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Wiggling Their Toes at the Shoe Giants

By **AMY CORTESE**

TODD BYERS was among more than 20,000 people running the San Francisco Marathon last month. Dressed in shorts and a T-shirt, he might have blended in with the other runners, except for one glaring difference: he was barefoot.

Even in anything-goes San Francisco, his lack of footwear prompted curious stares. His photo was snapped, and he heard one runner grumble, "I just don't want the guy without shoes to beat me."

Mr. Byers, 46, a running coach and event manager from Long Beach, Calif., who clocked in at 4 hours 48 minutes, has run 75 marathons since 2004 in bare feet. "People are kind of weird about it," he shrugs.

Maybe they shouldn't be. Recent research suggests that for all their high-tech features, modern running shoes may not actually do much to improve a runner's performance or prevent injuries. Some runners are convinced that they are better off with shoes that are little more than thin gloves for the feet — or with no shoes at all.

Plenty of medical experts disagree with this notion. The result has been a raging debate in running circles, pitting a quirky band of barefoot runners and researchers against the running-shoe and sports-medicine establishments.

It has also inspired some innovative footwear. Upstart companies like Vibram, Feelmax and Terra Plana are challenging the running-shoe status quo with thin-sole designs meant to combine the benefits of going barefoot with a layer of protection. This move toward minimalism could have a significant impact on not only running shoes but also on the broader \$17 billion sports shoe market.

The shoe industry giants defend their products, saying they help athletes perform better and protect feet from stress and strain — not to mention the modern world's concrete and broken glass.

But for all the technological advances promoted by the industry — the roll bars, the computer chips and the memory foam — experts say the injury rate among runners is virtually unchanged since the 1970s, when the modern running shoe was introduced. Some ailments, like those involving the knee and Achilles' tendon, have increased.

"There's not a lot of evidence that running shoes have made people better off," said Daniel E. Lieberman, a professor of human evolutionary biology at Harvard, who has researched the role of [running in human](#)

evolution.

Makers of athletic shoes have grown and prospered by selling a steady stream of new and improved models designed to cushion, coddle and correct the feet.

In October, for example, the Japanese athletic-shoe maker Asics will introduce the latest version of its Gel-Kinsei, a \$180 marvel of engineering that boasts its “Impact Guidance System” and a heel unit with multiple shock absorbers. Already offered by [Adidas](#) is the Porsche Design Sport Bounce:S running shoe, with metallic springs inspired by a car’s suspension system. It costs as much as \$500.

Some question the benefit of all that technology. Dr. Craig Richards, a researcher at the School of Medicine and Public Health at the University of Newcastle in Australia — and, it should be noted, a designer of minimalist shoes — surveyed the published literature and could not find a single clinical study showing that cushioned or corrective running shoes prevented injury or improved performance. His [findings](#) were published last year in The British Journal of Sports Medicine.

Other experts say that there is little research showing that the minimalist approach is any better, and some say it can be flat-out dangerous.

“In 95 percent of the population or higher, running barefoot will land you in my office,” said Dr. Lewis G. Maharam, medical director for the New York Road Runners, the group that organizes the [New York City Marathon](#). “A very small number of people are biomechanically perfect,” he said, so most need some sort of supportive or corrective footwear.

Nevertheless, a growing number of people now believe in running as nature intended — and if not barefoot, then as close to it as possible. They remain a tiny segment of the population — some would say fringe. But popular training methods like ChiRunning and the Pose Method that promote a more “natural” gait, as well as “Born to Run,” a best-selling new book about long-distance running by Christopher McDougall, have helped spur interest.

Proponents of this approach contend that naked feet are perfectly capable of running long distances, and that encasing them in the fortress of modern footwear weakens foot muscles and ligaments and blocks vital sensory input about terrain.

“The shoe arguably got in the way of evolution,” said Galahad Clark, a seventh-generation shoemaker and chief executive of the shoemaker Terra Plana, based in London. “They’re like little foot coffins that stopped the foot from working the way it’s supposed to work.”

The big shoe companies are clearly paying attention to the trend. [Nike](#) was first to market with the Nike Free, a flexible shoe for “barefootlike running” with less padding than the company’s typical offerings. It was introduced in 2005 after Nike representatives discovered that a prominent track coach to whom they supplied shoes had his team train barefoot.

But some in the industry are critical of the barefoot push. Simon Bartold, an international research

consultant for Asics, said advocates of barefoot running “are propagating a campaign of misinformation.”

SPEND some time in Concord, Mass., and you might catch a glimpse of a fit 51-year-old man in a pair of funny-looking socks running down the bucolic streets.

That would be Tony Post, the president and C.E.O. of Vibram USA, on a lunchtime run. And those socks? They’re actually thin rubber “shoes” with individual toe pockets. Called Vibram FiveFingers, they’ve been selling briskly to runners and athletes looking to strengthen their feet and sharpen their game.

When Vibram, an Italian company known for its rugged rubber soles, designed the FiveFingers a few years ago, company officials figured that they would appeal to boaters, kayakers and yogis. Instead, the shoes, which sell for \$75 to \$85, caught on with runners, fitness buffs and even professional athletes: David Diehl, the New York Giants tackle, trains in them.

