

Concise Text Book Of Talus And Its Disorders

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during insertion, as these are unicortical screws. Medially, when comminution exists, fixation acts as a medial strut to preserve length and prevent shortening. Due to the broad footprint of the medial malleolar articulation with the talus, there is very little room for plate placement.

Typically, screws place on the margin of the talar head or through the cartilage of the talar head are used. Abduction of the forefoot and navicular can provide this exposure. Again, care should be taken as to the screws trajectory to keep it unicortical. Lateral and dorsal articular perforation must be avoided. Several screws can be placed from the medial side if needed, but with limited exception due to the broad articulation between the talus and medial malleolus, the medial talus cannot take a plate.

Maceroli et al. examined the results of medial screw fixation augmented with a lateral mini-fragment construct in 26 patients. They found an 11.5% non-union rate attributed to open Hawkins type IV fractures. AVN was seen in 27% based on radiographic follow-up. Post-traumatic arthritis developed in 38% of patients, four of which required subsequent arthrodesis [11]. Once fixation has been placed, screw lengths have been verified, and fluoroscopy has been taken to ensure no evidence of malreduction, the tibiotalar articulation is aggressively ranged to ensure fracture stability.

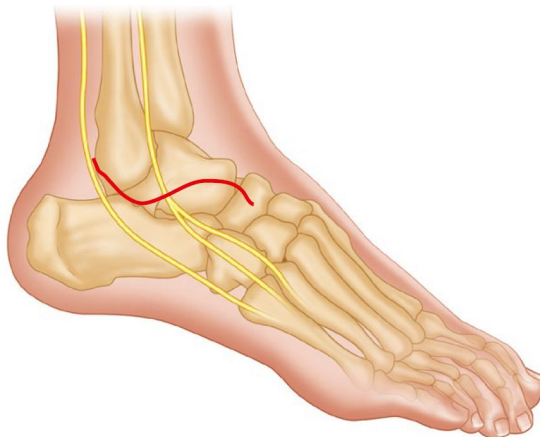


Fig. 9.3 Anterolateral approach modified into an “S-shaped” curve to address calcaneal and talar fractures

Any motion in the fracture site is risky, given the fixation only consists of small sized hardware. Risk of fixation failure needs to be minimized as development of a persistent talar non-union is catastrophic. In the event of fixation failure, several “bailout” options do exist but should not be regularly employed. Fibular osteotomy can be utilized to expose the posterolateral talus when needed. The anterolateral approach is extended proximally, and care is used to protect the superficial peroneal nerve. The anterior distal tibiofibular ligaments are incised

and the osteotomy is started three centimetres above the articular surface in transverse or oblique fashion. The osteotomy is made with an oscillating saw taking care to protect the peroneal tendons posteriorly.

The lateral malleolus is then retracted posteriorly. The osteotomy can be fixed with standard small-fragment plates and screws and repair of the incised anterior distal tibiofibular ligaments. As the posterolateral talus is not an area of considerable articulation, particularly on the plantar surface, fixation can be extended with the understanding that hardware removal may have to occur. A small chamfer can be cut in the lateral wall of the talus to recess the plate. This technique is demonstrated in the case studies.

A similar technique can be employed medially with a medial malleolar osteotomy if needed, though this osteotomy is usually more common to address articular fractures of the body. When talus fractures are associated with injuries of the surrounding bones, modifications to the dual-incision approach are made to gain access to each fractured bone.

When the tibial plafond requires fixation, the anteromedial and anterolateral incisions may be extended proximally. The sustentaculum tali may be injured and may need independent fixation. If this is encountered, the posterior tibial tendon, flexor digitorum longus, and flexor hallucis longus tendon should be inspected and addressed if injured. If a fleck sign is seen arising from the lateral malleolus, the peroneal tendons should be inspected for injury and addressed. In rare cases where the calcaneus and talus are both fractured, the lateral approach to the calcaneus can be modified into an “S-shaped” curve to incorporate the sinus tarsi and ending in the anterolateral approach.

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