

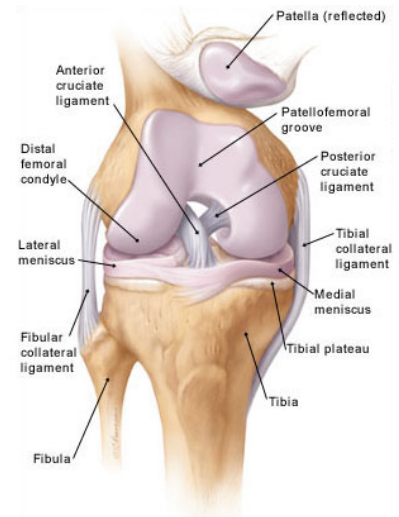


Knee Ligament Injuries

Understanding ACL, PCL, LCL, and MCL Injuries

Ligaments of the Knee

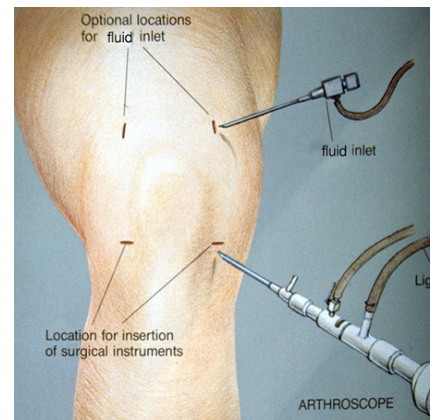
The knee is a mobile and complex joint that allows you to perform many movements and motions. The ligaments of the knee, such as the anterior cruciate ligament (ACL), the posterior cruciate ligament (PCL), and the lateral and medial cruciate ligaments (LCL, MCL), help control knee motions by connecting bones and by offering the knee joint stability. They also help the knee to absorb shock during motion and activity. There are two ligaments on the sides of the knees, the LCL and MCL, and two crossed ligaments in the center of the knee, the ACL and PCL. The ACL crosses from the back of the femur to the front of the tibia, and can be injured by twisting the knee or by changing directions too quickly (playing basketball, downhill skiing). The PCL prevents the tibia bone from sliding too far backwards, and is often injured when an object forcefully strikes the shin backwards (football, car accidents). The MCL connects the femur to the tibia along the inside of your knee joint. It is often injured by a side blow or injury to the knee (playing football). The LCL connects the femur to the fibula, and is often injured as a result of a direct blow to the inside of the knee joint (soccer, karate). After sustaining a ligament injury, the knee can feel unstable and cause disruptions in your everyday activities, such as walking.



Repairing Damaged Ligaments

Depending on your injury and other factors, surgical repair of the torn ligament(s) may be suggested. The type of surgery also depends on your injury. For example, ACL and PCL surgery is typically done using arthroscopy, or through a slender scope that contains a lens and a light source that allows your surgeon to look at your knee joint and surrounding tissues. Small incisions are made around the knee to insert the arthroscope, irrigating tool, and reparative instruments. The images are then projected on a television screen in the operating room, so that the physician has an enhanced view of the knee and ligaments.

MCL injuries are not able to be repaired with the use of an arthroscope, and require an open approach (an incision or cut to look inside the knee). ACL reconstruction involves replacing the damaged ligament with new tissue, or a graft. The graft may be from your own body (an autograft), using the hamstring tendon, or from a donor (allograft). The graft is passed through the drilled holes to replace the ligament, and is then fixed in place. Over time, this graft matures and becomes a new, living ligament in your knee.



Preparing for Surgery

Before the surgical procedure, it is important to prepare your body as well as the home for the surgery and the post-operative period (time after surgery). The following is a list of things to do before your scheduled surgery.

- Make an appointment to see your primary care practitioner (or see our Family Nurse Practitioner) for a pre-operative physical exam. This is done to ensure that you are in good health to have the surgery. An ECG (electrocardiogram) and laboratory work may be ordered. Any medical conditions that require better control prior to surgery will be discussed. Moreover, medications that need to be stopped prior to surgery will be discussed.
- Consult your primary care doctor and stop any medications that could contribute to prolonged bleeding. Such medications include aspirin, ibuprofen, Aleve, warfarin (Coumadin), fish oil supplements, etc. Ideally, these medications should be discontinued 7 days prior to surgery.
- Depending on when your surgery is scheduled, you may need to fast (nothing by mouth) prior to your surgery. It is recommended that you do not drink or eat anything at least 8 hours before surgery. This helps prevent any nausea or abdominal upset from the anesthesia and medications.
- If you smoke cigarettes or tobacco products, you should stop. Nicotine can increase your chances of having surgical complications, and can delay healing. Many orthopedic surgeons require patients to stop using tobacco before surgery will even be considered. See your primary care provider for information on smoking cessation.
- Arrange for someone to drive you home after surgery. Most patients are hospitalized for 1 day, and may be limited with driving after surgery. If you are taking any narcotic pain medicine, you should not drive or operate any machinery as these medications may cloud your judgment.
- Prepare your home for your recovery period. Start by reducing household hazards, such as throw rugs, electrical cords, and clutter that may cause you any injuries during your recovery. Also, if possible, move frequently used items to a main level in your home. This will help reduce the amount of reaching and stairs climbing you have to do.



After Surgery

After your surgery is completed, you will be taken to the hospital recovery room. There the nurses will monitor your blood pressure, heart rhythm, breathing, and help manage any pain you are experiencing. A bandage or dressing will cover your knee to keep the incision clean. After you are more awake and alert, you will either be taken to your hospital room or discharged home.

