

Talar Fracture Dislocation

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Introduction

This 35 year old manual labourer fell off the back of a truck and had a heavy weight fall onto his foot. He was initially seen in the emergency department, had a neurovascularly intact but deformed foot, and a closed, isolated injury to the right ankle area.

Radiographs are shown below.

Post closed reduction and splinting in the emergency room:

What is your diagnosis and management ?

This patient had a Hawkins III right talar fracture-dislocation with an associated fibular fracture.

He underwent open reduction and internal fixation using an anterolateral approach and initial open reduction through the fibular fracture site. An intraoperative picture is shown below:

It was impossible to adequately reduce the talus through this incision so an anteromedial incision was made to remove any soft tissue blocks to reduction. Our plan was to perform a medial malleolar osteotomy for access to the medial ankle joint. However, after the skin and subcutaneous tissue dissection, the deltoid ligament was completely torn. An intraoperative picture of this incision is shown below with the Howarth Elevator in the fracture site:

Provisional fixation was carried out using Kirschner Wires under direct visualization through both incisions. Intraoperative radiographs were obtained (shown below):

Is this an adequate reduction ?

What is your next step in management ?

Although the reduction was adequate, there were K-wires in the subtalar joint. Optimally, a large fragment cancellous screw would be used for fixation over the guide wire. However, the bone quality of the talar head was poor and there would not be enough bone to gain an adequate purchase for screws. Therefore, we revised the K-wire fixation of the talus, applied a plate to the fibula, and an external fixator across the ankle and subtalar joints.

What is your postoperative management ?

This patient was seen in the clinic two weeks postoperatively for staple removal. Our plan is to keep him nonweightbearing for twelve weeks with immobilization of the ankle and subtalar joints via the external fixator. Clinical and radiographic follow-up will be required to confirm or disprove revascularization of the talus.