



Injury Law Center®

Note: This information is provided to give you a basic understanding of the injury. It is not intended as medical advice. You should consult a qualified medical provider.

KNEE, ANKLE & FOOT INJURIES

Knee Injury

Description

The knee is very susceptible to injury. The knee is often time injured in traumatic accidents and other types of activities. The knee is the largest joint in the body which connects the femur, the upper bone in the leg, and the bones in the lower leg, tibia and fibula. The knee joint consists of ligaments, cartilage, and the bone over the knee, called the patella. As with other joints, inside the knee joint is synovial fluid that protects and lubricates the joint. The bursa are sacks that contain this synovial fluid and provide lubrication and cushioning.



There are all ligaments that comprise the knee joint. With sports figures you often hear what ligaments they have damaged, such as the medial collateral ligaments, a lateral collateral ligament, the posterior cruciate ligament and the anterior cruciate ligament. The ligaments of the

knee can be torn, either partially or completely.

Between the bones of the upper leg and the lower leg, are two thin, oval-shaped tissues that cushion the ends of the bones, known as meniscus. There is a medial meniscus, closest to the inside of the leg, and a lateral meniscus closer to the outside of the leg. These menisci can be injured from impact or twisting or wear away from the degeneration. Like the ligaments, the meniscus can be either partially or completely torn during an injury.

Like any bone, the bones around the knee, including the kneecap can be fractured or chipped. The bones of the knee joints, like all joints, are covered with tissue known as articular cartilage. This cartilage can be injured or fractured, and develop a condition known as chondromalacia patella.

Let's look at the most common knee injuries.

Chondromalacia patella

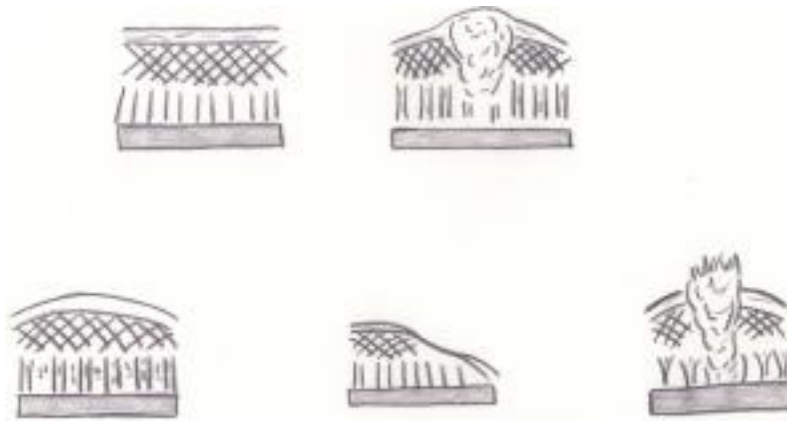
Description

Chondromalacia Patella is a progressive erosion of the articular cartilage in the knee joint that is the cartilage underneath the patella and on top of the femur, a large bone in the upper leg. Once the degenerative process occurs, it is a progressive condition that will progress through multiple stages until there is bone on bone, which then will require a total knee replacement.

This process is borne out by the medical literature. Chondromalacia is often the result of direct trauma. Chondromalacia patella is described in *Clinical Orthopedics*, 2nd Edition (1995) as a disorder of the patella that "causes significant cartilage damage". It goes on to state that "Budinger (1906) has been given credit as the first person to describe chondromalacia. Outerbridge (1961) describe the four stages of chondromalacia: Stage I-swelling and softening of the cartilage; Stage II- fissuring within the softened areas; Stage III-fasciculations or breakdown of the articular cartilage almost to the level of the subchondral bone; Stage IV- destruction of the articular cartilage with the subchondral bone exposed.... The biochemical and histological analysis of cartilage taken from both chondromalacia and osteoarthritic patella do indeed suggest that this is a continuum in a disease process." Campbell's *Operative Orthopedics*, 11th edition similarly indicates that changes in the cartilage will deepen progressively until all the layers of cartilage are affected down to the subchondral bone.

The schematic above depicts the stages of deterioration of the knee due to chondromalacia patella. This process can take years to go from the beginning stages to a complete erosion of the cartilage where there is bone on bone. As the condition progresses, often times arthroscopic surgery to shave the uneven surfaces of the patella is required. This arthroscopic surgery, however, does not stop the deterioration. Eventually, when the condition becomes bone on bone, a total knee replacement is necessary.





Causes and Symptoms

Chondromalacia patella is often times the result of an injury to the knee, usually a blow to the kneecap that traumatizes the underlying cartilage. It can also be caused by the normal aging process, extreme overuse, or uneven pressures exerted on the knee joint because of some congenital defect in the normal alignment of the patella.

Symptoms of chondromalacia patella include pain, crepitus, that is a noise that one hears when the joint is being moved, usually walking up or down stairs, and a grinding sensation in the knee. Often times with injury, not only will the patella be injured, but the underlying ligaments will be also injured, that is torn and/or stretched. If this occurs, the patient will often times feel that the knee is "giving way".



