



A little toenail blister case study for a Monday morning...

**THE PROBLEM:** Toenail blisters on toes 1, 2 and 3 of both feet, despite all of them being taped and wearing injinji toe socks during a 24 hour ultramarathon.

**THE PHOTO:** This is 2 hours after the race ended and the blisters had been lanced. I can only imagine how nasty that big toe was. It's a little difficult to see the 2nd and 3rd toes.

**PREVENTIONS IN PLACE:** Taping and toesocks [unfortunately, neither taping nor toesocks will do anything to prevent toenail blisters].

**THE QUESTION:** "Would gel toe caps have worked better?"

**PREVIOUS RUNNING EXPERIENCE:** "This was my first 24 hour, but had done previous 12 hour races, Comrades, and a 100 km race. Previous longest time on feet was 13 hours. I've mixed 3-5 marathons per year with 1-2 ultras of the 12 hour/100km range (about the same thing for me) for the last 3 years. Usual marathon time is in the 4.30 to 4.50 range. 12 hours gets me around 100km. One thing about this race was how slowly I was running, 12 hours only got to 88km." [Running speed was irrelevant to these toenail blisters. The reason they were worse than usual was the sheer number of repetitions. Running for longer means more episodes of the microtrauma that caused these blisters.

**MY ADVICE – WHAT WILL WORK:** The gel toe caps wouldn't be my first choice though they may help (depending on the cause of your toenail blisters). They definitely will not help if you've already got toenail blisters - they'll macerate your skin. Gel toe protectors should only be used on intact and unblistered skin as a prevention, as opposed to a treatment.

No doubt you've read my toenail blisters post - it's all outlined there. \*Shoe length\* is mega-important. You might have a thumbs-width at the start of the race but do you have that much room 12 hrs in? If not, you need to change to a bigger shoe. \*Loose lacing\* is frequently the culprit - make sure there's no gap between your heel and the back of the shoe. No point having the right size shoe if you're going to let your foot sit too far forward in it. \*Toebox depth\* is important for big toenail blisters. \*Thick nails with rough edges\* are often over-looked - they need to be taken care of before the race. If all of this is in order then it's \*biomechanics\* for the big toe and \*toeprops\* for the lesser toes. A podiatrist will be able to help you with both of these. Resort to \*gel toe caps\* if you've done your best with all of the above but they may wear out prematurely, so you'll go through them faster than average. Or if you're in a race and get desperate, I've seen a lot of \*shoe-cutting\* do the trick. You'll need to cut the vertical part of the upper out (the bit that your toes are hitting into at the end of the shoe), not just the top of the upper (this will only help for blisters on the tops of toes, like hammertoes). Forget about taping and toesocks – they might help prevent other types of toe blisters but not toenail blisters.

#### IDENTIFIED CAUSE

Loose lacing – in an attempt to make "wide and high arched feet" more comfortable.

#### PATHOMECHANICS

When a pushing force is applied to the end of the toenail, it moves the nail plate and the nail bed skin backwards towards you. Conversely, the underlying toe bone is either stationary or moving forward. Everything in between stretches. This is how the skin is damaged under the toenail. Fluid fills the area and within 2 hours, you'll have a blister under there. How big the blister gets is determined by the magnitude of the force and number of repetitions. Running speed was irrelevant to these toenail blisters. The reason they were worse than usual was the sheer number of repetitions. Running for longer means more episodes of the microtrauma that caused these blisters.

**WHAT'S NEXT:** If you need to know more about what works and what doesn't work for the different types of toe blisters (or heel blisters or forefoot blisters), my Fix My Foot Blisters Fast program is the best resource you'll find. Plus I'm always on hand to take your questions 😊