

Low-tech running shoes in high demand

The barefoot running trend has taken off in recent years, but in some environments running year-round without shoes is simply not an option. Barefoot enthusiasts who live in these places — where winters are extremely cold, or the terrain is too rough, or the sun gets hot enough in summer to turn sidewalks into stovetops — often use so-called minimalist shoes to protect their feet. Some barefooters swear by these low-tech shoes, but others wonder if their new-found popularity is merely the result of good timing and good marketing.

Many runners are shedding traditional running shoes — with their padded heels and gel sacks and air pockets and arch supports and “motion control” technology — because these shoes may weaken the muscles in the feet and encourage runners to forcefully strike the ground on their heels. Running barefoot, on the other hand, encourages people to take shorter strides and to land more softly on the middle or front of their feet, which some people believe reduces injuries and strengthens foot muscles (www.cmaj.ca/cgi/doi/10.1503/cmaj.109-3745).

People who want minimal insulation and protection, however, opt for lightweight shoes with thin soles that simulate the barefoot experience. Popular brands include Vivobarefoot, Feelmax and Vibram FiveFingers, the last of which look like gloves for feet and which, according to the company’s website, “enhance your sense of touch and feel, while improving foot strength, balance, agility, and range of motion” (www.vibramfivefingers.com).

British Columbia resident Kate Kift, president of Canadian chapter of the Barefoot Runners Society, runs barefoot on asphalt but not on the gravel trails where she does 80% of her running. “I use minimalist shoes for gravel trails,” she says. “The trails are so spiky that you need something on your feet.”

Dr. Michael Nirenberg, a podiatrist in Crown Point, Indiana, is also an avid runner and a fan of minimalist footwear.



Kate Kift

Minimalist shoes, which have thin soles and individual sections for toes, are designed to simulate going barefoot.

“There’s an idea that our feet need a lot of help or support. The truth is that feet are really strong and resilient,” he says. “There are four layers of muscle in our feet. The majority of the muscles are used less, if at all, when the feet are in supportive footwear.”

People who have studied how footwear affects running styles note that there is no scientific evidence that all the cushioning in high-tech running shoes provide a health benefit.

Dan Lieberman, professor of human evolutionary biology at Harvard University in Cambridge, Massachusetts, coauthored a paper comparing the foot strike patterns of barefoot versus shod runners which states that although “cushioned, high-heeled running shoes are comfortable, they limit proprioception and make it easier for runners to land on their heels. Furthermore, many running shoes have arch supports and stiffened soles that may lead to weaker foot muscles, reducing arch strength” (*Nature* 2010;463:531-5).

“People are running in shoes with heels that are three centimetres high that encourage people to crash into their heels. I’m amazed that in the past 30 to 40 years, nobody has asked whether these shoes help anybody, especially in light of the fact that so many runners get injured,” says Lieberman. “At least a third of all runners get repetitive stress injuries. If you ask me, that is a completely unacceptable number.”

Mauricio Morales, who operate the website barefootcanada.org and goes by the nickname “Barefoot Moe,” owns three pairs of Vibram FiveFingers. Yet he has mixed feelings about minimalist footwear.

“I have injured myself more wearing sandals than in bare feet,” says Morales, who does a lot of walking in bare feet but isn’t a runner. “I have a scar on my left foot from it rubbing on a sandal strap and becoming infected.”

Morales lives in Toronto, Ontario, and wears minimalist shoes when temperatures approach freezing. They are better than regular shoes, he says, because they allow the foot to move more freely. They also promote the barefoot lifestyle and are useful for getting into places, such as stores and restaurants, that don’t permit entry to nude-footed patrons.

But there are more than a few cons to minimalist footwear, says Morales. They are usually worn without socks, he says, and therefore promote foot odour and fungal infections. And just having anything on your feet, even a thin-soled slipper, can lead someone to subconsciously revert to their old heel-striking ways.

“Whenever I wear minimalist footwear, my brain reverts to thinking that I’m wearing shoes now, and I have to remind myself to walk as if I was barefoot,” he adds.

Morales is also skeptical about the sudden popularity of minimalist footwear. After all, sandals and moccasins and other thin-soled shoes have been around for hundreds of years. Are shoe companies just jumping on the barefoot running bandwagon and giving fancy names to a few scraps of fabric and rubber?

“Another beef I have with them is that they are outrageously expensive,” says Morales. “You can’t find anything under \$80. They are saving money on material and overcharging people because it is such a novelty.” — Roger Collier, *CMAJ*

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