

1: Lower Leg Fractures: Tibia and Fibula » John Hochfelder, New York Injury Lawyer

A fibula fracture occurs when there is an injury to the smaller of the two bones of the lower leg (the segment between the knee and ankle), the fibula. The larger bone of the lower leg, the tibia, carries most of the body weight.

Alumni Tibia and Fibula Shaft Fracture of the tibial diaphysis with or without fracture of the tibia is the most common long-bone injury. It occurs in a bimodal distribution, with the highest risk in young males ages , gradually decreasing in incidence through middle age, with a second peak in elderly osteoporotic men and women. Five common mechanisms of tibial shaft fractures include falls, sports injuries including boot-top fractures seen in skiers , direct blows, MVAs, and gunshots. Fibula shaft fractures may occur in conjunction with tibia fractures through any of the above mechanisms. When they occur in the absence of a tibial injury, the mechanism is usually either a direct blow or associated with a twisting injury of the ankle as in a maisonneuve fx. Anatomy » The anatomy of the tibia predisposes it to certain types of injury and complicates the treatment of fractures. The anterior-medial border of the tibia is directly subcutaneous, making it susceptible to fracture a direct blow is sustained. Furthermore, this makes the tibia more prone to open fractures This region is especially susceptible to twisting injuries resulting in spiral fractures. The leg is divided into four musculofascial compartments. The anterior compartment contains the tibialis anterior, extensor hallucis longus, extensor digitorum longus, and peroneus tertius muscles, the anterior tibial artery, and the deep peroneal nerve. The lateral compartment contains the peroneus longus and peroneus brevis muscles, and the superficial peroneal nerve. The superficial posterior compartment contains the gastrocnemius, soleus, and plantaris muscles, and the deep posterior compartment contains the tibialis posterior, flexor digitorum longus, and flexor hallucis longus muscles, and the posterior tibial artery and nerve. The leg is particularly susceptible to compartment syndrome 4. Radiographs » The radiographic evaluation of the tibia and fibula should include AP and lateral plain films of the leg as well as the ankle and knee. There is no widely accepted classification system for describing tibia fractures; rather, they are described by radiographic appearance in terms of fracture location, pattern, displacement, comminution, and extension into adjacent joints, as well as the condition of the fibula. Treatment » Non-operative treatment of tibial fractures with long-leg casts, patellar-tendon-bearing casts, or functional bracing has limited indications. These treatments may be undertaken in young patients with closed, low-energy, non- or minimally-displaced fractures, or in patients with low functional demands or co-morbidities precluding surgery. Intramedullary nailing is the treatment of choice for almost all tibial shaft fractures. IM nails give the best results in terms of rate of union, time to union, and complications. There is minimal insult to the compromised soft tissue and the implant is not subcutaneous. Studies have shown nailing to be effective in open fractures, even severely contaminated fractures. Reamed nailing versus unreamed nailing continues to be debated in the literature, but reamed nailing appears to be more effective in most situations, with the possible exception being very contaminated open fractures. Plating of tibial fractures has fallen out of favor due to the complications associated with the insult to the compromised tissues surrounding the fracture. It remains a useful technique in cases where there are significant articular or peri-articular fractures in association with tibial shaft fractures. External fixation of tibial fractures plays a role in the treatment of multiple extremity trauma when the patient cannot tolerate the surgery time that definitive treatment would entail. It may also play a role in treatment of severely contaminated Gustillo IIIb or c fractures, as definitive treatment of with secondary conversion to IM nail at a later date. Isolated fibula fractures occurring in the presence of knee or ankle injuries should be treated as appropriate for the associated injury. True isolated fibula fracture may be treated symptomatically with early weight-bearing in a walking boot or short leg cast. Complications » Tibia fractures are associated with a high rate of complications including:

2: Fibula Fracture – Causes, Symptoms & Treatment

Doctors give trusted, helpful answers on causes, diagnosis, symptoms, treatment, and more: Dr. Chimenti on fibula bone bruise: Most heal without surgery without resulting in significant residual pain and/or dysfunction.

