

Abductor Hallucis Muscle Strain

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History

17 year old female with pain and swelling over medial left hindfoot.

Diagnosis

Abductor Hallucis Muscle Strain

Discussion

The plantar fascia is a multilayered, fibrous aponeurosis with medial, central, and lateral components. The medial and lateral components of the plantar fascia act mainly as covering layers peripheral to the central component. The medial component serves as the fascial covering for the abductor hallucis muscle. The lateral component which originates from the lateral margin of the medial calcaneal tuberosity, forms the investing fascia of the abductor digiti minimi muscle.

Plantar fascial disruption may be associated with adjacent muscle tears. Acute and subacute muscle tears are characterized by high-signal-intensity changes with a feathery appearance on both T1- and T2-weighted images representing muscle bleeding and edema. Less commonly, strains of other plantar muscles such as the abductor hallucis or quadratus plantae muscle are associated with plantar fascia rupture.

Abductor hallucis strain is not necessarily related to plantar fascia injury. Athletes who pronate may strain the muscle with overuse. Typically, there is pain and swelling along the medial arch. Pain can be exacerbated by compression of the lateral plantar nerve which passes through the tarsal tunnel between the abductor hallucis muscle and the quadratus planus muscle. Rest, ice, anti-inflammatory agents and elevation are usually sufficient for treatment.

Findings

MR-Axial and coronal proton and fat-suppressed T2 images of the left foot demonstrate enlargement of the abductor hallucis muscle with interstitial edema near its origin.

Reference

Navarez JA, et al. Painful Heel: MR Imaging Findings. Radiographics (2000); 20:333-352.



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