

# STRETCHING THE TRUTH - DOES STRETCHING WORK?

## WHAT'S BEST, WHAT WORKS

By [Paul Rogers](#), About.com Guide updated November 08, 2008  
<http://weighttraining.about.com/od/physicaltherapy/a/stretching.htm>

see also "Styretching the Truth" video of Doug Richards of the University of Toronto at:  
[http://www.tvo.org/TVO/WebObjects/TVO.woa?video?BL\\_Lecture\\_20090308\\_838185\\_DougRichards](http://www.tvo.org/TVO/WebObjects/TVO.woa?video?BL_Lecture_20090308_838185_DougRichards)

Take a survey of a group of exercisers or a conference of sports coaches and ask them if they recommend stretching before or after their workout or game. Most will say "yes" because that's been the pervading recommendation in the sports sciences for as long as I can remember — and, as luck has it, that's quite a few decades.

The problem is that as more controlled trials assess the value of stretching *around the time of exercise* — before or after — the more it seems that stretching has little value. Surprised? So is just about everyone that looks at the results.

Yet, not all is lost. Stretching on a daily or at least regular basis may have more value -- and warm-ups, as distinguished from stretching alone, are still useful.

Catch up on the latest information on stretching and warm-ups in this article:

"You must stretch." The message is passed onto exercisers with all types of goals — from weight loss to athletic performance achievement. And the message is that increasing the flexibility of a muscle-tendon body part makes exercise more efficient and may help you prevent injury or muscle soreness. Stretching is often recommended to be included in warm-up and cool-down phases of exercise.

The strange thing is, over the years, the benefits were taken so much for granted that we forgot to study stretching in a scientific manner to see whether the benefits stacked up to expectation.

Stretching is not necessarily the same as warming up or cooling down, although stretching may be part of these activities. And to make matters a little more complicated, the benefits of stretching can be considered in three phases:

1. Immediately before exercise
2. Immediately after exercise
3. As part of a regular daily program.

And different types of stretching — static, ballistic or dynamic — provide further options. The following discussion provides a general overview that includes consideration of these various aspects of stretching and warm-up.

### **The Perceived Benefits of Stretching**

Stretching has been promoted as having the following benefits:

- Increase or maintain flexibility for day-to-day or performance functionality
- Prevent injury during sports and exercise activity
- Increase performance in sport
- Offset muscle soreness after exercise

### **Maintain Flexibility**

We all need a certain amount of flexibility to perform everyday tasks. So it goes without saying that we should do exercises that maintain or enhance our natural flexibility within a

reasonable range of motion. That means not straining to push the muscle beyond a level of flexibility with which you are naturally endowed. This could be harmful. Movement and physical activity in general helps us maintain flexibility into older age. Specific stretching routines may help in this process.

### **Prevent Sports Injury**

Much attention has been focused on the subject in the last 10 years and, surprisingly, few benefits of stretching before or after physical activity have been confirmed. This may be because these matters are difficult to study or it could be that the benefits once accepted are either absent or not nearly as strong. Some studies even suggest that too much stretching may even be detrimental to performance and safety — now that's a turnaround for sure.

However, at least one sports medicine authority suggests that although stretching based around exercise sessions may not be of value, regular daily stretching may indeed be beneficial to flexibility and injury prevention.

In sports where flexibility is an integral part of the performance requirements, regular stretching to increase flexibility to extreme levels is necessary. Gymnastics and some forms of dance are examples. Sports in which muscles and tendons are stretched and shortened suddenly and powerfully, such as jumping and bounding sports like soccer and basketball, may also benefit from regular stretching according to similar opinion, although this is not universally accepted.

### **Increase Sports Performance**

While stretching before or after an event can't offer you much in the way of injury prevention, in the matter of sports performance, the situation is not

much better. For some activities, evidence is relatively strong that stretching before an event actually makes performance worse.

For power sports like sprinting and weight lifting, static stretching before competition or training may affect your ability to use explosive power. Either stretching causes the muscles to lose energy stored in the elastic component of muscle, or the nervous system is changed so that it does not send signals to the muscles as efficiently for such activity. This is a field of study in which there is still much to know, yet this is the current thinking.

### **Prevent Muscle Soreness after Exercise**

When you get sore after an exercise session, it is called "delayed-onset muscle soreness" or DOMS. Stretching before or after exercise has long been recommended as a way to reduce or prevent soreness. However, a review of all studies of stretching practices did not find any benefit from stretching for the prevention of muscle soreness. Again, "warming up" is something more and has more positive effects.

A "warm-up" is light exercise for the purpose of getting the blood and joint lubricating fluid flowing before your workout. A warm-up may include light jogging, doing some light weights or cycling for 10 to 15 minutes. A warm-up may include stretching, although the evidence suggests this is now of little value. Limited evidence exists that warming up helps prevent muscle soreness.

Personally, I find that warming up provides a nice psychological approach to exercise. It gets me in the right frame of mind and this may add to the benefits of any measurable physical advantage.

## Warm-Up and Stretching Tips for Weight Training

Here is a summary of how to perform stretching and warm-ups. Other sports and activities may recommend additional specialized activities.

### Warm-ups

- Perform a warm-up for at least 10 minutes before you start your proper exercise session.
- Choose a warm-up activity similar to your main activity but at lower intensity. Several light repetitions of the exercise you are about to perform is good practise.
- Five to 10 minutes of light cardio on a treadmill or cycle will get the blood flowing ready for a weights session.

- A warm-up without stretching is most likely all you need before a competition event.

### Stretching

- Stretching before a workout or an event is unlikely to be of benefit and may impair performance for some sports and activities including weight lifting. A warm-up should be sufficient.
- Stretching after an event is unlikely to confer benefit related to that exercise session but may be advantageous when included in a regular daily stretching program.
- Hold the stretch for about 30 seconds at an intensity where the tension is noticeable without pain. Do this twice. Breathe normally.

### Sources:

- Fradkin AJ, Gabbe BJ, Cameron PA. Does warming up prevent injury in sport? The evidence from randomised controlled trials? *J Sci Med Sport*. 2006 Jun; 9(3):214-20.
- Thacker SB, Gilchrist J, Stroup DF, Kimsey CD Jr. The impact of stretching on sports injury risk: a systematic review of the literature. *Med Sci Sports Exerc*. 2004 Mar; 36(3):371-8. Review.
- Herbert RD, Gabriel M. Effects of stretching before and after exercising on muscle soreness and risk of injury: systematic review. *BMJ*. 2002 Aug 31; 325(7362):468. Review.
- Shrier I. Does stretching improve performance? A systematic and critical review of the literature. *Clin J Sport Med*. 2004 Sep; 14(5):267-73. Review.
- Nelson AG, Kokkonen J. Acute ballistic muscle stretching inhibits maximal strength performance. *Res Q Exerc Sport*. 2001 Dec; 72(4):415-9.
- Nelson AG, Kokkonen J, Arnall DA. Acute muscle stretching inhibits muscle strength endurance performance. *J Strength Cond Res*. 2005 May; 19(2):338-43.
- Nelson AG, Driscoll NM, Landin DK, Young MA, Schexnayder IC. Acute effects of passive muscle stretching on sprint performance. *J Sports Sci*. 2005 May; 23(5):449-54.
- Rubini EC, Costa AL, Gomes PS. The effects of stretching on strength performance. *Sports Med*. 2007; 37(3):213-24. Review.
- Herbert R, de Noronha M. Stretching to prevent or reduce muscle soreness after exercise. *Cochrane Database Syst Rev*. 2007 Oct 17; (4):CD004577