Check new design of our homepage! Broken Fibula Recovery Time Fibula and tibia are bones that run parallel to each other in the lower leg. Trauma to the lower leg may cause fibula to fracture. Scroll down to find out more on broken fibula recovery time along with the effective treatment options. HealthHearty Staff Tibia and fibula are the two major bones in the lower leg region. Fibula is smaller than tibia, and runs parallel to tibia. It is located on the lateral or outer side of tibia. Tibia, which is also referred to as the shinbone, is thicker than fibula. Tibia is the weight-bearing bone and is more susceptible to fractures. Since tibia and fibula lie close to each other, the impact or the force that causes the tibia to fracture, may pass on to the fibula as well. This is the reason behind the high incidence of injuries with damage to both these bones. High impact trauma to the lower leg during an accident or a fall from a height could cause these bones to crack. Rolling or twisting of the ankle could also be responsible for causing a fractured fibula. Fibula Fracture Causes and Symptoms A broken fibula is usually associated with a tibia fracture. Since the fibula is located on the outer side of the lower leg, a severe blow to the side of the lower leg may cause a fibula fracture. Fibula fracture may concur with severe ankle sprains. Rolling, twisting or awkward bending of the ankle joint that may occur due to downhill running or running on hard surfaces may cause the fibula to stretch beyond its range of motion. This is the reason why runners, sprinters or soccer players are more susceptible to a fibula stress fracture. Soccer, basketball and rugby are some of the sports that involve extensive use of lower legs. The players have to keep changing directions while running. If the ankle rolls while running or one has an awkward landing from a jump, the fibula bone may get stretched beyond its range of motion. This may cause it to break. The symptoms of a fibula fracture would depend on the severity of fracture. If both tibia as well as fibula have been fractured, one is likely to suffer from severe pain while walking. If it is just the fibula that has been fractured, one is likely to experience pain along the outer leg. Pain, swelling, bruising and tenderness at the site of injury are other symptoms that one may experience in event of a fractured fibula. Treatment and Recovery The treatment of a broken fibula depends on the type of fracture as well as the severity of the fracture. An X-ray examination or a bone scan can help the doctors ascertain the type of fracture one has suffered from along with the extent of the damage. If the tibia is intact and only the fibula has sustained an injury, doctors often incorporate the RICE principle in the initial stages of the treatment. RICE stands for rest, ice, compression and elevation. This approach often forms a part of home treatment or self-care measures for a cracked fibula. Taking rest helps the body recuperate in a much better way, while application of ice can help in alleviating the swelling. Use of compression bandages provide support to the fractured bone and also reduce swelling, whereas keeping the affected part elevated above the level of the heart also helps in reducing the swelling. The treatment of a fractured fibula also involves the use of analgesics or anti-inflammatory drugs. If the pain is severe, doctors may even prescribe steroids. If tibia has been fractured as well, and the X-ray examination indicates a displaced or a compound fibula fracture, the healing process tends to be slower. Displaced fractures or compound fractures are usually a cause of concern. Surgical intervention may be needed if the bone has broken into fragments. The displaced fragments will need to be realigned with the help of metal plates that are held together with screws. Under these circumstances, one may take three to four months to recover. The patient will have to wear a cast and take ample rest to speed up recovery. Immobilization of the affected leg is an important part of the treatment. Once the bone has healed considerably, one will need to go for physiotherapy sessions. Performing joint strengthening exercises during the recovery period will help the patient recover the normal range of motion. How long a person may take to recover from a broken fibula would vary depending on a variety of factors. So, to be up on their feet soon, patients must religiously follow the advice of their doctor.

3: Closed Tibia or Fibula Fracture|Causes|Symptoms|Treatment|Recovery

Often, in cases involving fractures of the tibia and/or fibula "resulting from slip/trip and fall trauma, car accident trauma or construction injuries" the victim has other injuries as well. These frequently include foot fractures and knee injuries.

Tibia and Fibula Fractures. Definitions The longer bone of the lower leg below the knee, commonly called the shin bone. **Fibula** The long thin bone of the lower leg below the knee. It is smaller than the tibia. **Tibial Plateau** The flattened part of the top of the tibia that articulates with the femur the thigh bone. **Fracture** A break or disruption in the continuity of a bone. A bone splintered into multiple fragments. When the wound extends through the skin **Closed Fracture:** When the wound does not extend through the skin **Displaced Fracture:** A fracture in which two ends of a fractured bone are separated from each other. **Fracture Dislocation** A joint dislocation that is accompanied by a fracture of one or more of the bones that form the joint. **Closed Reduction Manipulation** or setting of the fracture without open surgical correction. The Hochfelder Report provides facts and estimated ranges of value for New York pain and suffering for specific traumatic injuries. Often in trauma cases, many body parts are injured. As a result, the verdicts, settlements and case histories that you often hear discussed on the evening news or in the newspaper do not help you determine the value of your injury when you have injured only body part. Therefore, please understand that if you have suffered a traumatic injury to more than one part of your body, you should use the information in The Hochfelder Report only as a starting point. The value of your case could be much less or much more than the amounts discussed here. These frequently include foot fractures and knee injuries. For information about a specific claim regarding those injuries, see The Hochfelder Report that deals with that specific injury. Please understand that the values set forth here are for pain and suffering only. The dollar amounts can be much higher when an injured person also incurs significant lost wages, significant medical expense payments and other so-called special or out of pocket damages. The verdicts and settlements described in this issue of The Hochfelder Report were current on the date of publication. Now, here are the estimated New York pain and suffering values of injuries based on the circumstances described: When the fracture is questionable, meaning when opposing radiologists disagree on the presence of a fracture. When a minor or hairline fracture exists. When you do not need surgery. When you have an excellent recovery. When you will not likely have future pain or disability. And when your case would be tried in an area where juries are conservative in their awards. After returning home, he went to the hospital and was diagnosed with a hairline fracture of his fibula. He was treated with a soft cast, was never unable to walk and he healed perfectly. When both the tibia and fibula are fractured. When you require surgery. When you have a fair to good recovery. When you will likely have some future pain or disability. And when your case would be tried in an area where juries are about average in their awards. Plaintiff suffered a comminuted fracture of her tibia and a fracture of her fibula. She wore a cast without surgery but her doctor stated she has developing post-traumatic arthritis that will necessitate knee surgery in the future. When your fracture is severe. When you have multiple fractures. When you have a poor to fair recovery. When you will likely have significant future pain and disability. When additional future surgery is credibly recommended. And when your case would be tried in an area where juries are liberal in their awards. No surgery was required, but the boy was left with a permanent limp. He suffered an open fracture of his tibia, requiring surgery to insert a metal rod and another surgery to remove it. His doctor recommended a future knee surgery. She fractured her tibial plateau and her fibula and underwent three surgeries, extensive physical therapy and was unable to work for more than a year. I will ask questions about your injury and help you determine the value of your claim. Call me at or e-mail John JohnHochfelder. Make sure you consult a competent, qualified, experienced trial lawyer to help you determine the value of your claim.

