Midsubstance Tendinopathy, Surgical Management

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KEYWORDS

• Noninsertional achilles • Achilles peritendinitis • Achilles paratendinopathy
• Achilles tendinosis • Achilles tendinopathy • Flexor hallucis longus transfer

KEY POINTS

- For an athlete with isolated paratendinopathy, open paratenon release/excision and ventral paratenon scraping have high reported success rates.
- If a core area of tendinopathy is present, longitudinal excision is the treatment of choice.
- Minimally invasive techniques have lower wound complication rates but require further study.
- A flexor hallucis longus (FHL) tendon transfer or turndown flap can supplement the repair when there is extensive tendinopathy.
- Gastrocnemius recession has higher reported success rates in the treatment of noninsertional Achilles tendinopathy compared with insertional Achilles tendinopathy.

INTRODUCTION (NATURE OF THE PROBLEM)

Midsubstance Achilles tendinopathy is a commonly seen painful condition of the Achilles tendon located in the area approximately 2 cm to 7 cm proximal to its calcaneal insertion. The literature discussing Achilles dysfunction and terminology can be confusing and contradictory. Terms, such as tenosynovitis, paratenonitis, peritendinitis, paratendinitis, paratendinopathy, tendinitis, tendinosis, tendinopathy, and achillodynia, have all been associated with noninsertional Achilles pain.[1] It is often described as an overuse injury seen in athletes and older individuals, with a higher male predilection.[2–4] The incidence varies from 0.2% in the general population, up to 9% in recreational runners.[5,6] Symptoms include pain, swelling, and impaired performance. Maffulli and colleagues[7] noted this pathology often includes histologic findings of tendinosis and paratendinopathy.

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Having an anatomic understanding of the posterior leg and calf is essential in understanding Achilles pathology. The anatomic, histologic, and vascular structure has been well described in the literature and is discussed in detail (see Paul Dayton's article, "Anatomic, Vascular and Mechanical Overview of the Achilles Tendon," in this issue).[8–16] The clinical presentation of Achilles pain differs in location between posterior heel pain at the back of the foot, insertional tendinopathy, pain in the Achilles tendon at the back of the leg, and noninsertional tendinopathy. Patients with insertional heel pain have pain and edema at the posterior calcaneus. This usually hurts in shoes from the heel counter and hurts with palpation. This too is usually exacerbated with physical activity. Enthesopathy or calcification within the tendon at its insertion is commonly appreciated. Care must be taken to differentiate noninsertional Achilles tendinopathy from the subset of insertional Achilles tendinopathy caused by Haglunds deformity because Achilles impingement lesions can extend to the watershed region (**Fig. 1**).

For noninsertional Achilles tendinopathy, patients present with pain in the back of the Achilles area usually with a bump (**Fig. 2**). Often patients relate a history of nonsignificant trauma, such as a sprain, twisting, or "overdoing it." The pain typically progresses over time and seems to hurt with increased activity before patients seek medical treatment. Lateral radiographs may reveal calcifications within the tendon (**Fig. 3**).

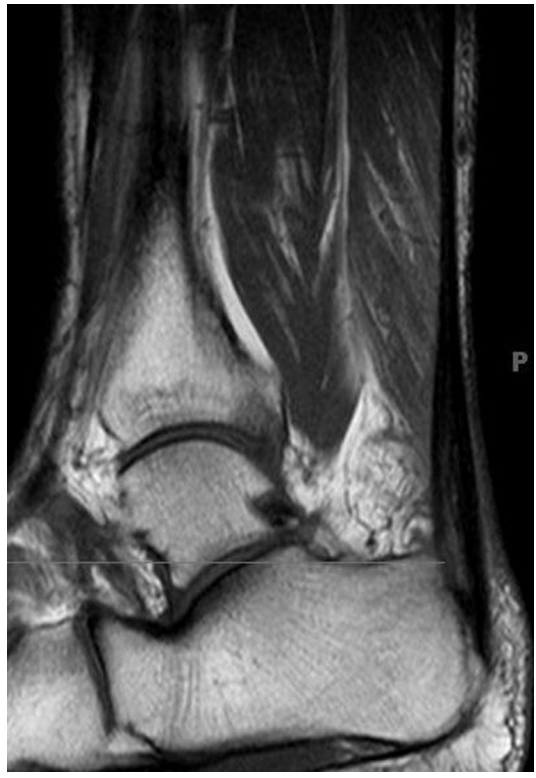

Fig. 1. MRI showing Achilles impingement tendinopathy in contact with Haglund deformity. Achilles lesion on the ventral side of the tendon extends to the watershed area.