

# **Talus Fractures**

See also Talus Fractures (Ortho)

## **Background**

1. 3-5% of foot fractures
2. Often misdiagnosed as ankle sprain
3. Involves talar neck (50%)
  - Lateral process
  - Posterior process or talar dome

## **Pathophysiology**

1. Talar neck fracture
  - Dorsal force on a braced foot
  - Ankle inversion
  - Direct blow to dorsum of foot
  - High incidence of Avascular necrosis
2. Talar body fracture
  - Shear or axial injury
3. Talar dome
  - Inversion injury
  - Involves lateral or medial aspect of talar dome
  - Classified w/Berndt and Harty system
4. Posterior process (Shepherd's) fracture
  - Hyperplantarflexion/ avulsion of posterior talofibular ligament
  - Stress fracture in athletes, especially ballet dancers
5. Lateral process (Snowboarder's ankle) fracture
  - Previously rare, incr as snowboarding gains popularity
  - Dorsiflexion and inversion w/possible external rotation of ankle
  - Presentation similar to anterolateral ankle sprain

## **Diagnostics**

1. Talar dome fractures
  - Clinical exam
    - Tenderness to palpation at anterior border of talus and anterior lateral malleolus may indicate lateral talar dome fracture
    - Tenderness to palpation at posterior medial malleolus and posterior talus may indicate medial talar dome fracture
  - X-ray
    - AP, lateral, mortise views: 70% sens
    - May need mortise views in plantar and dorsiflexion to locate fractures anterior or posterior to talar dome
  - If plain films negative, but suspicion high
    - CT or MRI more sensitive and specific than bone scan
2. Fracture of lateral process of talus
  - Clinical exam
    - Tenderness below lateral malleolus
  - X-ray
    - Negative in 40% of injuries
    - CT is imaging of choice when injury suspected

## **Therapeutics**

1. Talar neck fracture
  - ORIF w/precise anatomic reduction
2. Talar body fracture
  - ORIF
3. Talar dome fracture
  - Drilling and osteochondral grafting
4. Posterior process fracture
  - Conservative tx
5. Lateral process fracture
  - Nonarticular chip fractures treated conservatively
  - Articular fragments may be excised or treated w/ORIF

## **Prognosis**

1. Return to play
  - Documented fracture healing
  - Return of symmetric strength
    - Need 85% of contralateral strength and motion prior to return
2. Complications
  - Arthritis
  - Osteonecrosis
  - Nonunion
  - Foot deformity
  - Chronic pain

## **Patient Education**

1. <http://orthopedics.about.com/od/footanklefractures/a/talus.htm>

## **References**

1. LeBlanc, KE. Ankle problems masquerading as sprains. Prim Care 2004; 31(4):1055-67.
2. Adelaar, RS, Madrian JR. Avascular necrosis of the talus. Orthop Clin North Am 2004; 35(3): 383-95.

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