for an isolated ACL reconstruction
- A post-op knee brace for only 24 hours if a nerve block was used, or 6 weeks if the meniscus is repaired, or if another ligament also had to be repaired/reconstructed
- Keep the incisions clean and dry for the first 10 to 14 days after surgery. Showering lightly is allowed after 2 weeks but wounds cannot be submerged under water for at least 3 weeks
- Driving after 6 weeks if right lower extremity is involved
- Return to school/sedentary work in less than 1 week as long as the extremity can be elevated
- Physical therapy to restore motion, strength, and proprioception (balance) for up to 4 to 6 months
- After the knee is fully rehabilitated, **Dr. Chudik's ACL Return to Sport Testing** is performed to determine that the knee is fully rehabilitated and more importantly, that any errors in movement patterns known to put patients at risk for knee injury are corrected and the patient can return to activities safely



 Arthroscopic picture of an ACL graft in the knee following ACL reconstruction.
AM: anterior medial bundle of graft
PL: posterior lateral bundle of graft
LFC: lateral femoral condyle



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Return to Activity

- Return to walking and regular daily activities once off crutches (usually about 4 to 6 weeks after surgery)
- Return to light running at about 4 months post-op
- Return to sports at 6-8 months post-op

Preoperative instructions

- Discontinue birth control pills
- Stop blood thinners such as aspirin, Coumadin[®], Lovenox[®], Xarelto[®] according to the prescribing doctor's directions
- Stop anti-inflammatory medicines such as ibuprofen, Advil[®], Motrin[®], Naprosyn[®], Alleve[®], etc.)
- Stop nutritional supplements and drinks like Vitamin C, ginseng, ginkgo biloba, etc..
- Stop smoking for surgery and during the first six weeks postoperatively to allow proper tissue healing

Do not eat or drink anything after midnight the evening before surgery

Scheduling Surgery

Contact Dr. Chudik's surgery scheduler at 630-324-0402 or contactus@chudikmd.com to:

- Schedule the date and location of surgery; the hospital will call the day before with the arrival time
- Schedule an appointment with Dr. Chudik's PA to complete pre-operative surgical education and other requirements
- Schedule a post-operative appointment with Dr. Chudik's team to remove sutures and review post-op instruction.

Notify My Office if Symptoms Worsen



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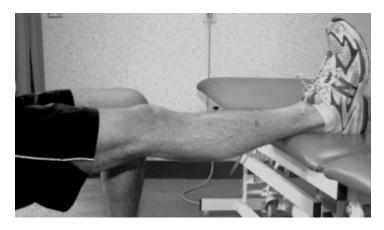


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Pre-Operative Simple Knee Exercises

Knee Extension



- 1. Sit with affected leg propped and the knee unsupported as shown. (A couch with a coffee table will work.)
- 2. Straighten your knee by contracting your quadriceps (front of thigh) muscles and by placing your hand on your thigh just above the knee and pushing down.
- 3. Hold this position for 5-10 seconds then repeat 15-20 times 2-3 times per day.

Knee Flexion



- 1. Lie on your back on the floor with your knee straight.
- 2. Place a medium sized ball under your leg. This exercise can be performed without a ball if not available or too difficult.
- 3. Slowly bend your leg towards your buttocks. Gently bend until you feel a good stretch in the knee. You may support assist your knee by grasping your thigh with your hands.



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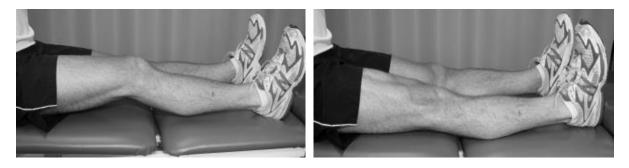


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- 4. Hold the stretch for 3-5 seconds then return to the starting position.
- 5. Repeat this exercise 10-15 times, 2-3 times daily.

Quadriceps Sets



- 1. Sit or lie on your back with the affected leg straight.
- 2. Tighten the muscles on the front of your thigh and push your knee down into the table.
- 3. Hold this position for 5 seconds then relax. Repeat exercise 10-15 times, 2-3 times daily.

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