4: Broken Fibula Recovery Time

A stress (hairline) fracture may also occur in the fibula, although it is far less common than stress fractures to the tibia, which is a weight-bearing bone. Stress fractures in the tibia/fibula are likely to be caused by repetitive motion from running, ballet, baseball and basketball.

Your own risk of complications may vary according to your age, the anatomy of your fracture, and your other medical conditions. For example, people with low bone mass or diabetes may be at greater risk of some complications. Smokers may also have an increased risk. Ask your healthcare provider about the risks that most apply to you. ORIF often takes place as an emergency or urgent procedure. Before your procedure, someone will take your medical history and perform a physical exam. Tell your healthcare provider about all the medicines you take, including over-the-counter medicines like aspirin. Also, let your healthcare provider know the last time you ate. In some cases, your healthcare providers might perform your ORIF a little later. You might have your leg held immobile while you wait for your surgery. Talk to your healthcare provider about how to prepare for the surgery. Ask whether you should stop taking any medicines ahead of time, like blood thinners. Your healthcare provider can help explain the details of your particular surgery. These details will depend on the location and severity of your injury. An orthopedic surgeon will do the surgery aided by a team of healthcare professionals. The whole operation may take a few hours. In general, you can expect the following: You will receive a general anesthesia. Or, you may receive local anesthesia and a medicine to help you relax. A healthcare professional will carefully monitor your vital signs, like your heart rate and blood pressure, during the operation. After cleaning the affected area, your surgeon will make an incision through the skin and muscle of your leg. To do this, he or she will use tools like screws, metal plates, nails, wires, or pins. For a fracture in the middle part of the tibia, healthcare providers often use a specially designed long metal rod that passes through the middle of the bone. Your healthcare provider will make other repairs, if necessary. After the team has secured the bone, your surgeon will close the layers of skin and muscle around your leg. Talk to your healthcare provider about what you can expect after your surgery. You may have significant pain after your procedure, but pain medicines may help to relieve the pain. You should be able to resume your normal diet quickly. You will probably have some sort of imaging procedure, like an X-ray, done to verify your surgery was successful. Depending on the extent of your injury and your other medical conditions, you might be able to go home the same day. For a while after your surgery, you may need to keep your leg immobile. This usually means wearing a brace, perhaps for several weeks. You may need to protect your leg from water. You might need to take medicine to prevent blood clots a blood thinner for a little while after your surgery. Your healthcare provider might not want you to take certain over-the-counter medicines for pain, because some of these can interfere with bone healing. Your healthcare provider may advise you to eat a diet high in calcium and vitamin D as your bone heals. You may have some fluid draining from your incision site. Let your healthcare provider know right away if there is an increase in redness, swelling, or draining from your incision site. You should also inform your healthcare provider right away if you have a high fever, chills, severe pain that does not improve, or any loss of feeling in your leg. Make sure to keep all of your follow-up appointments. You may need to have your stitches or staples removed a week or so after your surgery. At some point, you may need physical therapy to restore strength and flexibility to your muscles. Doing your exercises as prescribed can improve your chances of full recovery. These fractures often take several months to heal completely, but you should be able to resume many of your activities before this time. Next steps

Before you agree to the test or the procedure make sure you know:

5: Tibia and Fibula Shaft | Team Bone

The tibia, or shinbone, is the larger of the two bones in the lower leg. It's one of the most commonly fractured bones in the body. Symptoms of a fracture in your tibia can range from bruising.

