

LIGHTENING Bolt

It's official, maths can help you run faster! Well, that's according to a study published *Significance*, the magazine of the Royal Statistical Society and the American Statistical Association. More specifically, mathematical sciences professor John D Barrow has calculated how Usain Bolt can cut his 100m world record from 9.58 seconds* to 9.45.

Apparently, the sprinting star has surprisingly slow reaction times, and by responding to the gun faster, he could shave off 0.05 seconds off his record, taking him down to 9.53. Also, his Berlin record benefitted from a 0.9m/s tailwind, and if he has the top allowable tailwind of 2m/s on race day, he could knock off another 0.05 of his PB. And, unlike distance runners, altitude affects sprinters positively – the 1968 Olympics in Mexico City (2,240m above sea level) saw significant improvements in short-distance running events. So, athletics world records are only approved at altitudes of up to 1,000m, but this still means Usain could slash his time a further 0.03 seconds to 9.45 if he performs at this altitude.

Looking for a more practical guide to running faster? See top running coach Sam Murphy's advice on page 55.



RUNNING Round-up

POWER UP YOUR RUNS AND STEP UP THE PACE!

Ask the EXPERT...



Top Tunbridge Wells based personal trainer to the likes of Colin Jackson, Tatum Nelson (tatumnelson.co.uk) says:

"Before running I would recommend going through a series of dynamic mobility exercises as opposed to static stretching. Dynamic mobility is great for preparing your muscles for the run ahead. They warm up your body and get it doing the actions that will be similar to your workout. They also get your blood pumping and your muscles ready to go."

"In contrast, static stretching does not prepare your body in the same way for a run. Some studies have even shown that it

What's the best way to warm up before a run? I've heard that stretching beforehand can actually do more harm than good – is this true?

Nina Stewart, Bristol

diminishes performance, as you've heard. It's been demonstrated that static stretching inhibits muscular performance as opposed to enhancing it. So, before your run I suggest going through a series of exercises, such as leg swings, high knees and gluteal kicks to really prepare your body.

"But, static stretching does definitely have its place, post-workout. So, go through a series of static stretches focussing on the major muscle groups as part of your cool-down. This will prevent your muscles from shortening after training and make for an easier run next time!"

Get your running questions answered by emailing letters@bodyfitmagazine.co.uk



*World records true at time of going to press.

10.49 seconds is the current women's 100m sprint world record*, which was set by the USA's Florence Griffith-Joyner (AKA Flo-Jo) in 1988.



HOT KIT Uncovered

Incorporating the Nike+ digital and online tool, the sports specialist welcomes the next generation of the Nike Free range: Nike Free Run +3 (£80, store.nike.com). This natural motion-inspired shoe combines flexibility, comfort and support, and encourages a stronger and more natural gait.

It's super-light too, as you would expect of a shoe of this nature, and our tester found it gave a smooth ride during short runs. She said:

"Having quite low arches, I usually require quite sturdy support, so these shoes took some getting used to. It's a great 'starter' shoe if you're looking to pursue a more natural running gait as you have the support of a more traditionally constructed shoe which is combined with the latest technology to help mimic a 'barefoot' stride."