

# FOOT & ANKLE

## SPECIAL INTEREST GROUP

### ENTRY-LEVEL CURRICULUM-PROGRESS CONTINUES

*Clarke Brown PT, DPT, OCS, ATC  
President, FASIG*

Background: In 2011, FASIG created a task force as an initial step in a process that will culminate with “Minimum Standards for Foot and Ankle Content in an Entry-level Physical Therapy Curriculum.” Last October 2012, our Entry-level Curriculum Task Force of 15 foot and ankle experts (mostly FASIG members!) gathered at APTA headquarters in Washington, DC.

Led by Chris Neville, this group generated an impressive and comprehensive outline that will serve as the template for the eventual curriculum recommendation. This document, still early in its development, boasts a surprisingly detailed array of foot and ankle examination, differential diagnosis, assessment, and interventions. The FASIG’s intent is to provide the orthopaedic educator with evidence-based information regarding study of the foot and ankle that will be readily inserted into any orthopaedic curriculum.

To date, the document is undergoing further review. It is anticipated that a more formal and functional edition can be presented at CSM 2014!

### FASIG SPURS RESEARCH WITH SECOND GRANT

At CSM 2013, the FASIG was informed by the Orthopaedic Section’s Research Committee that the following authors had been awarded FASIG’s \$15,000 research grant: Shane McClinton, Timothy Flynn, and Bryan Heiderscheid. Their study is titled, “Comparison of Usual Podiatric Care and Early Physical Therapy for Plantar Heel Pain.”

This grant, the second of an equal amount in the past 4 years, represents the commitment to research that symbolizes the FASIG and the Orthopaedic Section. Todd Davenport, Research Chair for the FASIG, adds, “Our membership meets at CSM each year and no other agenda item creates more excitement and pride than to vote on the contribution to research from our hard-earned funds.”

The FASIG looks forward to the results of this study that should help all of us better understand plantar heel pain and the treatment strategies used by foot care practitioners.

### “FASIG TALKING POINTS...INTERESTING FODDER FOR RESEARCH AND PRACTICE”

The following commentaries have been selected from research journals from around the world. Consider their content and bounce these ideas around the office! Then, create your own research study to answer some of these enigmatic issues. Finally, respond to this column at [brownstonept@gmail.com](mailto:brownstonept@gmail.com) with research ideas, questions, responses to these talking points, or any foot and ankle topic!

### EXERCISE WITH MINIMALIST SHOES

Chances are that you have had patients ask for your opinion on the use of minimalist shoes during running and walking, or

even about barefoot running. Recently, I came across a podiatric round table to ascertain the thoughts of a podiatrist. Mostly, this group of foot doctors cautioned against the use of minimalist shoes, particularly with or on feet that were new to running/walking or were mechanically compromised.

This panel of podiatrists agreed that some people can tolerate less support at the foot during high-impact foot-strike. They acknowledged, however, that while the minimalist runner may move his foot contact more to the forefoot and realize less force transmission to the knee, the Achilles and metatarsals may pay a price. Almost never do they recommend training without shoes for more than 10% of anyone’s exercise volume. Citing studies, which place the vast majority of runners in the group of rear foot strikers, podiatrists are reticent to encourage a dramatic change in biomechanics.

In addition, the use of lightweight shoes for exercise other than running such as fitness classes (Cross Fit or Zumba) and home video exercising (Insanity or P90X) may also explain an upward trend in Achilles tendinopathy and plantar heel pain.

So, what foot and ankle injuries are you treating in your office today, due to minimalist or barefoot exercising, perhaps not seen 10 years ago? Are these new shoes actually creating patients? Or, as some say, is it merely a throwback to the super-light track shoes worn by many runners in the 70s during high-speed workouts?

What do you think?

### CUBOID SYNDROME (RE-VISITED)

In a previous OPTP issue, Dr. Matthew Kearns presented an interesting case of cuboid syndrome in a 14-year-old girl who is now 16. This case was made interesting by the frequency of manipulation required to maintain joint stability and foot function. Initially diagnosed as a lateral ankle sprain and following 8 weeks of immobilization, Dr. Kearns removed the cast-boot and resolved pain immediately using a cuboid-whip manipulation. Relief and functional return to all activities (except competitive soccer) were attained for one year. High-speed lateral movements caused a second event. Manipulation was again effective in resolving pain.

Over the course of the next 9 months, the patient could not effectively return to running/jumping activities without relapse or fear of injury. In particular, lateral cutting and jumping during soccer participation was most problematic. Three subsequent manipulations were performed, all eliciting complete relief of lateral foot pain. Strengthening and stabilization exercises were ongoing, and external taping including low-dye, strapping, and ankle taping with stirrups were trialed.

After the 4th manipulation, a semi-rigid, neutral orthotic was introduced. Sources of ‘extra’ support at or about the cuboid bone via padding, cookies, or wedges were not used. Orthoplast orthotics were ground for walking shoes and soccer cleats, so that she rarely exercised without orthotics.

After 3 months of exercise, including soccer participation, no events of lateral foot pain have occurred. Was this coinci-

dental? Since radiographs rarely demonstrate malalignment at the cuboid articulations, is the cuboid subluxed? Where are the sounds that accompany this manipulation coming from?

### SEVERE ONYCHOMYCOSIS

It seems more and more patients are presenting with moderate to severe sub-ungual onychomycosis, noticed during routine evaluations for injuries or orthotics. I came across this very interesting intervention. The following is an abstract from the *American Journal of Podiatric Medicine Association*:

Onychomycosis, most commonly caused by two species of dermatophyte fungi--Trichophyton rubrum and Trichophyton mentagrophytes--is primarily treated with regimens of topical and systemic antifungal medications. This study was undertaken to evaluate in vitro the efficacy of low-voltage direct current as an antifungal agent for treating onychomycosis. Agar plate cultures of T rubrum and T mentagrophytes were subjected to low-voltage direct current electrostimulation, and antifungal effects were observed as zones in the agar around the electrodes lacking fungal growth. Zones devoid of fungal growth were observed for T rubrum and T mentagrophytes around anodes and cathodes in a dose-dependent manner in the current range of 500

microA to 3 mA. Low-voltage direct current electrostimulation has great clinical potential for the treatment of onychomycosis and perhaps other superficial maladies of fungal etiology.

This study was originated in a physical therapy wound care clinic, in an attempt to address the commonly encountered infection and treat it with increased efficiency and efficacy. Could low-voltage direct current be used for other infectious processes? If so, why is electrical stimulation contraindicated for all forms of infections?

### REFERENCES

1. Blake R, Johncock D, Kirby K, Richie D. When patients ask you about barefoot running and minimalist shoes. *Podiatry Today*. 2013;26(5):36-45.
2. Durall C. Examination and treatment of cuboid syndrome: A literature review. *Sports Phys Ther*. University of Wisconsin: La Crosse, WI. 2011:514-519.
3. Kalinowski DP, Edsberg LE, Hewson RA, Johnson RH, Brogan MS. Low-voltage direct current as a fungicidal agent for treating onychomycosis. *J Am Podiatr Med Assoc*. 2004;94(6):565-572.