Lateral malleolus Interosseous membrane connecting the fibula to the tibia, forming a syndesmosis joint The superior tibiofibular articulation is an arthrodiarthral joint between the lateral condyle of the tibia and the head of the fibula. The inferior tibiofibular articulation tibiofibular syndesmosis is formed by the rough, convex surface of the medial side of the lower end of the fibula, and a rough concave surface on the lateral side of the tibia. Blood supply[edit] The blood supply is important for planning free tissue transfer because the fibula is commonly used to reconstruct the mandible. The shaft is supplied in its middle third by a large nutrient vessel from the fibular artery. It is also perfused from its periosteum which receives many small branches from the fibular artery. The proximal head and the epiphysis are supplied by a branch of the anterior tibial artery. Ossification begins in the body about the eighth week of fetal life , and extends toward the extremities. At birth the ends are cartilaginous. Ossification commences in the lower end in the second year, and in the upper about the fourth year. The lower epiphysis , the first to ossify, unites with the body about the twentieth year; the upper epiphysis joins about the twenty-fifth year. Head[edit] The upper extremity or head of the fibula is of an irregular quadrate form, presenting above a flattened articular surface, directed upward, forward, and medialward, for articulation with a corresponding surface on the lateral condyle of the tibia. On the lateral side is a thick and rough prominence continued behind into a pointed eminence, the apex styloid process , which projects upward from the posterior part of the head. The prominence, at its upper and lateral part, gives attachment to the tendon of the biceps femoris and to the fibular collateral ligament of the knee-joint, the ligament dividing the tendon into two parts. The remaining part of the circumference of the head is rough, for the attachment of muscles and ligaments. It presents in front a tubercle for the origin of the upper and anterior fibers of the peroneus longus , and a surface for the attachment of the anterior ligament of the head; and behind, another tubercle, for the attachment of the posterior ligament of the head and the origin of the upper fibers of the soleus. Body[edit] The body of the fibula presents four borders - the antero-lateral, the antero-medial, the postero-lateral, and the postero-medial; and four surfaces - anterior, posterior, medial, and lateral. Borders The antero-lateral border begins above in front of the head, runs vertically downward to a little below the middle of the bone, and then curving somewhat lateralward, bifurcates so as to embrace a triangular subcutaneous surface immediately above the lateral malleolus. This border gives attachment to an intermuscular septum, which separates the extensor muscles on the anterior surface of the leg from the peronei longus and brevis on the lateral surface. The antero-medial border, or interosseous crest, is situated close to the medial side of the preceding, and runs nearly parallel with it in the upper third of its extent, but diverges from it in the lower two-thirds. It begins above just beneath the head of the bone sometimes it is quite indistinct for about 2. It serves for the attachment of the interosseous membrane , which separates the extensor muscles in front from the flexor muscles behind. The postero-lateral border is prominent; it begins above at the apex, and ends below in the posterior border of the lateral malleolus. It is directed lateralward above, backward in the middle of its course, backward, and a little medialward below, and gives attachment to an aponeurosis which separates the peronei on the lateral surface from the flexor muscles on the posterior surface. The postero-medial border, sometimes called the oblique line, begins above at the medial side of the head, and ends by becoming continuous with the interosseous crest at the lower fourth of the bone. It is well-marked and prominent at the upper and middle parts of the bone. It gives attachment to an aponeurosis which separates the tibialis posterior from the soleus and flexor hallucis longus. Surfaces The anterior surface is the interval between the antero-lateral and antero-medial borders. It is extremely narrow and flat in the upper third of its extent; broader and grooved longitudinally in its lower third; it serves for the origin of three muscles: The posterior surface is the space included between the postero-lateral and the postero-medial borders; it is continuous below with the triangular area above the articular surface of the lateral malleolus; it is directed backward above, backward and medialward at its middle, directly medialward below. Its upper third

is rough, for the origin of the soleus; its lower part presents a triangular surface, connected to the tibia by a strong interosseous ligament; the intervening part of the surface is covered by the fibers of origin of the flexor hallucis longus. Near the middle of this surface is the nutrient foramen, which is directed downward. The medial surface is the interval included between the antero-medial and the postero-medial borders. It is grooved for the origin of the tibialis posterior. The lateral surface is the space between the antero-lateral and postero-lateral borders. It is broad, and often deeply grooved; it is directed lateralward in the upper two-thirds of its course, backward in the lower third, where it is continuous with the posterior border of the lateral malleolus. This surface gives origin to the peronei longus and brevis. Position of fibula shown in red 3D image Diagram which depicts ossification of human fibula. Lower extremity of right fibula. Function[edit] The fibula does not carry any significant load weight of the body. It extends past the lower end of the tibia and forms the outer part of the ankle providing stability to this joint. It has grooves for certain ligaments which gives them leverage and multiplies the muscle force. It provides attachment points for the following muscles: Muscle attachments seen from the front Muscle attachments seen from the back Muscle.

6: Tibial and Fibular Fractures (including Horse Rider's Knee) | Patient

Fibula bruise: Injury to underlying tissues or bone in which the skin is not broken, often characterized by ruptured blood vessels and discolorations. See detailed information below for a list of 1 causes of Fibula bruise, including diseases and drug side effect causes.

Whenever a bone breaks or cracks, the injury is called a fracture. The leg has three bones that can fracture – the femur the thighbone and the tibia and fibula in the lower leg. When a fracture involves the knobby end portions of bones that are part of the hip, knee and ankle joints, the fracture is more complicated. This article describes only fractures of the straight shafts of the three long leg bones.

Femur Fractures The femur is very strong, so it takes a lot of force to fracture this bone in healthy people. The femur usually fractures during high-impact trauma, especially in automobile accidents, industrial accidents, falls from high places or gunshot wounds to the thigh. If a low-impact bump or fall causes a femur to fracture, this may be a sign that the femur has been weakened by an illness, such as osteoporosis or cancer. Femur fractures have the potential to cause dangerous, sometimes life-threatening complications, such as significant bleeding inside the thigh, with blood loss of one quart or more. A femur fracture also may cause blood clots to form within the large veins of the thigh. If these clots break free and travel through the bloodstream, they may eventually lodge in the lungs, creating a life-threatening condition called a pulmonary embolism. Among children, femur fractures tend to happen because of a fall from a high place, such as a tree or the top of a slide. In adults, these injuries usually are related to motor vehicle accidents either as a passenger or pedestrian or to on-the-job trauma. The number of femur fractures caused by gunshot wounds has risen significantly in recent years.

