

## Imaging Sciences Interesting Cases

### CASE 539

**Daniel T. O'Connor, MD**

**CLINICAL PRESENTATION:** Patient is a 38-year-old female presenting to sports medicine clinic with history of bilateral foot pain for almost one year, left greater than right, and no history of trauma.

**IMAGING FINDINGS:** Right foot radiograph demonstrated no acute bone or joint abnormalities. An accessory bone projects along the posteromedial aspect of the navicular bone; this is the classic appearance of an os naviculare, or accessory navicular bone.



**Figure 1:** Lateral radiograph of the right foot shows a well-corticated osseous structure that projects along the posteromedial aspect of the navicular bone (arrowheads). This is an accessory navicular bone, or os naviculare



**Figure 2:** Lateral right foot magnified view of the os naviculare.

**DIAGNOSIS: Os navicular /accessory navicular bone**

**DISCUSSION:** Recognition of accessory ossicles of the foot is essential as these are often mistaken for fractures. In some cases, however, the ossicle may be associated with patient symptoms. The tarsal accessory navicular bone, or “os naviculare” is a common finding; in some series its prevalence has been reported from 4 - 21% of patients with female predominance. Bilaterality is common, reported from 50 - 90%.

A classification system has been proposed with three subtypes of accessory navicular bones based on morphology, location, and clinical implication.

\*Type I or “os tibiale externum” (30%) is a small sesamoid bone in the posterior tibial tendon; these are usually asymptomatic.

\*Type II or “prehallux” (50-60%) are triangular in configuration and arise from the secondary ossification center of the navicular bone; these are connected to the navicular tuberosity by fibro- or hyaline cartilage and may be symptomatic due to inflammation or injury at the insertion of the intra-osseous connective tissue. This case depicts a type II configuration os naviculare.

\*The Type II accessory ossicle is most commonly symptomatic; if clinical suspicion of injury is sufficient, additional characterization via MRI (for bone and soft tissue edema) or bone scintigraphy may be considered.

**REFERENCES:**

1. Miller TT, Staron RB, Feldman F, et al. The symptomatic accessory tarsal navicular bone: assessment with MR imaging. *Radiology*. 1995 Jun;195(3):849-53. PMID: 7754020 [PubMed]
2. Coughlin MJ. “Sesamoid and accessory bones of the foot”. IN: Coughlin MJ, Saltzman CL, Mann RG. *Surgery of the Foot and Ankle*, 8th ed. Amsterdam: Elsevier, 2006.