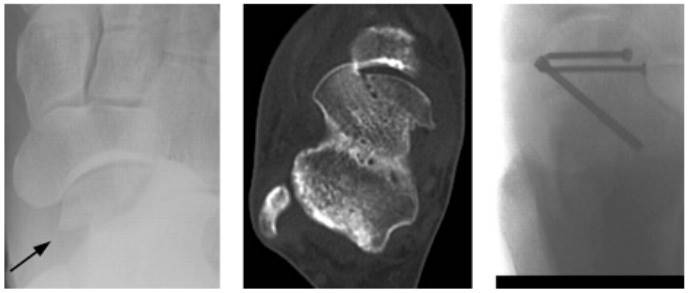
FRACTURES OF THE TALAR HEAD



Fractures of the talar head are rare.
5% incidence of talar fractures.

A sudden dorsiflexion force on a fully plantar-flexed foot, which thereby imparts a compressive force through the talar head.
Impaction fractures of the talar head can also occur in association with subtalar dislocations.

Treatment of nondisplaced fractures: Short leg cast for 6 weeks

Displaced, causing articular incongruency: ORIF through a medial approach to the talonavicular joint is used.

Small-fragment subchondral cancellous lag screws or bioabsorbable pins can be utilized to fix the head fracture.

Early range-of-motion exercises can be initiated.

Severe posttraumatic arthrosis may necessitate talonavicular joint arthrodesis. Due to the coupled motion of the hindfoot joints, fusion of the talonavicular joint essentially eliminates motion at the subtalar and calcaneocuboid joints.

FRACTURES OF THE TALAR NECK

Talar neck fractures account for approximately 50% of all talar fractures.
In 1919, Anderson: “aviator’s astragalus.”

Mechanism: Fractures occur when the narrow neck of the talus, with its less dense trabecular bone, strikes the stronger anterior tibial crest. As forces progress, disruption occurs through the interosseous talocalcaneal ligament and the ligamentous complex of the posterior ankle and subtalar joints, leading to eventual subluxation or dislocation of the body from the subtalar and tibiotalar articulations.

Hawkins, 15 of 57 patients (26%) had associated fractures of the medial malleolus. Canale and Kelly found that 11 of 71 patients (15%) with fractures of the talar neck had associated fractures of the medial and lateral malleoli.

X ray

AP, Lateral and oblique views

CT Scan

Management

Type I Cast and Serial X ray or

Percutaneous screw fixation

weight bearing is not allowed for 6 to 8 weeks or until osseous trabeculation

Type II Fractures

Prompt reduction to minimize soft-tissue compromise.

The foot is plantar-flexed, bringing the head in line with the body.

The heel can then be manipulated into either inversion or eversion, depending on whether the subtalar component of the displacement is medial or lateral.

Anatomic reduction of this fracture is difficult to obtain by closed means.

Rotational alignment of the talar neck is very difficult to judge on plain radiographs.

Even minimal residual displacement can adversely affect subtalar joint mechanics and is therefore unacceptable.

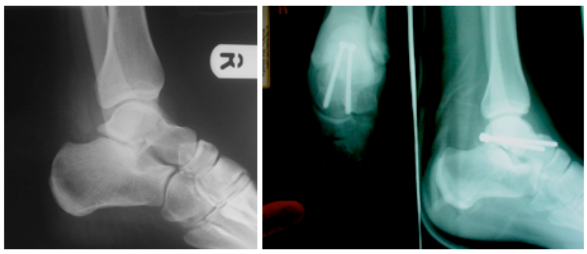
Even if closed reduction is successful in obtaining an anatomic reduction, immobilization in significant plantar-flexion is typically necessary to maintain position. For these reasons, operative treatment of all type II fractures has been recommended.

Hawkins classification:

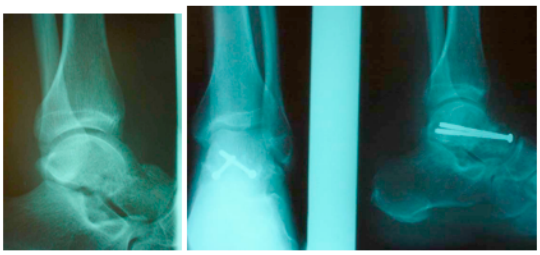
Types

Group I
[undisplaced]

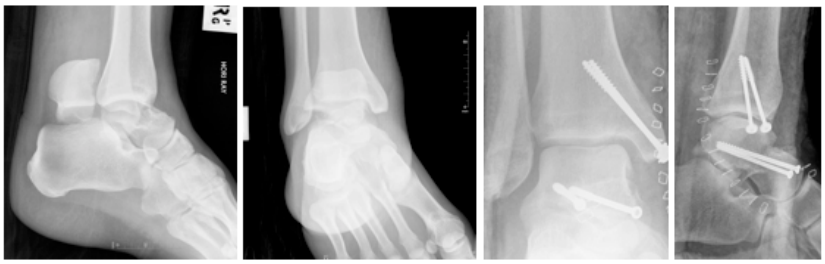
CT <2mm
Anterolateral
source is compr-
omised



Group B
[displaced at
subtalar]
vessels of canal
and sinus tarsi affected



Group C
Displacement of the
body from the sub-
talar and ankle joint
All sources of blood supply
to the talus is compromised



Type D
III + dislocation of the
Talar Head.

15% presents with
malleolar fracture