Tibia Fractures The tibia shinbone is the larger of the two bones of the lower leg. Like femur fractures, tibia fractures often occur because of direct, high-impact trauma, especially during motor vehicle accidents. However, the tibia also can fracture from a low impact, even in healthy people, if the lower leg is bent or twisted at just the right angle. This greatly increases the risk of bacterial contamination and infection at the fracture site. It also may prevent normal healing. The sharp ends of a broken tibia can cut into nearby nerves and blood vessels and cause serious damage to soft tissues inside the lower leg.

Fibula Fractures The fibula runs parallel to the tibia on the outside of the lower leg, but is smaller. The fibula usually fractures at the same time as the tibia. When only the fibula fractures, it is usually because of a direct blow to the side of the leg or an extreme sideways bend at the ankle or knee. When only a fibula fractures, it usually does not cause long-term complications. Rarely, when the segments of broken bone are separated significantly by the injury, one of the nerves to the foot may be injured, causing foot drop, a condition in which the foot hangs limp at the ankle and drags on the ground during walking.

Symptoms If you have fractured the shaft of your femur, your symptoms may include: Pain, swelling, tenderness and bruising in your thigh Inability to bear weight on your injured leg Inability to move your hip or knee on the affected side Visible portions of the fractured bone, if the fracture causes a break in the skin If you have fractured the shaft of your tibia, or both your tibia and fibula, you may see: Pain, swelling, tenderness and bruising in your lower leg Deformity in the shape of your lower leg An abnormal alignment or positioning of your foot on the affected side Visible portions of the fractured bone, if the fracture causes a break in the skin A fibula fracture that occurs alone usually causes: Localized swelling and tenderness at the fracture site, along the outside of the lower leg Pain at the outside of the lower leg that becomes worse when you walk

Diagnosis Your doctor will examine your injured leg, checking for swelling, deformity, abrasions, bruising and tenderness. Your leg will be X-rayed to confirm the location and severity of your fracture, and to check for less-obvious fractures and dislocations in nearby joints.

Expected Duration A leg fracture may take two or more months to heal depending on whether surgery is necessary; whether there were multiple fragments; and whether there were complications, such as infection.

Prevention The best way to avoid fractures is to prevent accidents. Supervise children and encourage safe play. Drive carefully and always wear a seat belt. Prevention of osteoporosis can reduce the risk of related fractures.

Treatment Femur Fractures In most cases, doctors prefer to repair the fracture surgically. Surgical repair usually requires a shorter hospital stay and creates less disability than other treatment methods, such as wearing a plaster cast that covers the

entire leg and hip. This rod will stabilize and reinforce the fracture site, allowing the femur to heal quickly and firmly. Once healing is complete, the metal rod may be removed or left in place. After surgery, you will need to use crutches to avoid bearing weight on the leg, followed by a program of physical therapy. The goal of physical therapy is to restore normal strength in your leg muscles and normal range of motion in your leg joints. The entire process of healing and rehabilitation usually takes months. Tibia Fractures Treatment depends on the severity and location of your tibia fracture. If you have an uncomplicated fracture that is not near your knee or ankle, the doctor may be able to treat your injury by immobilizing your leg in a cast. More severe fractures usually have to be repaired surgically with a metal rod, wires, or plates and screws. Fibula Fractures In general, a fibula fracture that occurs without a tibia fracture can be treated without hospitalization. Your doctor probably will tell you to rest the injured leg, apply ice to the injured area, and take a nonsteroidal anti-inflammatory drug NSAID , such as ibuprofen Advil , Motrin and others , to ease pain and relieve swelling. If bearing weight on your injured leg is very painful or if the fracture is near the ankle, your doctor may apply a cast and recommend that you use crutches temporarily. If your fracture breaks the skin, you also will be given antibiotics intravenously into a vein to prevent infection. If you have not had a tetanus shot within the past 10 years, a tetanus vaccination will be recommended. Once your fracture has healed enough, your doctor will prescribe a program of physical therapy to restore full strength and function in your injured leg. When To Call a Professional Seek emergency help if you have significant lasting pain and suspect you may have a leg fracture after a fall, a motor vehicle accident or other trauma involving the leg. Prognosis The outlook for leg fractures varies, depending on the type of fracture and its severity: Femur fractures – Almost all femur fractures heal well, and most patients are able to return to their normal activities after about 6 months of treatment and rehabilitation. Tibia fractures – Tibia shaft fractures also have a good prognosis. Fractures that are closer to the knee tend to heal faster than those near the ankle. Fractures in children tend to heal faster than those in adults. Fibula fractures – Almost all fractures of the fibula shaft heal very well without complications. Learn more about Leg Fracture Symptom checker.

7: Tibia and Fibula Fractures - Management - Reduction - TeachMeSurgery

Fractures of the tibia and fibula are a special concern because missing early warning signs can result in a useless leg. The tibia and the fibula are the two long bones of the calf.

