

“Minimalist” Running Considerations

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Barefoot and “minimalist” shoe running is a popular trend right now and is generating a lot of buzz in the running community. Recent research in the Harvard and University of Virginia running labs is shedding some light on the science behind the “more natural” way to run. Biomechanical and force plate analysis has revealed rapid loading rates with a traditional heel strike pattern (and 75% of runners who wear shoes strike with their heels). There is research to suggest that rapid loading rates can lead to increased incidence of injury in the form of stress fractures and hip and knee pain. Analysis of mid-foot and forefoot strikers shows similar overall forces, but a much more gradual loading rate. Biomechanical studies also showed a significant amount of wasted energy and inefficiency with “overstriding” and striking with your heel versus “keeping your feet underneath you” and increasing your cadence. So with all of this information, the consensus is that wearing running shoes with thick heels and striking with your heel is bad right? Well, not necessarily. The jury is very much still out. Many “experts” have reviewed extensive research and are having difficulty linking injuries to certain shoe types (or no shoes), or certain running patterns. There are obviously many variables and in the end, I have found that most present this conclusion. It is impossible to generalize, and you must look closely at each individual runner. Poor form is possible when running barefoot or in “minimal” shoes, and good form is possible in a traditional running shoe. When I talk to people at the races and in the running shoe stores, I hear stories about how much healthier some people are after transitioning to a “minimal” shoe, but I also hear how disastrous it’s been for others trying to make the same change. So looking at the total package seems to be the best approach.

Video analysis and extensive training experience has identified the characteristics of successful and efficient running styles, which may include a mid-foot or forefoot striking pattern. But many runners have biomechanical disadvantages that make it challenging to move to a mid-foot or forefoot strike. Understanding these biomechanics has led to researchers developing criteria for transitioning to barefoot running or a more minimal shoe. First, having very good ankle, calf and big toe flexibility and excellent strength in the ankle and foot intrinsic muscles is essential. For many, this takes a lot of extra work with specific exercises performed daily. Second, the transition should be a gradual one mixing traditional running shoes with a more “transitional shoe”, and eventually progressing to a “minimal” shoe. Third, work with a coach or trainer who can look at your running posture and form to determine appropriate foot striking, stride length, and cadence for you. Increasing cadence can be a challenge in itself, and often requires time and patience. If you are looking to potentially improve your efficiency and run in “less of a shoe”, follow the guidelines above and certainly don’t force the transition if you experience pain.

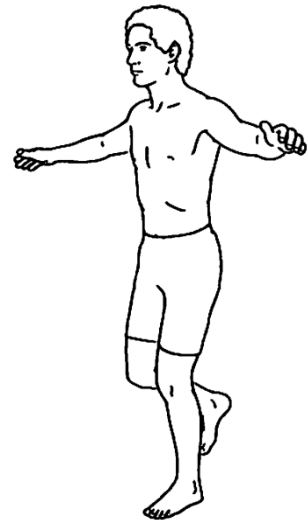
Here are some exercises that are good for those transitioning to less of a shoe (and for all runners for that matter!). Also check out the YouTube video posted by the University of Virginia running lab, “Are you ready to go minimal?” <http://www.youtube.com/watch?v=YtICeFOKjls>

References:

<http://www.barefootrunning.fas.harvard.edu>
www.uvaendurosport.com



Stretch your calf for 30 seconds with the knee bent, don't let your arch collapse, perform 3 reps, twice daily



Practice balancing with the eyes closed or while rotating your body right and left, 30 seconds



Practice elevating the arch without curling the toes. Hold 30 seconds, 3-5 times



Gently stretch the plantar fascia for 30 seconds, also massage the plantar fascia, especially any tender points