Mr. Post, a shoe industry veteran, said he believed that the business was poised for a shakeup. “It used to be all about adding more,” he said. “Now, we’re trying to strip a lot of that away.”

Strange as they look, the FiveFingers shoes hark back to a simpler time. Humans have long run barefoot or in flat soles. Professor Lieberman’s research suggests that two million years ago, our ancestors’ ability to run long distances helped them outlast their prey, providing a steady diet of protein long before spears and arrows. More recently, at the 1960 Summer Olympics in Rome, Abebe Bikila, an Ethiopian runner, caused a stir when he ran the marathon barefoot and won.

Things changed in the early 1970s, when Bill Bowerman, a track coach turned entrepreneur, created a cushioned running shoe that allowed runners to take longer strides and land on their heels, rather than a more natural mid- or forefoot strike. Mr. Bowerman and his business partner, Phil Knight, marketed the new shoes under the Nike brand, and the rest is history.

At the same time, millions of Americans began taking up running as a pastime. Those twin trends ushered in a golden age of biomechanics research. “There was a lot of concern about injuries because of the boom,” said Trampas TenBroek, manager of sports research at New Balance. The logic, he said, was that “if you build a heel lift and make it thicker, you take stress off the Achilles’ tendon.”

Walk into a sports store today and you’ll see the results: shoes with inch-thick heels and orthotics designed to correct overpronation, supination and a host of other ills.

Mr. McDougall, the “Born to Run” author, ” said manufacturers, doctors and retailers were doing runners a disservice by pushing such shoes. “People are buying it thinking it’s going to do something for them, and it’s not,” he said.

Mr. McDougall’s book is centered on the Tarahumara Indians of Mexico, known for epic 100-mile runs with nothing on their feet but strips of rubber. The book has become something of a manifesto for barefoot runners.

After suffering chronic foot pain and being advised by sports medicine doctors to give up running, Mr. McDougall tried thin-soled shoes. Now, he said, he runs long distances without shoes — or pain.

THAT seems to be a common experience among barefoot converts. “When people get it, it’s almost biblical,” said Mr. Clark at Terra Plana. His initial line of minimal shoes, the Vivo Barefoot, is intended for walking; a performance model, the \$150 Evo, is due at year-end.

Sales of minimalist shoes, while still tiny, are growing at a rapid clip. Mr. Clark figures that he will sell 70,000 pairs of minimal shoes this year, double last year’s volume. The shoes have sold mostly online and through 10 Terra Plana stores worldwide.

Vibram says sales of its FiveFingers have tripled every year since they were introduced in 2006, and Mr. Post said he expects revenue of \$10 million this year in North America alone.

Many professionals agree that while barefoot running may have some benefits, those who are tempted to try running barefoot — or nearly so — should proceed slowly, as they should with any other significant change to their running habits. They also say that more research is needed.

Sean Murphy, engineering manager for advanced products at New Balance, says that there have been many studies suggesting “that shoes can correct biomechanical abnormalities and risk factors, therefore minimizing the likelihood of injury.”

When asked for an example, Mr. Murphy pointed to [a 2006 study](#) by three doctoral students that found that wearing the appropriate type of running shoe for one’s foot could reduce the shock of impact or unwanted rotation of leg bones. The study did not address injury rates.

AMID all the controversy, barefoot running and natural gaits are the subject of intensive research across the shoe industry. Companies don’t want to miss out if it turns out to be more than just a fad.

At New Balance’s sports research lab in Lawrence, Mass., Mr. TenBroek and Mr. Murphy are studying the biomechanics of running barefoot and in soles of varying thickness, while designing a “lower profile” shoe.

Asics, too, sees promise in this area. “As technology improves, we will definitely go to a more minimal style,” Mr. Bartold said.

Those big companies could end up profiting from the movement — or they could have trouble getting on board.

Danny Dreyer, the founder of ChiRunning, which uses the tai chi principles of harnessing energy and core muscles to promote a more effortless way of running, said he had worked with a few shoe companies to help design minimalist shoes. In each case, he said, marketing and profit concerns trumped design: “Their profit and direction is based on ‘More shoe is better,’ ” said Mr. Dreyer, who is also a long-distance runner.

Mr. Bartold of Asics, which has not worked with Mr. Dreyer, said the industry had runners’ best interests in

mind. “It’s all about trying to protect the athlete,” he said.

Nike describes the Free, its minimalist shoe, as a “training tool.” It offers models with varying degrees of cushioning; they are priced at \$55 to \$110.

“The key is to offer a range of options, because every runner has different needs,” said Derek Kent, a Nike spokesman. “If you want that sensation of barefoot running, there is the Free, but if you want a product with a little more cushioning and support, we have that, too.”

While Nike would not disclose detailed sales information, Mr. Kent said sales of the Free grew at double-digit rates in the last two fiscal years, with sales in Japan and China especially strong.

Curt Munson, co-owner of Playmakers, a running shop in Okemos, Mich., said that in his conversations with major shoe companies lately, “they see that they need to address this” but “they’re just not sure how much.” But, he said, they must be thinking, “If we say this is the best, then are we saying that what we’ve done before is not good?”

The back-to-basics movement is more than a fad, said Mr. Munson, who runs in FiveFingers. “Most people are not ready to run barefoot,” he said, “but I do think they are ready to go back to ‘less is more.’ ”

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