Closed Tibia or Fibula Fracture: Fracture is the term given to a broken bone. Any bone in our body can break or get fractured. This is caused mainly due to excessive force applied to the bone which the bone cannot handle and tends to break. Fractures are of two types Closed and Open Fractures. A Closed Fracture is a type of fracture in which the broken bone does not penetrate the skin surface which is the case with Open Fractures and can be caused due to any injury in which the individual sustains a trauma or injury with a significant force. Now coming to the Tibia and the Fibula bones, these two bones are present in the lower leg and provide stability and balance to the leg so that an individual can ambulate and move around freely without being in danger of falling. When there is a fracture of Tibia and Fibula which is strong enough to break the bones but not strong enough for the bones to penetrate out of the skin is what we term as Closed Tibia or Fibula Fracture. In majority of the cases of fracture of the lower legs, both the tibia and the fibula break because of the close proximity of the two bones. The symptoms of Closed Tibia or Fibula Fracture are quite serious and require immediate attention. Motorcycle crashes, falls, and awkward twisting are the most common causes of Closed Tibia or Fibula Fracture. As stated, a fracture occurs when there is excessive force applied to the bone which the bones cannot withstand resulting in it breaking. For Closed Tibia or Fibula Fracture, some of the common causes are: Falling from a significant height directly on to the leg resulting in significant force acting on the Tibia and Fibula upon impact breaking them instantly resulting in Closed Tibia or Fibula Fracture. Motorcycle crashes in which the individual falls from the bike on to the leg also tends to cause a Closed Tibia or Fibula Fracture. A direct blow or assault to the lower leg by a heavy object can also result in Closed Tibia or Fibula Fracture. A sudden forceful twisting injury usually while playing sports like football and basketball can also result in Closed Tibia or Fibula Fracture. Some of the symptoms of Closed Tibia or Fibula Fracture are: Immediate swelling and severe pain in the shin and calf immediately after the injury. Presence of an obvious deformity can also be seen with Closed Tibia or Fibula Fracture. An individual with Closed Tibia or Fibula Fracture will not be able to stand up or ambulate to any degree. An individual with Closed Tibia or Fibula Fracture will have reduced range of motion of the leg and will experience severe intense pain when doing so. There might also be discoloration at the injury site due to Closed Tibia or Fibula Fracture. In order to diagnose a Closed Tibia or Fibula Fracture, the treating physician will first examine the injured area looking for any signs of tenderness, discoloration, and swelling. Once a fracture is suspected, the physician will order radiological studies to pinpoint the location of the fracture and the extent of the fracture so as to formulate a treatment plan. In some cases if a fracture is not clearly seen on these images, then a bone scan may be done to have a better insight as to the location and severity of the fracture. Closed Tibia or Fibula Fracture can be treated with both conservative as well as surgical approaches. In cases where the fracture is mild and the bones are not out of alignment then conservative approaches in the form of cast immobilization for a period of four to six weeks is done to allow the closed tibia or fibula fracture to heal. During this time, the patient will be recommended not to put any weight on the injured leg so as to allow the bone to heal and prevent malalignment of the bone. The patient will be given crutches to move around and go about his or her activities. In cases where the bones of the tibia or fibula get displaced from their alignment then surgery may be required to align them in their normal anatomical position. This is usually done in cases where the closed tibia or fibula fracture is severe. This is done by using metal screws and rod to align the bones and hold them in their normal places and allowing the bones to heal. This procedure is called internal fixation if the rods and screws are inserted within the body and external fixation if it is done outside the body. Post surgery, the patient will be nonweightbearing for a period of about four weeks and not allowed to put any weight on the injured leg. Once the fracture is confirmed healed on x-rays then the plates and screws are removed and the patient is sent to physical therapy for strengthening and range of motion exercises. Once the patient is through with rehab, then the patient will be asked to put some weight on the affected extremity and once the patient is

able to do so pain free then gradually the patient will be sent back to normal activities after sustaining a closed tibia or fibula fracture. The recovery period for Closed Tibia or Fibula Fracture varies from individual to individual and depends on the age and overall health of the individual and also the extent of the injury. For cases where the fracture was mild and nondisplaced the patient can get back to normal activities within six to eight weeks post injury but in cases where the degree of fracture was significant and required surgery to correct it then it takes almost four to six months before an individual can get back to full activities after sustaining a Closed Tibia or Fibula Fracture. The recovery rate can be expedited if the patient diligently adheres to what the physician has recommenced in terms of activity, rest, weightbearing status, and participating in exercises. It is very vital for the patient to not stress the fractured site too soon after recovery for fear of refracturing it again and undergoing the same process of treatment for Closed Tibia or Fibula Fracture.

8: Leg Fracture Guide: Causes, Symptoms and Treatment Options

The lower leg is made up of two bones: the tibia and fibula. The tibia is the larger of the two bones. It supports most of your weight and is an important part of both the knee joint and ankle joint.

