

UAB Sports Medicine provides a wide range of services to their patients, one being their very extensive pedorthics program. Pedorthist, Anthony Andrews, designs many foot orthoses for the patients at UAB Sports Medicine based on a wide range of lower limb injuries. We are providing you with an attached abstract, "Effectiveness of Foot Orthoses for Treatment and Prevention of Lower Limb Injuries" by Patria Hume and Will Hopkins, to show studies that have been conducted to show the benefits of foot orthoses. Please feel free to contact our staff with any questions pertaining to this abstract.

Abstract:

Hume, Patria, et al. "Effectiveness of Foot Orthoses for Treatment and Prevention of Lower Limb Injuries: A Review." Sports Medicine 38.9 (Sep. 2008): 759.

Effectiveness of Foot Orthoses for Treatment and Prevention of Lower Limb Injuries

Healthcare professionals prescribe foot orthoses (FOs) for treatment and prevention of lower limb injuries, but previous reviews of the effectiveness of FOs 760 *Hume et al.* have been inconclusive. The attached article has reviews which emphasize the magnitude of treatment effects to evaluate the clinical effectiveness of FOs in the treatment and prevention of lower limb injuries.

Qualifying studies were mainly controlled trials, but some uncontrolled clinical trials of patients with chronic injuries were analyzed separately. Injuries included plantar fasciitis\*, tibial stress fractures\*\* and patellofemoral pain syndrome\*\* these were included because of the large treatment costs for these frequent injuries in New Zealand. Outcomes were pain, comfort, function and injury status. Continuous measures were expressed as standardized differences using baseline between-subject standard deviations, and magnitudes were inferred from the intersection of 90% confidence intervals with thresholds of a modified Cohen scale. Effects based on frequencies were expressed as hazard ratios and their magnitudes were inferred from intersection of confidence intervals with a novel scale of thresholds.

The effects of FOs for treatment of pain or injury prevention were mostly trivial. FOs were not effective in treating or preventing patellofemoral pain syndrome. Some studies showed moderate effects for treatment of plantar fasciitis. Only a few studies showed moderate or large beneficial effects of FOs in preventing injuries.

Customized semi-rigid FOs have moderate to large beneficial effects in treating and preventing plantar fasciitis and posterior tibial stress fractures, and small to moderate effects in treating patellofemoral pain syndrome. Given the limited randomized controlled trials or clinical controlled trials available for the injuries of interest, it may be that more or less benefit can be derived from the use of FOs, but many studies did not provide enough information for the standardized effect sizes to be calculated. Further research with randomized controlled trials is needed to establish the clinical utility of a variety of FOs for the treatment and prevention of various lower limb injuries.

\*Plantar fasciitis- is a painful inflammatory condition of the foot. It is commonly associated with long periods of work-related weight bearing. Among non-athletic populations, it is associated with a high body mass index.

\*\* Tibial stress fractures- are the most common stress fractures in athletes, but their symptoms are often confused with other disorders of the lower part of the leg, like compartment syndrome and inflammation of shin-muscle tendons.

-Precursor: Tibial Stress Syndrome

\*\*\*Patellofemoral pain syndrome- defined as retropatellar or peripatellar pain resulting from physical and biochemical changes in the patellofemoral joint. It should be distinguished from chondromalacia, which is actual fraying and damage to the underlying patellar cartilage.