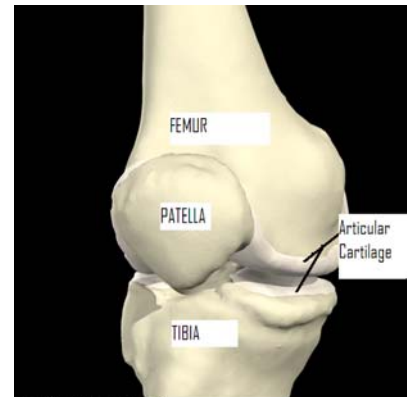


Common Knee Problems

Anatomy

The knee is made up of several bones: femur (thigh bone), tibia (leg bone), patella (kneecap) and fibula (small leg bone). The knee joint is formed by these bones. The ends of the bones are covered by a smooth, white protective covering called articular cartilage. The bones of the knee joint are held together by ligaments and muscles. Ligaments are firm strands of tissue (like a rope) that connect two bones together.



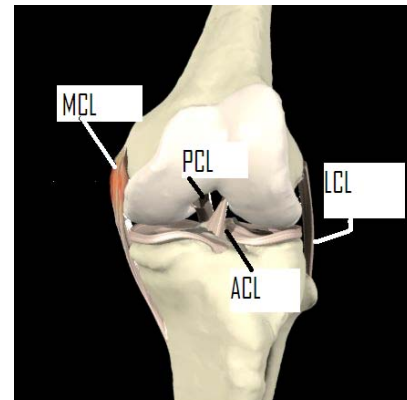
Acute (Sudden) Injuries

Acute injuries can occur as a result of contact or non-contact. Contact injuries occur when the knee is “hit” by an object or person. For example, when a football player is tackled, the knee could get injured from the direct contact. Non-contact injuries on the other hand occur without any direct impact. For example this happens most commonly when the foot is “planted” on the ground and the body suddenly changes directions. This can cause the knee to twist, pivot, bend or hyperextend. The sudden movement can cause injury within the knee joint.

- **Ligament Sprains & Tears**—There are four main ligaments that connect the femur and tibia together in the knee joint. An injury can cause these ligaments to stretch (sprain) or tear. The four ligaments include the: ACL & PCL (anterior & posterior cruciate ligaments) and the MCL & LCL (medial and lateral collateral ligaments).

MCL- This is the most common knee ligament sprain. Fortunately it can almost always be treated with a brace even if it is torn. Depending on the severity, a brace may be needed for 1-2 weeks up to 6-8 weeks.

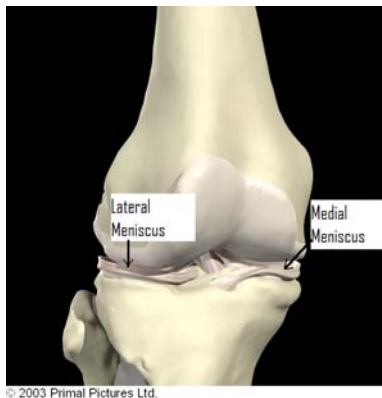
ACL- This is the most common knee ligament injury that requires surgery to correct. The ACL provides a very important role in stabilizing the knee. Without it the knee is at risk of cartilage damage and possibly early arthritis. The ACL is needed for activities that require turning, twisting, pivoting, and jumping. It is uncommon to have a “partial” acl tear. Most sprains of the acl are complete tears. Dr. Goradia has published numerous papers and has given many talks around the US and Canada on ACL surgery. If you have an ACL tear, Dr. Goradia and his staff will provide you with detailed information regarding the options.



PCL- The PCL is rarely injured. If it is an isolated sprain it usually does not require surgery. However, when a PCL tear is combined with other knee ligament injuries it does often require surgery. Many collegiate and professional athletes are able to fully compete in their sports with partial PCL injuries.

