

PREOPERATIVE DIAGNOSIS:, Hawkins IV talus fracture.,POSTOPERATIVE DIAGNOSIS: , Hawkins IV talus fracture.,PROCEDURE PERFORMED:,1. Open reduction internal fixation of the talus.,2. Medial malleolus osteotomy.,3. Repair of deltoid ligament.,ANESTHESIA: , Spinal.,TOURNIQUET TIME: , 90 min.,BLOOD LOSS:, 50 cc.,The patient is in the semilateral position on the beanbag.,INTRAOPERATIVE FINDINGS:, A comminuted Hawkins IV talus fracture with an incomplete rupture of the deltoid ligament. There was no evidence of osteochondral defects of the talar dome.,HISTORY: ,This is a 50-year-old male who presented to ABCD General Hospital Emergency Department with complaints of left ankle pain and disfigurement. There was no open injury. The patient fell approximately 10 feet off his liner, landing on his left foot. There was evidence of gross deformity of the ankle. An x-ray was performed in the Emergency Room, which revealed a grade IV Hawkins classification talus fracture. He was distal neurovascularly intact. The patient denied any other complaints besides pain in the ankle.,It was for this reason, we elected to undergo the above-named procedure in order to reduce and restore the blood supply to the talus body. Because of its tenuous blood supply, the patient is at risk for avascular necrosis. The patient has agreed to undergo the above-named procedure and consent was obtained. All risks as well as complications were discussed.,PROCEDURE: , The patient was brought back to operative room #4 of ABCD General Hospital on 08/20/03. A spinal anesthetic was

administered. A nonsterile tourniquet was placed on the left upper thigh, but not inflated. He was then positioned on the beanbag. The extremity was then prepped and draped in the usual sterile fashion for this procedure. An Esmarch was then used to exsanguinate the extremity and the tourniquet was then inflated to 325 mmHg. At this time, an anteromedial incision was made in order to perform a medial malleolus osteotomy to best localize the fracture region in order to be able to bone graft the comminuted fracture site. At this time, a #15 blade was used to make approximately 10 cm incision over the medial malleolus. This was curved anteromedial along the root of the saphenous vein. The saphenous vein was located. Its tributaries going plantar were cauterized and the vein was retracted anterolaterally. At this time, we identified the medial malleolus. There was evidence of approximately 80% avulsion, rupture of the deltoid ligament off of the medial malleolus. This was a major blood feeder to the medial malleolus and we were concerned, once we were going to do the osteotomy, that this would later create healing problem. It is for this reason that the pedicle, which was attached to the medial malleolus, was left intact. This pedicle was the anterior portion of the deltoid ligament. At this time, a MicroChoice saw was then used to make a box osteotomy of the medial malleolus. Once this was performed, the medial malleolus was retracted anterolaterally with its remaining pedicle intact for later blood supply. This provided us with excellent exposure to the fracture site of the medial side. At this time, any loose comminuted pieces were removed. The

dome of the talus was also checked and did not reveal any osteochondral defects. There was some comminution on the dorsal aspect of the complete talus fracture and we were concerned that once we place the screw, this would tend to extend the fracture site. It is for this reason, we did the medial malleolar osteotomy to prevent this from happening in order to best expose the fracture site. At this time, a reduction was performed. The #7-0 partially threaded cannulated screws were used in order to fix the fracture. At this time, a 3.2 mm guidewire was placed going from posterolateral to anteromedial., This was placed slightly lateral to the Achilles tendon, percutaneously inserted, and then drilled in the according fashion across the fracture site. Once this was performed, a skin knife was then used to incise over the percutaneous insertion in order to accommodate the screw going in. A depth gauze was then used to measure screw length. A cannulated drill was then used to drill across the fracture site to allow the entrance of the screw. A 55 mm partially threaded #7-0 cannulated screw was then placed with excellent compression at the fracture site. Once this was obtained, we checked the reduction again using intraoperative Xi-Scan in the AP and lateral direction. This projection gave us excellent view of our screw placement and excellent compression across the fracture site. At this time, we bone grafted the area of comminution using 1 cc of DynaGraft with crushed cancellous allograft. This was placed using a freer elevator into the fracture site where the comminution was. At this time, we copiously irrigated the wound. The osteotomy

site was then repaired, first clamped using two large tenaculum reduction clamps. Two partially threaded #4-0 cannulated screws were then used to fix the osteotomy site and anatomical reduction was performed with excellent compression across the osteotomy site with the two screws. Next, a #1-0 Vicryl was then used to repair the deltoid ligament, which was ruptured via the injury. A tight repair was performed of the deltoid ligament. At this time, again copious irrigation was used to irrigate the wound. A #2-0 Vicryl was then used to approximate the subcutaneous skin and staples for the skin incision. At this time, the leg was cleansed, Adaptic, 4 x 4, and Kerlix roll were then applied. The patient was then placed in a plaster splint for mobilization. The tourniquet was then released. The patient was then transferred off the operating table to recovery in stable condition. The prognosis for this fracture is guarded. There is a high rate of avascular necrosis of the talar body, approximately anywhere from 40-60% risk. The patient is aware of this and he will be followed as an outpatient for this problem.