Diagnosis

Often times a physical examination can diagnose chondromalacia patella. However often times an MRI is performed to conclusively determine the diagnosis.

Medical help

Usually doctors will treat chondromalacia patella conservatively with rest, nonweight-bearing, and anti-inflammatory medications. Often times a knee brace may be prescribed to stabilize the knee. Physical therapy is sometimes ordered. However, as chondromalacia patella is a degenerative condition, often times people need arthroscopic surgery to repair the tissues inside the knee joint. The degenerating cartilage is shaved during the arthroscopic procedure to smooth out the articulate joint. Since this shaving of the articulate cartilage is removing the limited supply of cartilage in the joint, sometimes a physician may inject the joint with a material to

attempt to replace the cartilage. This often helps for a period of time. When these treatments fail, the patient will go on to total knee replacements. Currently, total knee replacements last approximately 15 to 20 years.

Fractured Patella

Often times with a severe trauma directly to the kneecap (patella) , the patella will be fractured. This usually requires surgery to wire or pin the fragments of the patella back together. When a fracture of the patella occurs, usually the patient will also suffer chondromalacia patella.

Ankle Injuries

Description

The larger bone of the leg, called the tibia and the smaller leg bone, called the fibula, form a three sided concave frame called the mortise because a portion of each of these bones extends below the level of the talus, that is the large bone of the foot. The extension of the fibula below the talus is called the lateral malleolus. The similar protrusion of the tibia is called the medial malleolus.

These bones are held together by strong ligaments. When these ligaments are stretched or torn you end up with a sprain of the ankle.

Ankle Fractures

Most ankle fractures occur when there is an abnormal twisting of the ankle either with the sole of the foot moving toward the midline of the body, the sole of the foot turning outward, the sole of the foot moving away from the midline of the body, or the sole of the foot turning down and inward.

These type of twisting injuries can cause a serious sprain/strain of the ankle and/or an ankle fracture. If one of the malleolar is fractured it is called a malleolar fracture. If both ends of the shafts of the tibia and fibula are fractured it is called in bimalleolar fracture. And if there is a fracture of both malleoli plus the joint surface of the tibia, this is known as a tri-malleolar fracture.

Diagnoses

Usually these fractures are seen upon x-ray and often times the patient will report an audible snap or pop when the injury occurs.

Medical Help

If it is a strain/sprain of the ankle then the ankle will be treated accordingly A syndesmosis injury involves a sprain of the ligaments connecting the bottom ends of the tibia and fibula bones. Recovering from even mild injuries of this type takes at least twice as long as from a typical ankle sprain and in severe cases a screw is inserted to fixate the joint.

If there is a fracture of the ankle, then the fracture will be treated accordingly.

If the articular surface of the ankle is affected by the fracture arthritis will likely occur within the ankle. When the arthritis becomes so severe, the ankle joint will be surgically fused. This fusion of the ankle will eliminate the ongoing pain within the ankle, however, the ankle will have no mobility whatsoever.

Foot Injuries

Description

There are many injuries that can occur to the foot, including a sprain, strain, broken toe, fractured calcaneus (heel bone) and a Lisfranc's fracture.

Symptoms

The typical symptoms of an injury to the foot injuries include pain, swelling, and instability in the foot itself.

Often times, an ankle and foot injury will result in the bones of the foot, and the ligaments holding the bones together being injured. The bones in the middle of the foot can be fractured. This is known as a Lisfranc fracture. When an ultrasound demonstrates a plantar subluxation of the first cuneiform which correlates with a clicking sound that the patient will often hear in her foot, an MRI should be done to determine if there is a Lisfranc fracture.

The Lisfranc ligament is a large band of plantar collagenous tissue that spans the articulation of the medial cuneiform and the second metatarsal base. While transverse ligaments connect the bases of the lateral four metatarsals, no transverse ligament exists between the first and second metatarsal bases. The joint capsule and dorsal ligaments form the only minimal support on the dorsal surface of the Lisfranc joint. The bony architecture of this joint, specifically the "keystone" wedging of the second metatarsal into the cuneiform, forms the focal point that supports the entire tarsometatarsal articulation.

Practical Advice-If you suffer an ankle injury, and you have a clicking in your midfoot, which the doctors are ignoring, it is imperative that you have an ultrasound of your foot down followed by an MRI. Often times this can be done by a podiatrist as opposed to an orthopedist.

Key Terms

Arthroscopic knee surgery-Surgery performed to examine and repair tissues inside the knee joint through an instrument called an arthroscope.

Femur-The large bone in the upper leg or the thigh bone.

Malleolus-The end of the tibia or fibula that extends below the talus.

Podiatrist-A doctor who specializes in treating maladies of the foot.

Talus-The large bone of the foot that interfaces with the fibula and tibia.

Tibia and Fibula-The bones of the lower leg.

HELP

If you have suffered a knee, ankle or foot injury, or any other type of injury, you should seek appropriate medical help and if your injury was caused by another's negligence or fault, you should seek appropriate legal help bring a claim for compensation.

Feel free to call or e-mail The Injury Law Center® for answers to your questions and help with your legal claim.

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