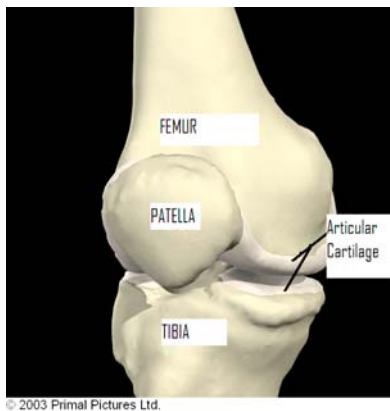
LCL- This is the least common sprain and almost never occurs as an isolated injury. In other words, when the LCL is injured, other ligaments such as the ACL or PCL also get injured. Most LCL injuries require surgery in order to heal.

- **Meniscus Tears**



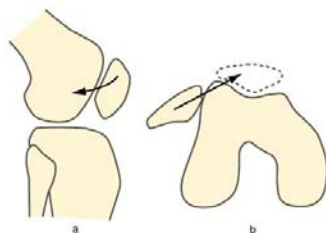
The meniscus is a soft, shock absorbing cartilage disk that sits between the femur and tibia. There is a **medial** (inner) and **lateral** (outer) **meniscus** in each knee. Meniscus tears are very common injuries that occur from twisting, squatting or hyperextension of the knee. Meniscus tears can occur alone or in combination with ligament injuries. With aging the meniscus becomes less pliable and more susceptible to injury. Older individuals may tear their meniscus with a relatively simple twisting episode. Meniscus tears usually cause swelling, catching, giving-way and pain. Unfortunately most meniscus tears do not heal and are likely to get large in size with activity. Medications and injections can help to alleviate pain while arthroscopic surgery is needed to remove or repair the torn meniscus.

- **Articular Cartilage Injuries**



The **articular cartilage** is the hard, smooth layer that covers the bone. Because it is smooth it allows two bones to move against each other without friction—this is how a joint functions. Injuries to the articular cartilage can also cause pain, swelling, catching and giving-way. The cartilage can either be damaged partially or completely down to bone. Unfortunately, the body is not able to rebuild new articular cartilage. Small areas of partial damage can progress down to bone over time and damage down to bone can become wider with time. Medications and injections can help reduce symptoms associated with cartilage damage. Arthroscopic surgery can remove damaged areas so they do not become larger with time. In some situations cartilage can be transplanted into the knee or even grown in a lab and used to replace the lost cartilage.

- **Patellar Dislocations**



The **kneecap (patella)** can slip out of its groove with injury or sometimes with a sudden movement. In most cases you will feel the kneecap slide back into place on its own. Sometimes patients will say that they actually pushed it back into place. Whenever the kneecap dislocates it can stretch or tear the ligaments that normally hold it in place. The cartilage under the kneecap can also become damaged. Most first time dislocations can be treated with a brace and exercises. If the kneecap continues to dislocate surgery may be needed to prevent this from occurring.

- **Muscle Strains & Tears**

A strain is basically a “pulled” muscle. It means that the small muscle fibers have been stretched. If stretched far enough they can tear. Most strains are treated with ice, rest, compression followed by stretching and eventual strengthening. Some patients can resume sports within days after a minor strain while others can require weeks or even months of recovery before playing again. Most muscle tears are treated like sprains but when a tendon tears it can require surgery. The tendon is the strong, white, gristly part of the end of a muscle that attaches to the bone.

- **Fractures**

The term ‘fracture’ and ‘break’ are the same. There are several bones around the knee and any of them can become fractured. Most fractures can be identified on x-rays but some subtle fractures and stress fractures may require other tests. Each fracture is treated differently.

Chronic (Long standing) Problems

- **Instability (giving-way)**

The sensation of the knee “giving-way” can occur for a variety of reasons including muscle weakness, loose or torn cartilage/bone floating in the joint or loose/torn knee ligaments. As noted above ligaments are like strands of rope that hold two bones together. When these are damaged the two bones can feel unstable or as if they are going to “give-way”. In some cases strengthening the muscles can help to improve this. However, if you experience repeated episodes of your knee giving way because of a ligament injury (e.g. torn ACL), further damage to the menisci and cartilage is likely occurring. Over time this can lead to arthritis if stability is not restored to the knee with ligament reconstructive surgery.

