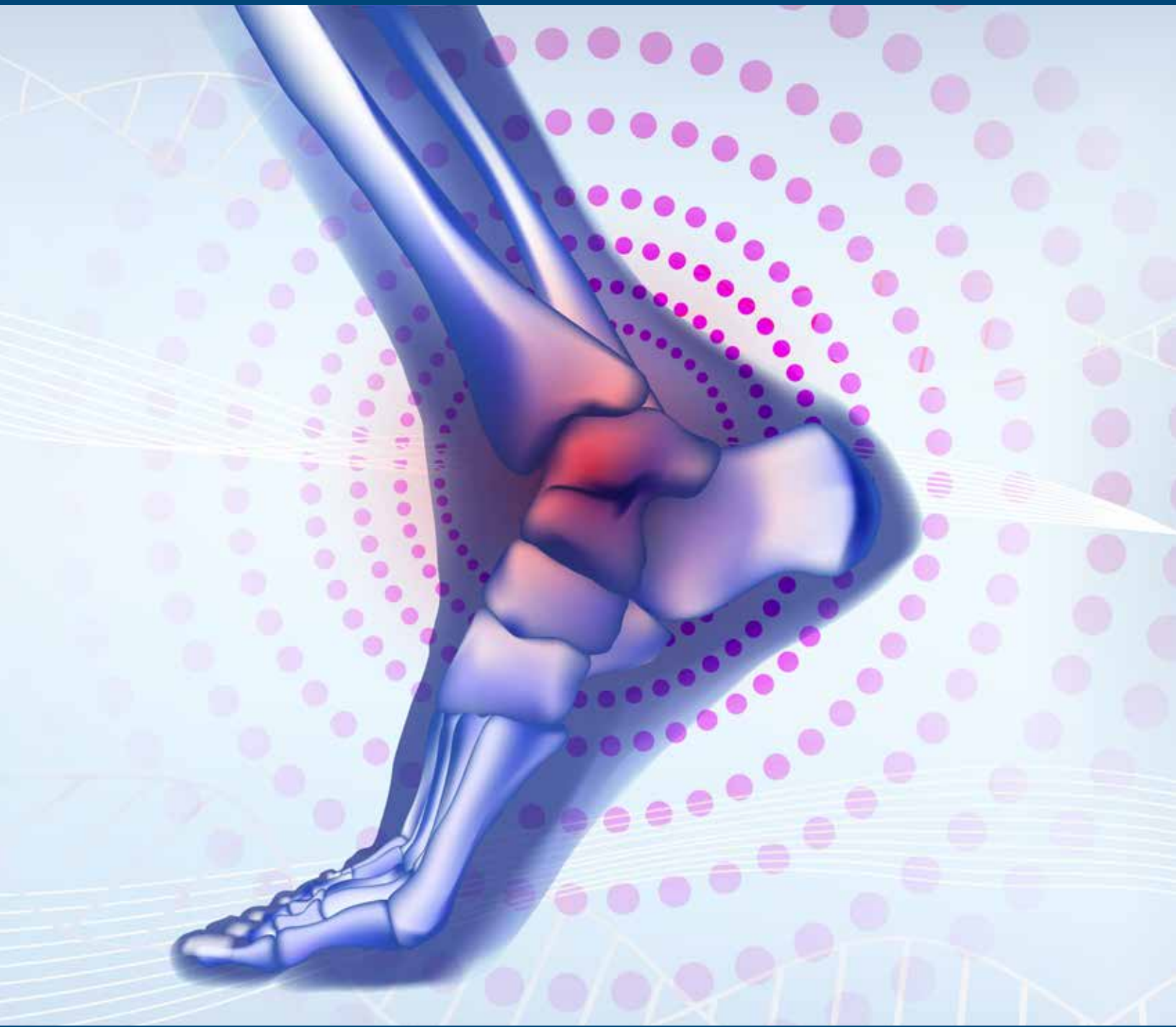


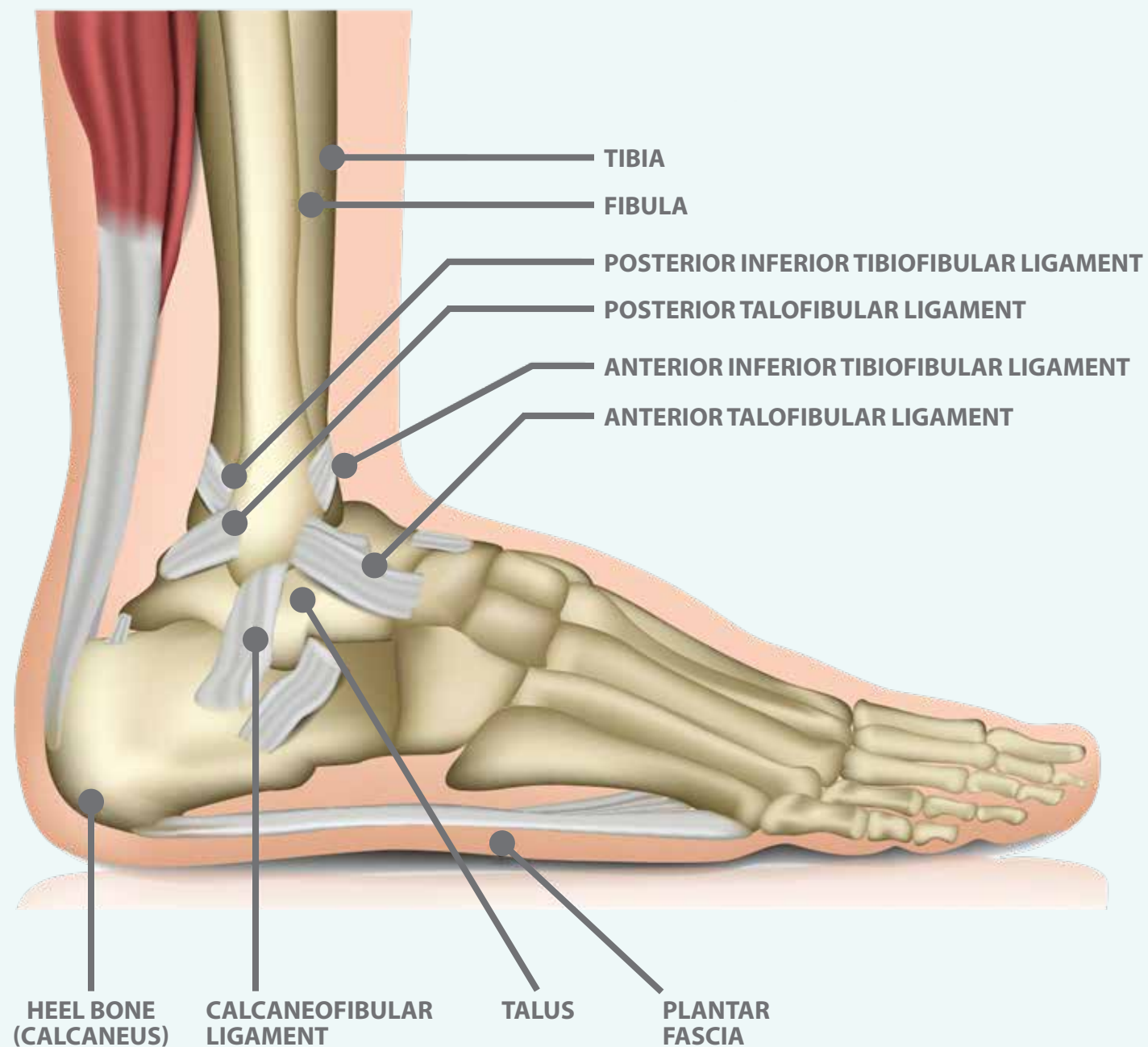
Everything you need to know about ankle fractures



FLORIDA
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ABOUT ANKLE FRACTURES

The Ankle Joint



Ankle fractures, known more commonly as a “broken ankle”, happens when there is a break in one or more of the bones that make up the ankle joint.

Ankle fractures can range from a simple break in one bone to several fractures. The more bones that are broken, the more unstable the ankle becomes.

Although ankle fractures are an injury seen in almost every age, it is becoming more prevalent in older, more active generations.

In many ankle fractures ligaments (that hold the ankle bones and joint in position) are also damaged.

As bones begin to break, the ankle will become more and more unstable. With the addition of damaged ligaments, a fractured ankle can become a very serious issue.

Luckily, there are both surgical and nonsurgical treatment options available. All ankle fracture injuries should be evaluated by a physician to determine severity.

ANATOMY

There are three bones that make up the ankle joint:

- Tibia - Shinbone.
- Talus - Bone that sits between the heel bone and the tibia and fibula.
- Fibula - Lower leg bone.

Ankle fractures are classified by the area of bone that is broken. The ankle is made up of parts of the tibia and fibula:

- Medial malleolus – Inside part of the tibia.
- Posterior malleolus – Back part of the tibia.
- Lateral malleolus – End of the fibula.

Two joints are involved in fractures of the ankle:

- Ankle joint – tibia, talus, fibula.
- Syndesmosis joint – between the tibia and fibula, held together by ligaments.

