

Starting Strength

Why You Should Stop Stretching at the Gym

by

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Nearly every community has its myths that tend to go unquestioned, and the fitness world is no stranger to them. Whether it's myths surrounding when to eat for maximum protein synthesis [1], the endless health fads that claim to solve all your problems [2], or the various supplements that are supposed to give you that extra edge, the fitness world is littered with misinformation.

Stretching has been a staple of just about every physical activity under the sun, and because it's been repeated so often by so-called "professionals" and athletes, it would appear to be the obvious thing to do to warm-up, avoid injury, and help recovery. We stretch because it feels good, and it's something we were told is required for performance. Below, I will outline and debunk all the myths surrounding this activity, and why stretching is at best, a waste of time, and at worst, a detriment.



The first thing that most people do upon arriving at the gym is some kind of warm-up, which may include some stretching. While stretching feels good, pulling on a muscle in what is called a "static stretch" (holding a stretch for an extended period of time) plays no role in warming you up, and this is well documented. So, how do you warm-up your muscles? You use them! Saturating the tissues (muscles and joints) with blood will effectively raise your body temperature, thus preparing you to take on whatever physical task you seek to perform [3]. What about the benefits of "dynamic stretching?" Well, doing exercises like knees to chest or lunges is not stretching... it's a warm-up.

Researchers looked at over 4,500 studies, isolating over 100 of them that met the criteria for analysis, and found that short duration static stretching had no effect on muscle performance [4].

"Clear evidence exists indicating that short-duration acute static stretch (<30 s) has no detrimental effect (pooled estimate = -1.1%), with overwhelming evidence that stretch durations of 30–45 s also imparted no significant effect (pooled estimate = -1.9%)."

The researchers also found that stretching for more than 60 seconds before training had detrimental effects on force production. The reason is simple: tighter muscles are more explosive, thus increasing

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the contractile force and speed of muscle fiber activation. The National Strength and Conditioning Association (NSCA) describes the process in detail [5]:

“Normally, a stretched muscle triggers neural reflexes (e.g., myotatic reflex) to resist tearing. However, prolonged stretching may inhibit myotatic reflex activity, allowing the muscle-tendon unit to lengthen with minimal resistance from the muscle and connective tissues. Hence, an inability to generate forces after stretching results from a lack of neural activation and greater muscle compliance, which implies muscle stiffness may be diminished following pre-exercise stretching.”

What about stretching for preventing injury? If you stretch your muscles, won't it be less likely that you'll hurt them during training?

No.

So, why does this myth persist? People tend to give different answers to this one, but most people assume that stretching has some sort of protective effect. How and why is often explained in vague terms, but one claim is that stretching can increase your muscle's range of motion (ROM), thus mitigating the risk of injury. While some stretching could help if your lack of flexibility keeps you from being able to complete a major lift, such as squatting below parallel, the truth is that most injuries occur during the muscle's normal range of motion.

In a 2004 systematic review of 361 studies published in the American College of Sports Medicine Journal [6], it was found that those who stretched were no more or less likely to sustain an injury than those who did not stretch.

In a more recent 2008 randomized controlled trial published in the American Journal of Sports Medicine [7], 1,020 army recruits were studied to see if a program of stretching would make a difference for injury prevention. The researchers found “no significant differences in incidence of injury between the prevention group and the placebo group.”

You might be asking: If stretching doesn't help with injury prevention, then what does? There is growing evidence that managing your physical workload, that is, training consistently without a sudden change in intensity and volume, can help prevent injury [8]. Another is getting enough sleep [9]. In addition, there is evidence suggesting that insomnia contributes to chronic pain [10].

As stated before, warming-up can go a long way in preventing injury [11]. If you're preparing to deadlift 225 lbs., you would start with a lighter weight and gradually increase the weight until you reach your work set. Similarly, when preparing to jog, begin by jogging slowly, gradually picking up the pace until you've reached your desired speed.

We've covered how stretching isn't going to warm you up, doesn't improve performance, and doesn't prevent injuries, but we haven't covered the fourth myth: Stretching can prevent “delayed-onset muscle soreness.”

Contrary to popular belief, muscle soreness doesn't mean you're getting stronger, it just means that you're experiencing an inflammatory response to the eccentric component of an activity to which you are not adapted [12]. An eccentric contraction occurs when the muscles lengthen under tension, like the controlled lowering of a barbell toward your chest during a bench press. Therefore, there's no evidence that DOMS can be prevented or reduced by stretching [13].

What about flexibility? If you're a gymnast, or in any specialized sport that requires an extreme range of motion, flexibility will help you achieve your ends, but there is a cost (sprains and strains from over-stretching), and most athletes in most sports perform at their best within a normal range of motion [14].

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Furthermore, the evidence does not prop up the popular assumption that stretching permanently changes the muscle's length. A 2014 study [15] did not find a change in muscle tissue structure, but rather, the increased flexibility seemed to be due to stress tolerance [16]. This is your nervous system's protective mechanism stopping you from over-stretching and tearing a muscle. In other words, it's in your brain, man!

Fine. Stretching doesn't improve performance, or prevent soreness or injuries, but is there evidence that it helps with pain and recovery? Most people will say they find relief from chronic back pain and other ailments when they stretch, and there is evidence for this, which suggests stretching could aid in pain relief by decreasing inflammation in connective tissue [17]. We don't know for sure because more studies are needed, and there's no evidence that stretching fixes the cause of the issue, only that it might provide relief.

So, does stretching have any proven benefits? Yes! All we can say is that a stretch feels damn good after you've been sitting at the computer all day typing up an article with multiple citations. So, have yourself a good stretch now and then because it feels good, and not because someone tells you to.

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