

The Straight Story

By Paul Langer, DPM

DISPELLING RUNNING FOOTWEAR MYTHS

Inexperienced shoe fitters, some medical practitioners and many runners hold a number of running shoe myths in high regard. Similar to “I swear this happened to a friend of a friend” urban legends about running footwear construction, technology and performance are continuously passed on from source to source. It’s time to set the record straight and correct the misconceptions that confuse the consumer. To follow are five of ten misconceptions I want to allay. We’ll look at the second half in the August Issue of PSR.

1 A running shoe’s most important function is to provide cushioning

Believe it or not, the human body is surprisingly efficient at absorbing impact without the assistance of a cushioned shoe - as long as the joints are aligned properly. So, in actuality, the most important task of a running shoe is to help maintain good alignment of the feet, ankles, knees and hips. Shoes that have excessive cushioning can deform upon impact to the point where they allow joints to fall out of alignment. Shoes that incorporate stability devices such as medial posts and dual density midsoles can minimize the destabilizing effects.

Cushioning by itself is not as important as once believed. In fact, it can cause more problems than it solves. However, cushioning combined with varying levels of stability is quite necessary. So, if cushioning is so important, why are running injury rates the same today as they were during the first running boom in the early 1970’s when shoes had far less cushioning?

Multiple research studies on running gait have shown that test subjects demonstrated twice as much pronation when running in shoes as compared to running barefoot. These studies shed light on the idea that a runner who appears to be efficient when standing or walking can actually become an overpronator when running in a shoe and, in runners who already have a tendency to overpronate, the effect is exaggerated in running shoes.

2 Stability and motion control shoes make you “roll out”

At best, the stabilizing features of running shoes can only slightly minimize or curb pronation. They cannot stop it and they certainly have never been shown to cause runners to supinate or “roll out”. High-speed video analysis done in lab conditions with runners on treadmills or pressure sensitive tracks has only relatively recently brought this to light. When comparing more stable shoes to less stable shoes, however, many runners still perceive a rolling out sensation when they are not actually

rolling out. Instead, they may have slightly altered how they roll in. If stability/motion control shoes truly made runners roll out, then the majority of people who ran in them would sprain their ankles on a regular basis.

3 Orthotics’ wearers do not need stability or motion control shoes

Most orthotics are made to address alignment issues and they function best when placed into a shoe that also is designed to maximize alignment. Placing a stable structure (the orthotic) on top of an unstable structure (a cushioned shoe) will compromise the function of the orthotic.

A common misconception is that an orthotic with a stability or motion control shoe will provide too much support but this has been disproven by biomechanics research.

4 Shoe wear patterns reveal whether a runner is an over-pronator or over-supinator

While shoe wear patterns have been touted as a crystal ball-like device through which an observer can magically see how a runner’s feet function, the fact is that 80 percent of runners have the same type of wear pattern. Only the most severe over-pronators and over-supinators show unusual wear patterns. To an untrained eye, wear to the lateral heel would be interpreted as a sign that the runner is not overpronating. However, the foot is almost never fully pronated when the heel is striking the ground, so one cannot expect to see wear in the heel as an indication of how much a runner pronates. An observer who truly understands the biomechanical function of the lower extremity can tell much more by watching a runner stand, walk and run barefoot.

5 Lighter shoes make you faster

For elite athletes and for runners running distances of 10 kilometers or less, lightweight trainers or racing flats do, in theory, allow for 0.34 percent energy savings for each ounce of shoe weight, according to biomechanics researcher E.C. Frederick. This would translate into an eight second time savings for an elite 10K runner or 30 seconds for an elite marathoner. For most recreational runners and for distances beyond 10K, the decreased support of a lighter shoe can actually lead to earlier onset of fatigue and delayed recovery from a workout/race.

The psychological benefit of wearing a lightweight shoe for faster workouts or shorter races cannot be ignored, but there is a trade-off in terms of decreased protection. Larger runners especially should avoid lightweight shoes because the thinner midsole can bottom out during impact.

ABOUT THE AUTHOR Paul Langer is a podiatrist and serves as a clinical faculty member at the University of Minnesota Medical School. He is a member of the Clinic Advisory Board of the American Running Association and is the author of *Great Feet For Life: Footcare and Footwear For Healthy Aging*.