Returning Home

After you are discharged from the hospital, you will need to continue with activity restrictions and incision cares as directed by your orthopedic surgeon and the hospital staff. The hospital will arrange for an appointment with your orthopedic surgeon approximately 7 days after surgery. At that time, your physician will evaluate your surgical incision, amount of swelling, and your pain level.



Wound Care

Dressings are to be kept clean and dry. A small amount of clear drainage or bleeding is normal. You may loosen the ace bandage if it feels tight. Dressing should be left on until your first office or PT visit. If purulent drainage (thick white or greenish in color) is coming from the wound, or the wound has increasing redness, or if you are having a temperature of 101 or higher, please report these symptoms to your surgeon or the doctor on call.

Pain and Swelling

Ice your knee as frequently as possible with the cooling device or ice packs wrapped in a towel. Initially after surgery, a large, bulky dressing is in place. Ice or a cooling device should be used 15-20 hours per day, with 1-2 hour breaks in between. After the large dressing is removed, we recommend icing the knee 20-30 minutes, 4-6 times a day. This will help with the pain and swelling. Do not apply the cooling device or ice pack directly to the skin, as this may cause damage to the skin. A towel may be placed around the cooling device to prevent damage to the skin.

Narcotic pain medication will be prescribed for use after you leave the hospital. Try to wean down as tolerated. These medications can cause constipation and you may want to use an over the counter stool softener. Tylenol products may be used instead of the prescribed pain medication. The prescribed narcotic medications should not be taken at the same time as plain Tylenol. You may supplement your pain medication by using ibuprofen or Aleve for any breakthrough pain. It can help to stagger your pain medication with ibuprofen or Aleve as needed. If a refill of pain medication is needed, please call the office during regular business hours, Monday-Friday 8:00 a.m. to 5:00 p.m. In general, refills will not be made after hours or on weekends, so please plan ahead.

Swelling to some degree is common after surgery. To reduce swelling, elevation is very helpful. Elevate the knee above the heart level (“toes above the nose”) for the first 2-5 days after surgery. Elevation for 30 minutes every 2 hours is a good initial recommendation. Moving your ankles up and down on a regular basis helps circulate blood from your legs to help reduce swelling. Excessive pain and swelling should be reported to your surgeon.

Driving

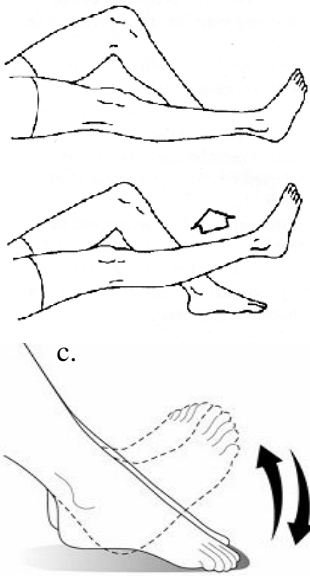
To drive you must no longer be taking narcotic pain pills. (plain Tylenol is allowed) Also, you must feel strong and alert. You may unlock the brace to allow for flexion of the knee while driving. Most people are able to start driving 1-2 weeks after surgery.

Exercises

Crutches and the hinged post-op brace are required following surgery. You should not put weight on the surgical leg until otherwise instructed by physical therapy or your physician. Your brace should be left on at all times. If for some reason the brace slips down or the dressing is too tight, carefully open the brace and readjust it, or release the tension of the ace bandage. Keep the brace on and locked when up on crutches and sleeping, and when doing your exercises.

Your brace will be set at approximately 10 degrees of flexion. The brace should be left in this position at all times, except when attempting gentle passive range of motion. During range of motion exercises you may unlock the brace to allow for up to 90 degrees (ACL) or 60 degrees (patellar realignment) of FLEXION unless otherwise directed by your surgeon. You may also unlock the brace to zero degrees of extension. There is NO motion allowed with a PCL repair. If you are uncomfortable changing the brace settings, leave it in the locked position until your first PT appointment.

The following exercises should begin the day after surgery and are designed to increase strength of the knee. They should be done lying down on a firm surface and your brace should be on. Your goal is to achieve 25 repetitions 4 times a day for the first 3-4 weeks after surgery.



- a. Quad Sets- Straighten the knee by tightening the quad (front thigh muscle), flexing the ankle (point toes to the ceiling), and pushing the back of the knee into the floor. Hold for the count of 5-10.
- b. Straight Leg Raises-While maintaining the tightened quad position, slowly raise the straightened leg off the floor and hold for 5-10 seconds.
- c. Vigorous foot, ankle, and toe movement—20 pumps per waking hour
- d. Range-of-motion is using your hands at your upper thigh to bend your knee and then straighten it. You

should spend approximately 10 minutes 3 times per day working on this. *(If you had a PCL repair, you will not do this exercise)*

Follow-up

Make sure an appointment has been scheduled for you at Chippewa Valley Orthopedics & Sports Medicine for approximately 1 week after surgery.

Worrisome Findings

Occasionally patients experience troubles after surgery and need additional medical attention. Such conditions that require medical attention include the following:

- Fever of greater than 101 degrees F
- New or different colored drainage from your surgical incision
- Swelling, redness, and pain to touch in your leg
- Inability to stretch or bend your knee or participate in physical therapy as before
- Pain in your lower leg when you bend your foot upwards
- Chest pain or shortness of breath



Seek medical attention immediately if you develop sudden chest pain, shortness of breath, a rapid heartbeat, lightheadedness or dizziness, and if your leg appears warm, red, and is painful to the touch.

Questions or Concerns

If you have any questions or concerns about your procedure or recovery, please feel free to contact us. Our goal is to provide excellent care, and get you back to your active lifestyle.

Eau Claire office: 715-832-1400

Chippewa Falls office: 715-723-8514