- **Meniscus tears**

As noted above, meniscus tears can cause many symptoms and can become worse with time. Sometimes a small tear may not cause too many problems until it becomes larger. The patient is often not aware of what caused the tear in the first place. Regardless of the cause, if the knee is catching, locking or swelling it may require the torn part of the meniscus to be removed in order to prevent further damage.

- **Chondromalacia & Arthritis**

Chondromalacia is damage to the articular cartilage. If this involves a large area of the knee it is commonly known as arthritis. Small areas of damage can be treated with medications and injections. If the symptoms don’t improve, then other options need to be considered to prevent the damage from becoming arthritis.

- **Patellar pain**

Kneecap or patellar pain can occur for many reasons including:

- Instability—loose patella that jumps out of the groove
- Chondromalacia—damage to the articular cartilage under the patella
- Plica—strong band of tissue that catches under the patella
- Maltracking—the patella does not glide straight as the knee bends

Many of these problems can be initially treated with medications, exercises and bracing. If symptoms don’t improve various surgical options can be considered.

- **Overuse & Tendonitis**

Overuse problems often occur with sports activities, work related activities or even a weekend painting project. Tendonitis is one of the most common types of overuse conditions. Tendons connect muscles to bones. With repetitive activity these areas can become inflamed and sore. This will usually resolve with rest, ice and medications. If the condition does not improve it can sometimes require bracing, injections, physical therapy or rarely surgery.

What is an Orthopedic Surgeon?

An orthopedic surgeon specializes in the treatment of problems associated with bones and joints. Some orthopedic surgeons receive additional training in a specific area such as sports medicine, arthroscopy, knee & shoulder, spine, feet, children, hand, etc. Your family physician can refer you to an orthopedic surgeon specializing in knee problems for a complete evaluation.

Dr. Goradia's Experience

Dr. Goradia has received advanced fellowship training in Arthroscopic Surgery and Sports Medicine that most orthopedic surgeons do NOT receive. In addition Dr. Goradia is active in the Arthroscopy Association of North America where he produces videos of his surgeries to teach other surgeons and he teaches at national conferences. Dr. Goradia performs several hundred arthroscopic surgeries every year.

ACL Experience—Dr Goradia has published articles in several medical journals and has given numerous presentations on the topic of ACL surgery. He has been selected as one of a handful of knee specialists from around the country to formally evaluate a new surgical procedure for ACL Reconstruction. ACL surgery 30 years ago started as a procedure that required the surgeon to completely open the knee. It was later done with two smaller incisions with the use of an arthroscopic fiber optic camera. In the past 10 years most surgeons have been performing the surgery with a single incision. Now, Dr. Goradia and a few other surgeons around the USA are performing ACL surgery without any large incisions. It is expected that this will reduce pain and swelling after surgery and improve recovery.

Meniscus/cartilage Injury—Dr. Goradia utilizes a variety of techniques in order to restore meniscus and cartilage tissue when this is an option. This summer he will begin working with a company from Europe on a new technique to “re-grow” articular cartilage. Also, Dr. Goradia is one of few orthopedic surgeons in Virginia to perform meniscus transplantation when the entire meniscus has become damaged. Not all patients are candidates for any of these surgeries. Dr. Goradia however will evaluate each patients' condition to determine the best options.

More Information

To learn more about Dr. Goradia and our office or to see animated surgery or actual surgery visit our website at www.GoOrtho.net.

All surgical procedures have risks. These risks along with the potential benefits of surgery will always be discussed with you by Dr. Goradia. Options other than surgery such as living with symptoms, medications, injections & activity modification will also be discussed with you. If you do NOT understand or have any questions you should contact the office. You should never have surgery without fully understanding it and your options.