



THE BAREFOOT RUNNING SHOE

NEWTON RUNNING TRAINERS

ISAAC NEWTON'S THIRD LAW OF MOTION states that for every action, there is an equal and opposite reaction. Thus, every time a runner's heel hits the ground, a shock wave ripples up, ankle to shin to knee, and on through the spine. It slows, and it hurts. But according to Danny Abshire, co-founder of Newton Running, physics aren't the problem — form is. And his shoes will teach you how to run all over again.

Four chunks of rubber at the front of the Newton runner's soles force you to land on your forefeet rather than your heels. This turns the human body into a spring, the joints and muscles poised to contract, load, and release rather than passively absorb abuse. The rubber lugs themselves do the same, retracting to dissipate impact, then pushing back as you toe off.

One would think making a revolutionary running

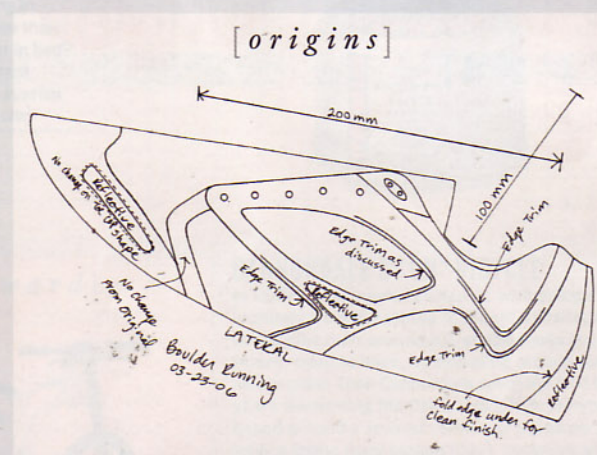
shoe would have come easy for Abshire, an orthotics guru who works with world-class athletes. Yet he spent nearly a decade at it, until 2002, when he figured out the secret: Most runners strike with their heels when wearing shoes, but barefoot they land on the balls of their feet. And a shoe was born.

Newton launched last spring after five years of development and offers four men's models. Now it's on to converting the masses and that will take time. The Newtons are not "Eureka!" shoes. At first you feel unbalanced and awkward, unsteady, but with a few days of practice you develop a rhythm. You never forget the lugs, but you learn to expect their pressure. And that's when running begins to feel more fluid — like maybe this is what your body's wanted to do all along (from \$155; newtonrunning.com). —BRIAN METZLER

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1. The protruding rubber lugs absorb shock as they get pushed into an elastic membrane, which then thrusts them back out. This injects energy into the runner's stride — up to 20 percent more than other shoes, says Abshire.
2. A deep groove between the balls of the feet and the toes allows the forefoot to flex more like you're running barefoot.
3. A basic mesh upper with few overlays makes the shoe breathable and light (between 8.9 and 10.3 oz). It also makes Newtons a poor choice for rainy days.
4. A somewhat soft heel further encourages runners to land on the forefoot.

"These prototypes represent a 10-year period, from the first shoe we developed to the ones we're selling now," Abshire says. The earliest versions focused on heel cushioning that protruded from the outsole, but were either too heavy, too odd-looking, or too challenging to manufacture. Then Abshire shifted his focus to the forefoot. His landlord was so impressed with the idea that he bought out Abshire's partner.



This sketch shows the upper design for Newton Running's Gravity and Motion trainers. Newton also offers the Distance and Distance S (main image) for racing. Two of the four styles are geared toward cushioning, while the other two are aimed at providing extra stability. We would say collect them all, but at more than \$150 a pair and with an expected life span of roughly 350 miles, that could get expensive for a hardcore runner.