Other than pain and swelling, other signs of a fibula fracture include: How will a doctor diagnose a fracture? See a doctor if you have symptoms of a fracture, especially after a traumatic injury. Your doctor will physically examine you for signs and may order an X-ray, which will show the break. For fractures that need more precise imaging, your doctor may order a CT scan to see how severe the injury is. Types of treatment for a fracture Treatment depends on how severe the fracture is, the type, and where the injury is. Fractures are often categorized as closed skin is intact or open skin is broken. This prevents movement so the fracture can heal. You may get crutches. A physical therapist can teach you how to walk without putting weight on the broken leg. Closed simple fracture treatment Closed fractures may or may not need surgery. A splint or cast that prevents movement is usually all that is needed unless there are other parts of the leg that are also injured. If you do require additional treatment to realign your bones, your doctor may recommend: Your doctor realigns ends of a broken bone without cutting into your skin. Your doctor does invasive surgery on bones that may have broken in more than two places. Open compound fracture treatment Seek emergency medical attention if you have an open fracture. Follow the RICE principle while you wait for help: Open fractures require surgery as there may be additional injuries, such as skin loss and damage to arteries. Your doctor will focus on: For internal fixations, your doctor will place metal implants inside the broken bone to hold the fracture together while it heals. Severe open fractures require external fixations, where the metal screws or pins project outside the skin to keep the bones in place. Recovery, rehabilitation, and outlook Recovery and home care The general process for healing a fibula fracture is immobilization with a splint or cast for several weeks, after which you might get a walking boot to help you walk. Recovery time depends on factors such as: Follow the activities outlined by your physical therapist and doctor to encourage recovery. Use your crutches to avoid putting weight on your injury. Consume a diet high in nutrients such as vitamin D, calcium, and zinc for bone recovery. Perform upper body exercises using light dumbbells to strengthen the arms, chest, back, and shoulders. Take a pain reliever and anti-inflammatory if needed to reduce pain and swelling. Your doctor can recommend a physical therapist to help you regain strength and range of motion. Here are some safe exercises to try. Fibula rehabilitation exercises Ankle stretch: Stretch your injured leg out and wrap a towel around the arch of your foot. Holding it by the ends, pull the towel toward you. You should feel a gentle stretch at the top of your foot and the ankle. Keep your leg straight as you hold this position for 15 to 30 seconds. Sit and place your ankle over the opposite knee. Push your foot downward and rotate it gently to reduce stiffness. Sit down and stretch out your injured leg. Write the alphabet in the air with your big toe to promote flexibility. Outlook After an injury, it can take up to weeks to make a full recovery. Your doctor will use X-rays to see how well your fracture is healing. Remember to talk with your team of health providers if your symptoms get worse or if recovery is going slower than expected. Having had one fracture can increase your risk for another. Research shows that the biggest risk factor of a fibula fracture is low bone mass. Low bone mass increases the amount of stress or trauma on the fibula. Factors that reduce bone mass can also increase your risk for a fracture.

9: Pediatric Tibia and Fibula Fractures

What is tibia/fibula fracture open reduction and internal fixation? Open reduction and internal fixation (ORIF) is a type of surgery used to stabilize and heal a broken bone. You might need this procedure to treat your broken shin bone (tibia) or your fibula. The tibia, or shin bone, is the larger.

Ankle fractures range from a simple injuries of a single bone to complex ones involving multiple bones and ligaments. Ankle fractures can be broadly divided into stable or unstable injuries. Stable fractures typically heal with immobilization and protected weight bearing whereas operative management is needed for displaced or unstable fractures. Structure and function Ankle anatomy The ankle joint is made up of the tibia, fibula, and talus. The tibia forms the superior and medial aspects of the joint, and the fibula its lateral aspect. The talus is a cube-shaped bone that sits above the calcaneus and below the tibial plafond. A fracture affecting both the medial and lateral malleoli is called a bimalleolar fracture, and one involving the medial, lateral, and posterior malleoli is called a trimalleolar fracture. The ankle joint also contains three important ligament complexes: Anatomy of the ankle joint. Medially, the deltoid ligament shown in pink connects the tibia to the talus and calcaneus. Laterally the calcaneofibular green and talofibular yellow ligaments stabilize the joint. The tibial plafond, lateral malleolus, and medial malleolus form a mortise, a socket in which the talus sits. Although the ligaments are needed to give the ankle its full stability, the bony congruity of the mortise and the talus is a necessary component as well. The ankle forms a mortise and tenon carpentry version shown at right. The tenon or tongue is the talus. As seen, the talus is wedged into a space just big enough to hold it. When the mortise is disrupted by a fracture, the talus is free to move more than it should. This abnormal motion leads to focal pressure points which can be damaging. Thus, a smaller area of contact for a given load leads to higher pressure. The loss of compliance makes the entire system more prone to damage: There are many methods of classifying ankle fractures: Regarding the soft tissues, the single most important feature to note is whether the fracture is "open", that is, that the skin is broken. Ankle fractures are classified as stable if the fracture is non-displaced or minimally displaced and the medial structures deltoid ligament and medial malleolus are intact. This type of injury allows the talus to remain within the mortise, preventing displacement of the joint. Plain x-ray of a stable ankle fracture. Note the mortise is intact: Plain x-ray of an unstable ankle fracture -white fibula and pink tibia arrows. Note how the talus outlined in purple is displaced laterally along with the fibular fragment and no longer sits snugly within the distorted mortise red. For example, a transverse fracture as shown in the figure is clearly produced by traction from ligaments pulling on the bone. Yet for this traction force to be produced, the foot must move medially, perhaps creating an impact on the medial side. A transverse fracture of the fibula is produced by a traction force, depicted by the arrow. The motion of the foot needed to produce this force may cause the talus to hit the tibia medially, producing a bone bruise if the force is mild as shown by the star or even a fracture on this side as well not shown. An oblique fracture of the fibula red arrow is produced by twisting. This force also applies traction to the medial side. Here a small fleck of bone is pulled off the tibia yellow arrow due to traction from the deltoid ligament which may also be injured. Although the deltoid ligament cannot be "seen" on the xray, the injury is easily inferred, given the widening of the mortise nearby. Patients typically describe an acute twisting injury in which the foot is planted on the ground and the body rotates around it. The direction of rotation and the orientation of the foot while planted will determine which bones and ligaments may be injured. While this is useful information to obtain, it is often the case that the patient cannot recall or describe exactly what happened. For example, ankle pain after a fall from a height or a motor vehicle crash is likely to be from force transmitted from the heel up the leg, and therefore injury to the calcaneus, talus, tibial plafond, and more proximal bones including even the spine must be considered. Objective evidence Patients with suspected ankle fractures should have xrays performed: Obtaining the AP with the foot slightly internally rotated about 15 degrees produces a clearer view of the mortise. These views should be evaluated for the integrity of the bones as well as proper alignment between joint surfaces. Internal rotation of the foot will give a clearer view of the mortise. Indeed, according one study PMID: To help guide the decision whether imaging is needed, the Ottawa Ankle Rules have been developed.

