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Counter Measures

Why self-defense training can be the best way to get the upper hand

Worth The Stretch?

The latest news on warming up for your workout

Matt Brzycki

Most fitness enthusiasts do some type of stretching prior to a physical activity. If you were to ask them why, the vast majority would probably say that it's to prevent injuries and/or enhance performance. But does stretching really offer those two benefits?

Let's take a look at the some of the recent findings on this subject matter.

Stretching and Injuries

For many years, conventional thought contended that pre-activity stretching reduced the risk of injury. This belief wasn't based on research but it seemed reasonable. As it turns out, there's scant research on the effects of pre-activity stretching on the risk of injury. And get this: The relatively few studies that have been conducted on the topic show that pre-activity stretching doesn't reduce injuries.

Two of the studies involved Australian Army recruits. The studies were conducted as they went through 12 weeks of basic training.

In the first study, 1,093 recruits were randomly assigned to two groups: One group of 549 recruits stretched their calves prior to physical training and the other group of 544 recruits didn't stretch their calves. Those in the group who stretched their calves before physical training had 23 lower leg injuries to while those who didn't stretch their calves incurred 25 lower leg injuries.

In the second study, 1,538 recruits were randomly assigned to two groups: One group of 735 recruits stretched their lower-body muscles (calves, hamstrings, quadriceps, hip adductors and hip flexors) prior to training and the other group of 803 recruits didn't stretch their muscles. Those who stretched their muscles had 158 lower body injuries and those who didn't stretch their muscles had 175 lower body injuries.

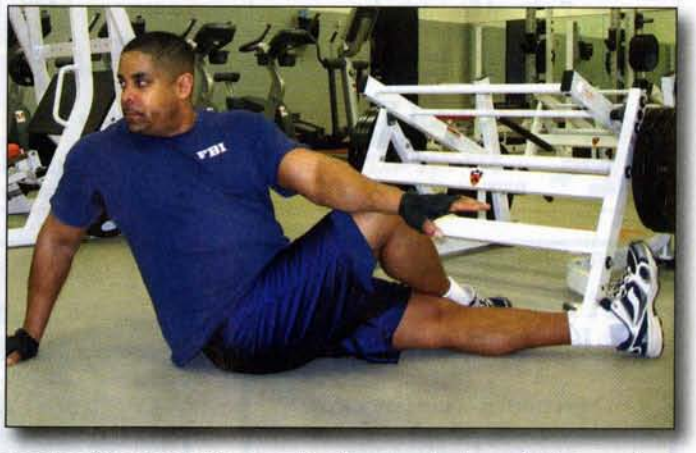
So in both studies, the incidence of injury was very similar regardless of whether stretching was done prior to physical training. Additional studies have corroborated these findings, including one involving 901 recruits in the Japanese Ground Self-Defense Force.

Stretching and Performance

Another long-time assumption has been that pre-activity stretching leads to improved performance. Again, this belief has been based more on a "gut feeling" than on scientific research. If you look at the studies, most of them have shown that stretching prior to doing an activity can actually hinder a muscle's ability to produce maximum force, at least temporarily. But there's more to the story.

In one study, 13 subjects were randomly exposed to three different conditions of passive stretching (durations of two, four and eight minutes) and a control (non-stretching) condition. Stretching of the calves was done for 30 seconds then released for 20 seconds. This stretch-release sequence was repeated until the muscle was stretched for the assigned duration. For instance, two minutes of stretching involved four 30-second stretches.

The researchers found that stretching decreased strength by as much as 6 percent. However, the decrease in strength that resulted from stretching wasn't significantly different than the control condition in which no stretching was done. Also of note is that the decrease in strength was dose dependant, meaning that as the length of the stretching protocol increased so did the reduction in strength.



OK, Now What?

Based on this research, we can contend that pre-activity stretching doesn't prevent injury or help performance. So should you avoid pre-activity stretching? Not at all. Although pre-activity stretching doesn't prevent injury, it doesn't cause injury. And although pre-activity stretching doesn't help performance, it doesn't hurt performance as long as it's not excessive.

It's known that stretching will improve your flexibility which is defined as "the range of motion throughout which your joints can move." Increasing flexibility serves several purposes. First, improving flexibility allows you to move your joints through a greater range of motion. Second, being more flexible enables you to exert your strength over a greater range. Third, stretching your muscles may relieve and/or reduce the general muscular soreness that can result from doing unfamiliar activities or intense training (although this has yet to be corroborated by research).

Some brief guidelines for stretching should be followed. It's important to stretch on a regular basis; preferably, you should stretch every day. You should stretch comfortably in a pain-free manner. Most authorities recommend that you hold the stretched position for about 30 to 60 seconds. You can do a comprehensive stretching routine in as little as 10 to 15 minutes per session.

The Bottom Line

Pre-activity stretching doesn't reduce the risk of injury or improve performance. But if done for reasonable durations, stretching won't have a negative impact.

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