

Complications and Functional Outcomes After Pantalar Dislocation*Kaeleen Boden, BA¹; Douglas Weinberg, MD²; Heather Vallier, MD³;**¹MetroHealth System, Cleveland, Ohio, USA;**²University Hospitals/Case Medical Center, Cleveland, Ohio, USA;**³MetroHealth Medical Center, Cleveland, Ohio, USA*

Purpose: Pantalar dislocations without associated fracture are extremely rare and have high risks of potentially devastating complications, including infection and osteonecrosis. Limited information on recovery and later function exists. Therefore, the study aim is twofold: (1) to evaluate complications and secondary operations following pantalar dislocations without fracture, and (2) to assess functional outcomes.

Methods: 19 patients were identified from a trauma registry between 2002 and August 2014 with open (n = 14) or closed (n = 5) pantalar dislocations without talus fracture. Open injuries underwent surgical debridement, and patients had open reduction with external fixation (n = 13) or Kirschner wires (n = 5), except one patient who underwent below the knee amputation (BKA) primarily due to nonreconstructable foot trauma. Charts and radiographs were reviewed to identify complications including infection, osteonecrosis (ON) and arthrosis (PTA). Data on pain, pain medications, ankle range of motion, and secondary procedures were also collected. After a minimum of 1 year Foot Function Index (FFI) and Musculoskeletal Function Assessment (MFA) surveys were obtained.

Results: Ten men and nine women with mean age 40.0 years (range, 19 to 68) were studied. Mechanism of injury was motor vehicle collision (n = 15), motorcycle crash (n = 2), or fall from height (n = 2). Twelve patients were treated for other ipsilateral (n = 16) and/or contralateral (n = 9) injuries. Two patients had superficial traumatic wound healing problems, which healed with dressing changes, and one other patient developed cellulitis 4 months after injury. No deep wound infections occurred. Thirteen patients had increased talar body density consistent with ON, but only two patients developed ON with collapse, and 39% of patients developed PTA in tibiotalar (n = 3) or subtalar (n = 6) or both (n = 3) joints. At most recent follow-up, 15 patients (85%) reported at least mild pain, and 6 patients (33%) were taking prescription narcotics. Mean dorsiflexion and plantar flexion were 11° and 25°, respectively. To our knowledge no secondary procedures were performed. Collection of functional outcome data is ongoing, but currently 11 patients with a mean follow-up of 4.9 years have mean FFI and MFA scores of 31.0 and 29.7, respectively, indicating a degree of continued disability after injury compared with an uninjured population (FFI of 12 and MFA of 9.0).

Conclusion: Persistent pain and functional limitations are common after pantalar dislocation. Osteonecrosis occurred often, but was not usually associated with collapse of the talus. No deep wound infections occurred. Overall, achieving favorable outcomes by both clinical and functional criteria remains a concern following this severe injury.