The stability of the ankle is determined by the strength of the ligaments and bones.

DESCRIPTION • SYMPTOMS • DIAGNOSES



DESCRIPTION

Ankle fractures can be caused by harsh accidental movement, such as twisting of the ankle in everyday sport or activity. Car accidents can also cause ankle fractures, especially high impact ones.

Tripping, falling, rolling your ankle or rotating it the wrong way can create an ankle fracture. Depending on your age and health condition, this issue can develop into something far more severe if left untreated.

SYMPTOMS

Since a sprain can sometimes feel the same as a broken ankle, it is always important to consult with your physician. Evaluating the symptoms of an ankle fracture can determine if that is the issue at hand.

Common symptoms for an ankle fracture include:

- Immediate pain
- Severe pain

- Bruising
- Swelling
- Tenderness
- Cannot put weight on the injured foot
- “Out of place” deformity (especially if the ankle joint is dislocated)

DIAGNOSIS

Your Florida Orthopaedic Institute physician will discuss your medical history and symptoms with you. They will also ask about how the injury occurred and perform an examination of the affected area.

If your physician believes you may have fractured your ankle, they will order imaging tests to be done to more fully examine the injury.

These could include:

- **X-RAYS:** X-rays can show if the ankle bone has been broken and how many pieces of broken bone there are. They can also determine if there is displacement (the gap between broken bones). Your physician

may also choose to take x-rays of other portions of the leg or foot to ensure that nothing else was damaged in the injury.

- **STRESS TEST:** A stress test is done to determine if surgical procedures are necessary to assist the injury in healing. Your physician will put pressure on the ankle and take a special x-ray to determine such.
- **CT SCAN (Computed Tomography):** If the fracture extends into the ankle joint, a CT scan may be needed to further investigate the injury. CT scans create a cross-section image that your physician can evaluate to see the injury’s severity.
- **MRI SCAN (Magnetic Resonance Imaging):** If your physician suspects ligament damage has occurred, they may order an MRI scan to get a closer look. MRI scans can look deeper into bones and soft tissues such as ligaments to create higher resolution images than most other tests.

TYPES OF FRACTURES

If your physician determines that your ankle is fractured, they will then determine which type of fracture it is and how to go about treating it.

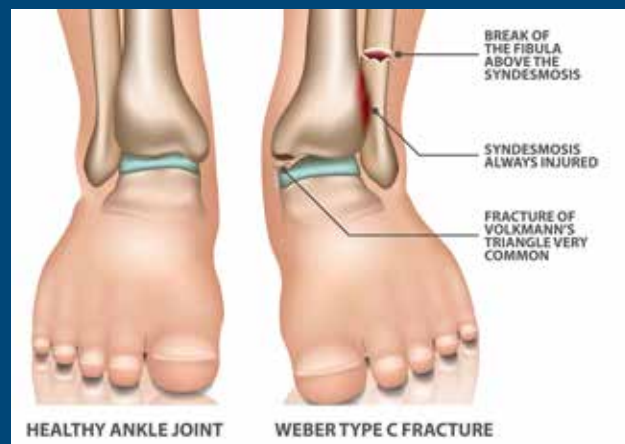
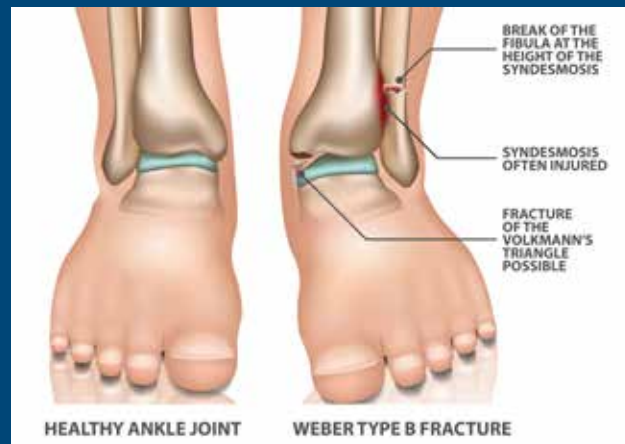
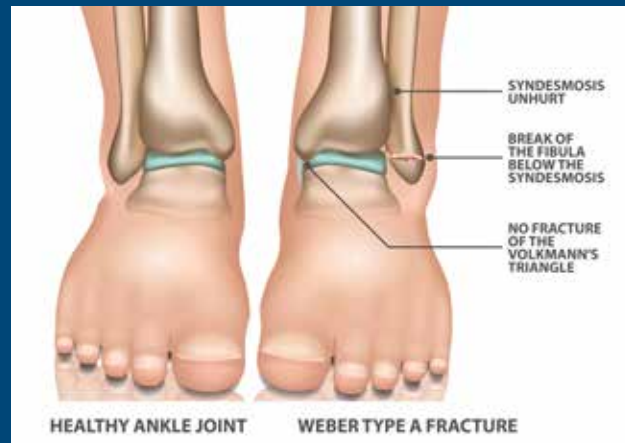
There are two common classifications used for ankle fractures:

