

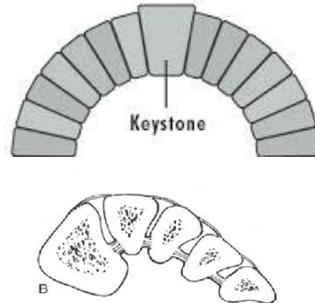


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Lisfranc Fracture-Dislocation

There are 28 bones and 32 joints in each foot. It is not uncommon to break them. The structure of the foot has been described like a roman arch, whose structure is reliant upon a keystone. The Lisfranc joint is a complex structure of bones and ligaments that are critical to the structure of the foot that acts as a keystone. Foot fractures are relatively common and many people don't seek immediate medical attention, or only see a primary care physician. This injury is NOT always obvious on x-ray. For this reason, they are commonly missed. Sometimes a specialist is seen well after the fracture has healed, which limits treatment options. It is important to see a specialist to ensure proper diagnosis and treatment.



Diagnosis

A set of high-quality weight-bearing (standing) x-rays are required for diagnosis to rule out fracture and to assess the structure of the foot and ankle, as well as a thorough physical examination. In equivocal cases, an x-ray of the other foot will be obtained as well. Sometimes, an MRI and/or CT is usually necessary if there is



concern for an occult fracture, or to better characterize the pattern of the fracture. This will be a decision discussed with you by your physician.

Signs of a Lisfranc injury include severe swelling, bruising on the bottom of the arch, inability to bear weight, and failure to improve.

Initial treatment

Immobilization and rest

This will be done by use of a tall CAM boot or cast while the pain is severe. Ace bandages and lace-up braces are NOT adequate.

Ice and anti-inflammatories

NSAIDs and ice are effective ways to decrease the pain day-to-day. Ice should be placed with a tea towel protecting the skin for no more than 20 minutes per hour. Ice is NOT advised in patients with neuropathy or any numbness in the feet. Speak to your doctor if there is concern for contraindications to anti-inflammatories such as naproxen or ibuprofen.

Operative treatment

Nearly all Lisfranc injuries require surgery. Failure to do so will result in collapse of the arch. Even with appropriate operative treatment, about 25% will go on to have symptomatic arthritis, but surgery minimizes that risk. Surgery includes an open reduction, which is placement of the pieces in their



appropriate position under direct visualization, and internal fixation, which means using a plate and screws or suture to hold the pieces in the appropriate position. The major risk of surgery other than infection is injury to a nerve that provides sensation to the space between the first and second toes. This may take up to a year to resolve or may result in permanent residual numbness.

After surgery, a splint or cast is placed. At 7-8 weeks postoperatively the cast will be transitioned to a boot.

The plate construct is very stiff, and most patients feel better when it is removed after six months. Risks of failure to remove the hardware include breakage of the hardware.

Physical Therapy

Regular physical therapy appointments will aim to strengthen the muscles that are weak, improve balance and establish a program of therapeutic exercises. Injury and recovery alter our brain's ability to know where the foot is in space, which is known as proprioception. Physical therapy has been shown to improve both balance and proprioception.

Return to Play

To prevent further injury or reinjury, it's best to wait until your balance has been regained and improved. This requires specific balance training as well as core strengthening. Results from home exercises can be accelerated with use of a BOSU to gain balance. This should be implemented at the appropriate time and performed under the supervision or approval of your physical therapist or physician.



References

www.footcaremd.org/conditions-treatments/midfoot/lisfranc-injury

orthoinfo.aaos.org/en/diseases--conditions/lisfranc-midfoot-injury/