

FOOT & ANKLE

SPECIAL INTEREST GROUP

MESSAGE FROM THE PRESIDENT

I am constantly reminded by FASIG members as to the clinical relevance of this column. Feedback is always positive and information about research and/or clinical pearls is consistently desired. A recent Osteo-blast was produced by the Section to all members. The response was low. Let me take this opportunity to again encourage all FASIG members to use this forum as a place for publicizing ideas and research, or to simply communicate interesting foot and ankle information. Research on topics pertaining to the foot and ankle continues to be generated, lending to active and bright clinical opportunities. Again, consider using this column as a vehicle for research topics or ideas!

FASIG LOOKS AT COMMON REARFOOT CONDITION

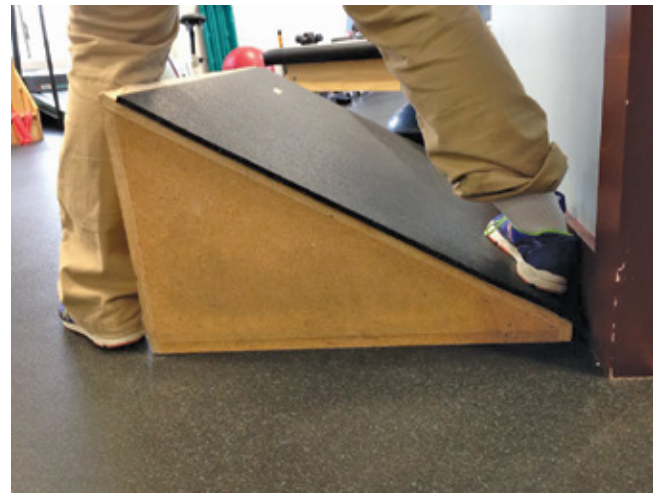
The FASIG's focus in this issue includes a new look at rehabilitation of the surgically corrected Haglund's deformity. This is also called Mulholland's deformity or the "pump bump." Physical therapists commonly encounter this condition both conservatively and postsurgically, the latter presentation calling for a rehabilitation protocol that includes a working knowledge of tissue healing, particularly the attachment site of the Achilles tendon into the calcaneus. Just how the Haglund's deformity, a calcaneal exostosis, is related to an insertional spur or tendinopathy, is worth exploring.

Kaylee Peluso, DPT, begins the examination of a patient with Haglund's deformity. In this issue, a case is presented and conservative interventions are discussed. The role a physical therapist can play in the diagnosis and treatment of this pathology is presented along with specific interventions. In the next issue, surgical solutions and techniques will be presented, along with appropriate protocol strategies.



CLINICAL PEARL: FIBULARIS STRETCH

Re-establishing range of motion at an articulation is critical to the function of that joint. In the case of limited rearfoot inversion or limited forefoot supination, due to passive insufficiency of the fibularis brevis and/or longus, clinicians look for ways to stretch the ankle everters. The accompanying photo demonstrates a stretching option.



Using the slant board, ask the patient to "pin" the right foot against the vertical wall, but still on the slanted board. The opposite limb is positioned as if to perform a right hip adductor stretch. As the left leg and knee bend, the right leg is lowered, enhancing the inversion angle at the ankle. Note: great care should be afforded to lock the rearfoot against the wall.

Exercise Considerations Following Insertional Calcaneal Spur Resection

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Patients with post-calcaneal spur resection are seen as commonly as patient's post-Achilles' tendon repair.¹ Unlike an Achilles' tendon repair, a standard protocol is not in place for a calcaneal spur resection. This article will attempt to address physical therapy and exercise considerations following calcaneal spur resection, as well as how it differs from an Achilles' tendon repair.

An insertional calcaneal spur is a calcific growth around the insertion of Achilles' tendon on the calcaneus. This exostosis is a result of an anatomical change of the calcaneus, the cause of which is multifactorial.² Predisposing factors include a cavus foot and increasing age. A cavus foot places more tension on the plantar fascia, as well as the nerves innervating around the heel. This prolonged stress can lead to not only a spur formation; but also discomfort with weight bearing. Excess weight or obesity may also play a role.²

In an athletic population, some common training errors have been shown to precipitate the formation of a spur. The surface on which one exercises can play a role. For example, running or exercising on harder, less forgiving surfaces (such as concrete or cement), challenges the foot's ability to absorb shock. This can be compounded by footwear, including ill-fitting, overused, or inappropriate footwear.

CASE PRESENTATION

A 55-year-old year printing-press operator (RK) presents to our clinic after 6 months of right heel pain. He cannot report a causation or traumatic event that brought about the pain. However, it has become more frequent and severe in intensity. When questioned about changes in activity, RK reports that he has recently taken up "walking with his wife" at night. He states that "being on his feet" will exacerbate pain.

He was referred from podiatrist. X-Rays revealed a calcaneal spur, around the insertion of the Achilles' tendon. RK also reports that MD prescribed an anti-inflammatory at his last appointment, 1 week ago.

Postural evaluation of RK reveals cavus feet in weight bearing, as well as Haglund's deformity bilaterally. Examination also reveals decreased overall mobility of talocrural joint, and significantly decreased extensibility of gastroc-soleus complex. RK was unable to complete more than 5 heel raises at time of examination, secondary to pain. Special tests were negative for ligamentous involvement. Neurological screen was unremarkable. Although RK reported pain for 5 months, his symptoms categorized him as being in the acute stage. The area was swollen, as well as extremely tender to palpation over the Achilles tendon, and over the plantar arch. Multiple trigger points were palpated through the fibularis muscles and gastroc-soleus complex.

Because of the acute nature of his presentation, treatment began with a lengthy discussion on RK's level of activity. Work and recreational activities require RK to spend a lengthy amount

of time on his feet. At this point we issued a walker-boot. The boot had a dual purpose: to reduce the amount of movement of the Achilles' and associated tendons, and to reduce inflammation. He was also educated on the R.I.C.E principle (Rest, Ice, Compression, Elevation). Ultrasound (dosage: 0.8 W/cm², 50%) to the Achilles' tendon was applied during this phase for tissue healing. Exercise was kept light, stressing gastroc-soleus complex stretching.

After approximately 2 weeks, in response to decreased swelling and an increase of active range of motion, we discontinued the boot. However, RK's pain remained minimally changed. At this point, orthotics were proposed. Based on RK's symptoms, we used heel lifts, on the premise to reduce the length of the Achilles, thus reducing the amount it would have to stretch. Heel lifts can also be helpful in moving the heel away from the back of the shoe, reducing irritation. Eccentric plantarflexion exercise was also introduced. While RK adjusted to the heel lifts, we began to focus on strengthening of the fibularis, through an elastic band program with varying resistances. RK tolerated treatment well, but was unable to achieve pain reduction through therapeutic techniques.

At approximately 4 weeks of therapy, without significant improvement, we referred the patient back to his specialist for consult. Strength was measurably unchanged in the foot and ankle. The FAAM score was unchanged. Tolerance for standing and walking was also unchanged.

The referring podiatrist elected to perform surgical excision of the insertional spur. In the next publication, the rehabilitation associated with the surgical procedure will be discussed, including postoperative precautions, exercise considerations, and imaging results.

REFERENCES

1. Thomas JL, Christensen JC, Kravitz SR, et al. The diagnosis and treatment of heel pain: A clinical practice guideline revision 2010. *J Foot Ankle Surg.* 2010;49(3 Suppl):S1-S19.
2. Irwin CK, Kadakia A, Stoneman P, Tenuta J. Achilles' tendinitis. orthoinfo.aaos.org/topic.cfm?topic=a00147. Accessed November 25, 2013.

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