- Weber Classification
- Lauge Hansen Classification

In the Weber Classification, the fracture is defined by level of the fibular fracture:

- TYPE A: Fracture below the syndesmosis
 - › Rarely unstable.
 - › Rarely associated with syndesmotic injury.
- TYPE B: Fracture at the syndesmosis
 - › Common injury.
 - › Can be unstable.
- TYPE C: Fracture above the syndesmosis
 - › Usually unstable.
 - › If deltoid ligament injury, will probably require syndesmotic screws.
 - › The higher the fracture, the more likely need for screws.

The Lauge Hansen Classification depends on the mechanism and the force of the injury.



LATERAL MALLEOLUS FRACTURE (A fracture of the fibula). There are various levels of fracture and these may bring about various treatment types. If your ankle is stable, there are nonsurgical treatment options available. These can range from wearing high-top tennis shoes to short leg casts. Your physician may recommend waiting to put weight on the foot to ensure no fragments have moved out of place during healing.

MEDIAL MALLEOLUS FRACTURE (A break in the tibia at the inside of the lower leg). If not out of place or very minor, this fracture can be healed after not putting stress on it for 6 weeks. A short leg cast or removable brace, along with the advice of your physician, will generally help the healing process move quicker.

POSTERIOR MALLEOLUS FRACTURE (A fracture of the back of the tibia at the level of the ankle joint). In most cases, the fibula is also broken due to its sharing ligament attachments with the posterior malleolus. If the ankle is still stable, it can be treated without surgery. Treatment may be with a short leg cast or a removable brace. It is important to determine the severity so that arthritis does not develop.

BIMALLEOLAR FRACTURES/ BIMALLEOLAR EQUIVALENT FRACTURE (Two of the three parts of the ankle are broken). A bimalleolar equivalent fracture indicates that ligaments on the inside of the ankle are also injured. Since these injuries are generally unstable, surgery is usually recommended. In the case of health issues which may prevent surgery, a splint and short leg cast can be applied. You will need to see your physician regularly to ensure that your ankle remains stable.

TRIMALLEOLAR FRACTURE (All three parts of the ankle are broken). Since this is highly unstable, surgery is almost always recommended. The rare nonsurgical treatment options include a short leg cast, a splint and consistent visits to your physician.

SYNDESMOTIC INJURY (The joint located between the tibia and fibula that injures the ligaments and/or creates a fracture). If the ligament is the only part injured, this can heal like an ankle sprain and can be treated by removing weight from it without surgery. However, most cases include a ligament sprain and one or more fractures. These are highly unstable and do poorly without surgical treatment.

SURGICAL TREATMENT

In the case that nonsurgical treatment options do not work, or your ankle is too unstable, your physician may recommend surgery.

LATERAL MALLEOLUS FRACTURE: If the fracture is out of place, the bone fragments will need to be repositioned via surgery. Fragments would be placed back into their normal alignment and held together with special screws and metal plates attached to the outside surface of the bone.

MEDIAL MALLEOLUS FRACTURE: If the fracture is out of place, or in some rare cases even if it isn't, surgery may be recommended. Since the risk of the fracture not healing properly is high, surgery may include bone grafting so that new bone can grow with the addition of screws and a metal plate. This can lower the risk of arthritis and allow movement to return quicker.

POSTERIOR MALLEOLUS FRACTURE: Surgery may be recommended if the ankle is unstable. Screws can be placed from the front of the ankle to the back of the ankle or placed along the back of the shin bone in addition to a metal plate.

**BIMALLEOLAR FRACTURES/
BIMALLEOLAR EQUIVALENT FRACTURE:** Since the ankle becomes unstable with this type of fracture, surgery is suggested. These are treated with the same procedures listed above.

TRIMALLEOLAR FRACTURE: Since these fractures are incredibly unstable, surgery is highly recommended. These are treated with the same procedures listed above.

SYNDESMOTIC INJURY: These fractures are highly unstable and do very poorly without surgical treatment. These are treated with the same procedures listed above.

THE NEXT STEP

If you suspect that you may have fractured your ankle, schedule an appointment with Florida Orthopaedic Institute. Our professionals are fellowship-trained and up to date on the latest medical research to provide tailored treatment to fit your needs.





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