

# Insertional Tendinopathy of the Achilles

## Debridement, Primary Repair, and When to Augment

Rachel J. Shakked, MD, Steven M. Raikin, MD\*

### KEYWORDS

- Enthesopathy • Haglund deformity • Calcific tendonitis
- Flexor hallucis longus tendon transfer

### KEY POINTS

- Achilles tendinopathy is considered by most to be a degenerative enthesopathy with increased vascularity; however, some literature suggests an inflammatory process as well.
- Nonsurgical management may consist of eccentric training, although the success rate of this technique may not be as high as when utilized for midsubstance Achilles tendinopathy.
- Surgical treatment involves tendon debridement via a medial, midline, or lateral approach with variable detachment of the tendon insertion.
- Flexor hallucis longus tendon transfer via a single approach can help to augment the repair; studies remain equivocal on the clinical benefit of this procedure.
- Tendon repair after detachment is best accomplished with at least 2 suture anchors; a second row of anchors may improve the tendon footprint but has not been shown to be significantly beneficial in clinical studies.

### BACKGROUND

Insertional Achilles tendinopathy is an enthesopathy involving the distal portion of the Achilles tendon and its insertion into the posterior calcaneal tuberosity. Insertional tendinopathy occurs frequently in runners and other athletes, but also is commonly seen in the older, heavier population.<sup>1-3</sup> An association between systemic diseases such as hypertension and diabetes with Achilles tendinopathy has also been demonstrated.<sup>3</sup> The pathogenesis is not fully understood but is considered to be degenerative and

---

Disclosure: The authors have nothing to disclose.

Foot and Ankle Service, Rothman Institute at Jefferson Medical College, 925 Chestnut Street, 5th Floor, Philadelphia, PA 19107, USA

\* Corresponding author.

E-mail address: [Steven.Raikin@rothmaninstitute.com](mailto:Steven.Raikin@rothmaninstitute.com)

Foot Ankle Clin N Am ■ (2017) ■-■

<http://dx.doi.org/10.1016/j.fcl.2017.07.005>

1083-7515/17/© 2017 Elsevier Inc. All rights reserved.

foot.theclinics.com

associated with increasing age, increased vascularity, and overuse.<sup>4-6</sup> This is not thought to be an inflammatory tendonitis with histopathology demonstrating disorganized collagen, abnormal neovascularization, and mucoid degeneration.<sup>7</sup> However, there may be a combination of degenerative and inflammatory changes that lead to Achilles tendinopathy. Recent studies have demonstrated inflammatory cells in areas of Achilles tendinopathy.<sup>8,9</sup> A biopsy study of 50 cases of Achilles tendinopathy compared with 15 healthy tendons demonstrated greater numbers of macrophages and endothelial cells in the study group compared with the control.<sup>10</sup> Furthermore, better outcomes at final follow-up were seen in patients who had iron positive hemosiderophages at initial biopsy, a sign of an inflammatory response. Insertional Achilles tendinopathy tends to involve the anterior part of the tendon, although the highest strain on biomechanical testing is actually posterior.<sup>11</sup> There is a high association between insertional Achilles tendinopathy and an enlarged or prominent superior posterolateral calcaneal tuberosity termed a Haglund deformity.<sup>12</sup> While a Haglund deformity may be present in the asymptomatic population, it is postulated that the anterior Achilles insertion rubs against the bony prominence, particularly when associated with a tight or contracted gastroc-soleus-Achilles myotendinous complex, resulting in local damage to the tendon and even intratendinous longitudinal tears at the insertion.

Nicholson and colleagues<sup>13</sup> described a system to predict potential success of nonoperative treatment of insertional Achilles tendinosis depending on degree of involvement of the tendon. Type I involvement (tendon thickening < 8 mm with nonuniform intramural splits) had the greatest chance of success (87.5%), while greater involvement (types II and III) had 90% and 70% failure rates, respectively. However, Lu and colleagues<sup>14</sup> found no correlation between the size of the Haglund process and the development of symptoms or outcome of treatment.

There is additionally a high proportion of patients who have calcification or spurs at the insertion of the Achilles into the calcaneus. The pathophysiology of these painful calcifications and bone spurs continues to be evaluated. Some have theorized that cartilage-like changes that typically occur on the anterior side of the tendon later undergo intratendinous bone formation via enchondral ossification.<sup>7</sup> Others theorize that bone spurs occur dorsally as an adaptive process to provide more surface area, not as a result of microtears or tendon trauma.<sup>15</sup>

## CLINICAL PRESENTATION AND EVALUATION

Patients typically present with pain and swelling posterior to the tendon that most commonly has a lateral focus. Retrocalcaneal bursitis may occur concomitantly and may be related to inflammation about the Haglund deformity.<sup>4</sup> Symptoms usually occur with activity, but can occur at all times as the disease progresses. Clinically there is local tenderness at the Achilles insertion, and the Haglund deformity is prominently felt at the superior aspect of the posterolateral calcaneal tuberosity. The Achilles tendon is usually tight or contracted, and a Silfverskiold test should be performed to differentiate gastrocnemius versus soleus involvement. This is done by evaluating ankle dorsiflexion with the knee flexed and extended. If the ankle dorsiflexion increases with knee flexion, this suggests predominant gastrocnemius muscle contracture, compared with soleus or combined contracture if there is no difference in ankle dorsiflexion with the knee flexed or extended.

Radiographic assessment is undertaken with a weight-bearing lateral radiograph. This may demonstrate intratendinous calcification, insertional spurring, and/or a prominent Haglund deformity (**Fig. 1**). Two common radiographic measurements are used to evaluate the severity of the Haglund deformity. The Fowler and Philip

Download English Version:

<https://daneshyari.com/en/article/8798171>

Download Persian Version:

<https://daneshyari.com/article/8798171>

[Daneshyari.com](https://daneshyari.com)