



South County

Orthopedics Specialist

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Calcaneus Fracture

The calcaneus is part of the hindfoot which includes the talus. The hindfoot articulates with the tibia and fibula creating the ankle joint. A fracture of the calcaneus is commonly caused by a high energy injury such as a car crash or falling from a height forcing an axial load through the hindfoot. As the force is propagated through the calcaneus, a primary fracture line begins in the sinus tarsi near the lateral wall and spreads obliquely across the posterior facet separating the medial sustentaculum from the calcaneal tuberosity.

Patients will present with a traumatic event as the mechanism of injury and will have diffuse pain, edema, and ecchymosis of the heel. They will not be able to bear weight or will have difficulty with bearing weight. Severe soft-tissue disruption occurs with higher-energy injuries and may be associated with open fractures. A small puncture wound medially, where the medial wall of the calcaneus can protrude from the skin may also be present.

An x-ray along with a CT scan of the foot may be done to identify the fracture pattern and determine if it is extraarticular vs intraarticular which will assist in the best management of the fracture, operative vs. non-operative.



Treatment

Non-operative/closed treatment

Non-operative treatment includes edema control, early range of motion of the ankle, and acute pain relief. Edema control is done through compression and immobilization with a removable boot or splint so that ankle range of motion can be preserved. They will be non-weight bearing for at least 8 weeks and then progressive weight bearing with assistance of a CAM boot for 4-6 more weeks.



Operative treatment: Open reduction internal fixation

An incision over the side of the heel will be made, the bones will be reduced and fixed with internal fixation, in the form of screws or plates. Healing requires non-weightbearing for the first 6-8 weeks, depending on the fracture pattern, degree of comminution, and rigidity of fixation. With progression into assisted weightbearing in a CAM boot for an additional 4-6 weeks.



Post-operative care

You will wake up with a molded splint around your foot and ankle. You will not be putting any weight on this foot for the first 2 weeks. The use of a knee scooter, I-walk, crutches or wheelchair will assist with walking. During these first 2 weeks you are to keep the splint dry and clean. Please do not take the splint off until you are seen in the office for your first post-op appointment. The first appointment we will remove the splint and take out the skin sutures you will transition into a CAM boot, with continued non-weightbearing until your next follow up appointment in 4 weeks. We will take x-rays of the foot at each follow up appointment for assessment of healing. At 8-12 weeks post-op you will be able to begin walking with the protection of the CAM walking boot. Final post-op check will usually occur between 6-9 months from surgery, with return to full activities.

Expectation:

The aim after surgery is to improve alignment of the hindfoot, decrease early incidence of arthritis, conserve articular surface. Despite all efforts to maintain as much function as possible, the subtalar joint will be stiffer which will be felt most when walking on uneven surfaces.

Additional links

<https://www.orthobullets.com/trauma/1051/calcaneus-fractures>

<https://orthoinfo.aaos.org/en/diseases--conditions/calcaneus-heel-bone-fractures/>

<https://www.ncbi.nlm.nih.gov/books/NBK430861/>

<https://footcaremd.org/conditions-treatments/heel/broken-heel>

<https://footcaremd.org/conditions-treatments/heel/calcaneus-fracture-surgery>