# 13 y/o female with medial foot pain.

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#### Os Naviculare syndrome





Axial T1 (left) and axial T2 FS (right) images show a type II accessory navicular (\*). Subtle low T1 signal in the accessory navicular (arrow). On T2 FS sequence, edema is present on both sides of the navicular synchondrosis (arrows).





Sagittal T1 and T2 FS sequences show the navicular (n) and accessory os (\*). T2 FS image again shows marrow edema on both sides of the navicular synchondrosis (arrows). Posterior tibial tendon (arrowheads) is normal in signal.



### Os Naviculare syndrome

- Accessory navicular is one of many accessory ossicles of the foot
- Normal anatomic variant
- Three types
  - I small (2-3mm) sesamoid within the posterior tibial tendon
  - II secondary ossification center of the navicular connected to the navicular tuberosity via fibrocartilage, most common (50-60%)
  - III Elongated, prominent navicular tuberosity, considered a fused variant of the type II.



## Os Naviculare syndrome

- Posterior tibial tendon inserts on the accessory navicular.
- Rarely symptomatic
- Etiology of symptomatic accessory type II navicular is due to tension and shear forces on the synchondrosis secondary to pulling of the os by the posterior tibial tendon.
- Treatment: Early immobilization, surgical excision if immobilization fails.



#### References

- 1. Choi, Yun Sun et al. "MR Imaging Findings of Painful Type II Accessory Navicular Bone: Correlation with Surgical and Pathologic Studies." *Korean Journal of Radiology* 5.4 (2004): 274–279. *PMC*. Web. 12 Aug. 2018.
- Miller, T T, et al. "The Symptomatic Accessory Tarsal Navicular Bone: Assessment with MR Imaging." *Radiology*, vol. 195, no. 3, 1995, pp. 849– 853., doi:10.1148/radiology.195.3.7754020.