

## The Importance of Stretching

Stretching is an important part of one's fitness plan, especially if it involves running. Still, it remains somewhat of an enigma to many people today.

There is no shortage of bad information about stretching out there. Similarly, one doesn't need to look far to see some poor form while stretching. No wonder this is the case, given the conflicting research reports that periodically arise from the literature.

Stepping back, why should you even bother stretching? Stretching is thought to decrease muscle stiffness. "Stiffness" is defined as the force needed to change the length of a muscle. So, if one is 'stiff' it takes them more effort, or force, to lengthen their muscles. And typically, stiffness is associated with some degree of pain or perhaps more accurately, discomfort. (However as we can all attest, very tight muscles can be quite painful!) Newer evidence suggests that stretching can actually have subtle pain-relieving effects, and serve to strengthen muscles as well. These are relatively new discoveries in the last few years and provide even more reason to stretch!

But, before we get to far, there are definitely some aspects of stretching that deserve a cautionary note:

1. It seems that in every stretching explanation, the fact that bouncing during stretching, or 'ballistic' movement is frowned upon. This is true, but the last time someone told me to bounce while I stretched was in 5<sup>th</sup> or 6<sup>th</sup> grade. Does anyone recommend this anymore? I hope not, but if so, don't do it.
2. Stretching before exercise may be detrimental to performance. Or more accurately, stretching cold muscles before working out may actually increase the chances of injury or pain during the workout/race. One only needs to warm up before an event to increase range of muscle motion. Stretching a tight or sore muscle after you have warmed up, but before a race, is okay. The key is having warmed muscles before stretching them.
3. Stretching and pain. Again, an old-school notion was to stretch as far as one could, to the point of pain. Not good. Stretching should be a pain-free experience. If you stretch and feel pain you are sending a signal from the brain to 'stop the pain', and the muscles will try to react by getting even tighter, which leads to small tears in the muscle and/or tendons.

Now that we have that out of the way, what should you do? Again, there is a lot of information out there, and many of the studies looking at stretching and athletic performance reveal conflicting points. However, there are a few clear points that can be taken from the research. Recently, an article was written that examined all of the previously done stretching studies in the medical literature. Here are some of the take-home points from that review:

1. Pre-workout/race stretching *will not* prevent injury. However, pre-workout/race warm-up *will* prevent injury.
2. One long, continuous stretch (for each muscle) may be better than a series of shorter stretches. This may mean holding a stretch for 1 to 2 minutes, rather than the typical quick 30 second stretch.

3. Stretching is an individual activity, meaning that each person needs to stretch to where they feel comfortable, and to the point where they feel like there is no additional benefit.
4. Stretching will improve performance in regard to muscle force production (strength) and contraction velocity (speed) but only if it is done regularly.

Keep in mind the above information is intended for the injury-free runner. Injury adds another dimension and there may be certain dos and don'ts that go with it. The other important aspect of stretching is proper form, which needs to be demonstrated, not written about. If you are unsure about your stretching technique, ask someone that is knowledgeable rather than getting the wrong information.

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