What is a Talus Fracture?
A talus is a broken ankle bone. The talus is the bone in the back of the foot that connects the leg and the foot. It joins with the two leg bones (tibia and fibula) to form the ankle joint allowing for upwards and downwards motion of the ankle.

Symptoms and Clinical Presentation
Most patients present with pain and swelling about the ankle. They also experience severe ankle pain with inability to walk due to the bruising and swelling.

FIG 1 Talus Fracture

Cause
Talus fractures are often the result of high-energy injuries such as a fall from a ladder or automobile accidents resulting in the most severe type of injuries. However, they may occur from twisting your ankle resulting in small chips or fragments that are broken off the edges of the talus.

Anatomy
The ankle bone (talus). This bone sits within the ankle "mortise" or hinge which is made up of the two leg bones, the tibia and fibula. Three joints are present: the ankle, which allows the up and down motion of the foot with the leg; the subtalar joint which allows "inversion" and "eversion" of the foot with the leg; and the talonavicular joint which has a complicated biomechanical function that controls flexibility of the foot and the arch of the foot. The talus has no muscular attachments and is mostly covered with cartilage, which makes injuries to the talus difficult to heal.

Diagnosis
In many cases the diagnosis can be made by your physician on physical examination alone. He or she will examine your foot for evidence of swelling or bruising about the ankle. X-rays are performed to help understand the extent of joint involvement and to show the location and size of bone fragments. Oftentimes a specialized x-ray, called a CT scan, is ordered to provide the physician with more information about the fracture. Due to the high energy that is commonly associated with these injuries, your physician may also examine you for other injuries involving the back, neck, head and other extremities.
Treatment Options
Talus fractures may be treated in a cast or surgery may be recommended.

**Non-Surgical Treatment:** Non-surgical treatment is recommended for fractures in which the pieces of bones remain close together and the joint surfaces are well aligned. Patients who smoke or have diabetes or poor circulation may be treated without surgery due to the very high risk of developing complications if surgery is performed.

**Surgical Treatment:** For a majority of patients, surgical treatment is the correct form of treatment. The goal of surgery is to restore the size and shape of the talus. Sometimes this is a problem as the multiple fragments of bone are like putting together the pieces of a difficult puzzle.

**Open Reduction and Internal Fixation**
When the bone has several large pieces your surgeon will perform open reduction and internal fixation (ORIF). The procedure involves making a cut on the outside of your foot and placing a metal plate and/or screws to hold the bones together until healing occurs. The procedure allows for maximal recovery of the inward and outward motion of the foot.

![Figure 2: After surgery](image)

**Recovery**
Recovery can be prolonged. No weight or walking on the leg will be allowed for 8-12 weeks. Once the bone is healed, exercise and physical therapy is started to maximize the function of the ankle. The patient should expect some swelling about the foot for several months after the procedure.

**Outcomes**
The injury can be very debilitating with persistent pain, stiffness, swelling even after an excellent non-surgical or surgical treatment. However, most people, depending on the type and severity of the fracture, are able to return to most work and recreational activities.
Complications
Talus fractures are quite severe injuries and can lead to longstanding problems with the foot and ankle and can be divided into early and late complications.

Early Complications: Early complications are most often related to the significant swelling that can occur after these injuries causing wound problems and infection. People who smoke, have diabetes or poor circulation are at greatest risk for these complications.

Late Complications: Late complications are typically related to the severity of the initial injury. Most people experience a certain degree of stiffness with the upwards and downwards motion of the ankle. When the blood supply to the talus is damaged it can lead to death of the bone, a condition called avascular necrosis (AVN). This condition can lead to significant deformity and arthritis requiring additional surgery.

FAQ's

How long will I be out of work?
This is a severe injury and dependent upon the type of work performed most people are unable to return to work for at least 2 weeks after the injury. Those without sedentary jobs may not be able to return for 6 months to a year.

Do the plates and screws need to be removed?
The plates and screws serve to hold the bones together so that they can heal. Once the bones are healed they serve no purpose. However, most surgeons do not recommend removal of the plate and screws unless there are problems with pain or infection.

Additional Resources