According to these rules, ankle radiographs are not necessary if malleolar bony tenderness is absent and the patient can bear weight take more than four steps. In some patients an unstable ankle fracture is only diagnosed after the ankle is "stress" under x-ray revealing the lateral displacement of the talus and therefore disruption of the deltoid ligament and syndesmosis. Fracture incidence by age is bimodal, with men typically having higher rates as young adults and women having higher rates as elderly adults. The highest incidence is found in elderly white women. The most common type of ankle fracture is an isolated fibular fracture, representing about half of all ankle fractures. One-fourth of ankle fractures are bimalleolar, while trimalleolar fractures and isolated medial malleolar fractures are less common. Differential diagnosis When a patient presents with an acute ankle injury, is necessary to discern which structures, if any, have been damaged. Injuries that cause ankle fractures may also cause damage outside of the ankle region per se. This leads to a fracture of the proximal fibula near the knee -a so-called Maisonneuve fracture. This injury is produced by a strong external rotation force, one that would assuredly damage the lateral side of the ankle as well. This injury is important to detect given the proximity of the common peroneal nerve to the fibular fracture line. The top views reveal a posterior malleolar fracture white arrow , with no apparent lateral side damage. Red flags Blood on the skin is suggestive of an open fracture. Any break in the skin associated with an ankle fracture should be considered an open fracture until proven otherwise. Open fractures require administration of antibiotics and tetanus prophylaxis as indicated. Basic wound management cleaning the wound with saline and applying a dressing and splint should not await the arrival of a specialist. If a patient presents with severe ankle pain following an acute injury but x-rays are normal, an injury to the foot and not the ankle, such as a Lisfranc joint disruption or navicular fracture, may be present. The presence of a pilon fracture should prompt a careful physical examination to exclude addition injuries more proximally. Treatment options and outcomes All dislocations should be reduced that is, realigned. Open wounds should be cleaned and dressed; and prophylactic antibiotics and a tetanus shot, if indicated should be given. The ankle should then be immobilized with a splint and elevated to minimize swelling. If the fracture is stable and not displaced, a course of immobilization and protected weight bearing for about 6 weeks may suffice. Following adequate bone healing, physical therapy can help the patient regain strength, range of motion, and proprioceptive function. Operative fixation will be necessary if there is notable displacement of the bone fragments or the injury has caused a disruption of the ankle mortise. Surgery generally consists of making incisions at the affected malleoli, re-positioning the bony fragments to their appropriate positions, and holding them in place with screws and plates. The hardware can be left in the joint permanently unless it causes irritation, in which case it can be removed once the fracture has healed. Fracture fixation with a plate and screws is shown. The longer screw arrow into the tibia is used to stabilize the syndesmosis and thereby reduce the ankle mortise by holding the tibia and fibula in the correct position to allow the ligaments that normally stabilize the ankle joint to heal. Not surprisingly, outcomes improve with more accurate reduction. Factors that negatively affect outcomes include involvement of the posterior malleolus, impaction of the talus, severe talar dislocation, and the presence of diabetes. Recovery time will depend on the severity of the initial injury but it often takes a year or more before patients reach their point of maximal improvement. Even then, mild to moderate symptoms may persist for years despite complete radiographic healing. Complications of ankle fractures include malunion, non-union, stiffness, and wound breakdown. Even with optimal treatment, some ankle fractures may result in post-traumatic ankle arthrosis as damage to the articular surface at the time of injury can lead to chondrocyte death. Sub-optimal reduction of the joint and resultant abnormal biomechanics will also promote the development of ankle arthrosis. Another possible, albeit rare, complication of ankle fractures is complex regional pain syndrome CRPS; previously known as reflex sympathetic dystrophy or RSD. This uncommon but debilitating condition is characterized by burning or throbbing pain, sensitivity to cold or touch, weakness, stiffness, and changes in skin color, temperature, or texture. Miscellany Just as a piece of masking tape yanked briskly from a wall may take with it a sliver of paint as well, a sprained ligament may yank with it a small sliver of bone: The finding is important only that it informs the viewer that a sprain has occurred; the bony injury is itself insignificant.

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