Should I Stretch to Prevent Injury?

Static stretching: This is what you do when you maintain a prolonged stretch. Its function is to help increase the range of movement around a joint by lengthening the muscle - in other words, it increases flexibility. To prevent injury, it is important that an athlete has the right amount of flexibility to reach the positions that are required by the sport. For example, a runner should have enough hamstring flexibility to be able to extend the leg far enough to create a comfortable stride. Stretching also helps even out muscle length imbalances, which if left untreated, have been shown to increase risk of injury. However, it has been shown that stretching before a run does not prevent you from incurring an injury during your run.

The answer is timing. When you stretch matters!

So, if there are clear benefits to stretching, why doesn’t it prevent injury? In a number of studies, pre-exercise static stretching has either shown no difference in injury rates, or if anything, shown a trend toward a higher injury rate in people who stretch. This may be related to evidence of poorer muscle-strength endurance, balance and reaction time observed post-stretching. When it comes to performance, it has been shown that static stretching performed before the activity actually reduces your muscles ability to generate strength and power.

Based on scientific literature, the best time for static stretching is either after a run, or on a day when you won’t be running at all. Taking the time to stretch on this type of schedule has a number of benefits. Aside from improvements in flexibility, regular stretching over the long term can actually improve your muscle strength and power.
How should I warm up?
The purpose of a warm-up is to physically prepare an individual for exercise. For distance runners in particular, a warm-up should focus on increasing core body and muscle temperature, increasing oxygen uptake and decreasing muscle and joint stiffness. These factors have been shown to not only prevent injury, but also to improve muscle strength performance.

How do you do all that in a warm-up?
For distance runners, an ideal warm up should last about 10 minutes and should finish no more than five minutes before the running session or race starts. The intensity should be enough to elevate body temperature, but not fatigue you before the race. Beginner runners can estimate this to be about 4-6 out of 10 point scale, where 10 is your absolute maximum effort. Intermediate runners may need to boost their intensity level to about a 7 out of 10 on the scale. One way to do this is perform a series of dynamic stretches. A dynamic stretch is a functional whole body movement that progressively decreases stiffness in the muscle, increases blood flow to the muscle and increases your heart rate. See our article ‘The Warm-up and Cool-down’ for the details on a full routine.

In conclusion, static stretching is important to do over the long term, but when it’s done immediately pre-run, it can actually put you at a greater risk of injury. Restrict your static stretching to post run or on rest days. To get warmed up, try a dynamic warm-up routine instead, since it’s more likely to prevent injury.

References: