

Use of Foot Doming for Increasing Dynamic Stability and Injury Prevention in Runners and Athletes

Kevin R. Vincent, MD, PhD, FACSM, FAAPMR and Heather K. Vincent, PhD, FACSM

Recently, the intrinsic muscles of the foot and foot mechanics have gained more attention as important factors in both injury rehabilitation and prevention. Focused training of these structures has been lacking in both training and rehabilitation programs for runners and athletes. The collective muscle functions of the foot have been likened to the “core” of the trunk, whereby the intrinsic foot muscles and global muscle movers of the foot act to stabilize the body during dynamic tasks (1). Stability is especially important during the single-legged stance phase of running motion,

jump landings, cutting, and change of direction. Poor foot strength and activation of muscles that create the arch can contribute to arch collapse and a variety of chronic musculoskeletal complaints in runners, including medial tibial stress syndrome (2) and posterior tibial tendon pain (3).

The “foot doming” exercise is a simple but effective foundational exercise for running rehabilitation and injury prevention programs to improve activation of the foot muscles (1). When done properly, doming activates adductor hallucis and abductor hallucis, and activates the latter more



1. Stand barefoot on the ground. The calcaneus should be in a neutral position.

2. Envision “shortening the foot” by drawing the metatarsophalangeal joint toward the heel. As the longitudinal arch rises, it creates a “dome”. The toes need to stay long and straight.

Figure : Foot doming position while standing.

Department of Orthopaedics and Rehabilitation, University of Florida, Gainesville, FL

Address for correspondence: Heather K. Vincent, PhD, FACSM, University of Florida, Gainesville, FL; E-mail: vincehk@ortho.ufl.edu.

1537-890X/1710/320–321

Current Sports Medicine Reports

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effectively than other intrinsic foot exercises (4). When performed 3 minutes a day for 4 wk, this exercise can reduce navicular drop (arch collapse) by 14.2% and enhance star excursion balance 3.9% to 6.5% (5). The exercise procedure is shown in the Figure. Methods to enhance effectiveness of

the foot doming exercise include: (a) performance of doming barefoot while doing load-bearing balance exercises (6), and (b) addition of barefoot walking and running bouts to the training program (1).

The authors declare no conflict of interest and do not have any financial disclosures.

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