



Reinventing the wheel

One man's vision becomes reality with Newton running shoes

By Jay Prasuhn

In an industry where shoe design has long been marketed toward addressing heel strike, Newton takes the opposite track—that runners need to focus on decreased gait length, increased cadence and a lighter footfall through the forefoot, not the heel. Watch any good marathoner or triathlete and you certainly won't see heel striking but, rather, midfoot and forefoot landing. Newton aims to make the run form elites enjoy attainable to any runner.

The roster of athletes on board with the new technology is impressive: reigning Ironman world champ Michelle Jones, past Ironman world champs Heather Fuhr, Peter Reid and Natascha Badmann, Ironman Wisconsin winner Katja Schumacher and Ironman Japan champ Chris Lieto as well as Michael Simpson, Hillary Biscay and Katya Meyer.

The co-creator is Boulder running expert and ultra-distance runner Danny Abshire, who has created custom orthotics for decades for the likes Paula Newby-Fraser, Mark Allen, Scott Molina, Boston Marathon winner Uta Pippig and Kenyan marathoner Charles Kamindo. The shoes are available direct at newtonrunning.com.

Triathlete: *What's the concept behind the design?*

Danny Abshire: My theory is you build up the heel like most shoes out there today, that's the first thing that will touch the ground. If you build a level shoe, your foot will adjust to that, your body will sense where it needs to land. We have a shoe with forefoot technology. If you land forefoot instead of heel-striking, the body is in a better position to absorb the natural impact and return it as forward propulsion. The technology does have a lot of movement on impact as the [forefoot] lugs stretch into chambers, so you have greater cushioning. It's basically Newton's third law of action and reaction. As you lever forward and come off,

the chambers rebound and push out and you have propulsion—the reaction. The forefoot bends between the metatarsals and toes, using less energy to flex the shoe. It's built for natural running. That's where Newton came in—it combines how people would run barefoot on natural turf in a technology with the protection that enables you to run that way on pavement.

Triathlete: *How did you initially come up with the idea?*

Abshire: Brian Russell is the original inventor, and he and I were put together by Lorainn Moller, from New Zealand—she won the bronze medal at the 1992 Barcelona Olympics and thought we could meld our ideas.

The first company we started was called Britek in 1996, testing hand-built prototypes. Brian spent 300 hours making one pair of shoes we could test—it was a meticulous process. We worked with several major footwear brands for three years to license the technology. They were intrigued but felt it had too many parts and that it would be too costly, so they passed and we decided to go forward on our own.

Triathlete: *Does it take some time to adjust to the new body mechanics the shoe requires?*

Abshire: For Paula, with her experience, it took her 48 hours to adjust to the shoes. For some others, it might take up to four weeks. If you came from heel-striking in a heavy control shoe, you need to gradually move into it.

The benefits are going to change the way your lower body works, using new muscles that will need to be developed. People first running in them feel like they run faster right away. Of course, the next day their calves are tight. You may feel your hip flexors more, because you're driving your knee more. What they did was change their form overnight. Your body just has to adapt to a new way of running.

Triathlete: *Why do you think the running shoe market has been so obsessed with hyping heel cushioning with shoes built high in the heel, slanting downward?*

Abshire: Over time, companies had to walk a line. Using the heel, there's more area to minimize impact. Doing so, they take away the natural instinct of running. And when you heel strike, there's more chance to pronate and supinate. You break your forward momentum.

Triathlete: *What are the models available?*

Abshire: There is the Distance line, which has the Distance, a neutral racer, and Distance S, which is posted for stability. We have corresponding models for training: the Gravity, a neutral cushioned shoe, and Motion, our stability-class trainer.

Triathlete: *Expected pricing?*

Abshire: Were looking at about \$155 for the trainers or racers. There are a lot of shoes in that range. If people can change the way they run and be a bit less injured and get a leap in their ability, we feel it's a good price range.

