

THE STRETCHING CONTROVERSY

Everybody knows stretching in sports is important-RIGHT? But why is it important? Does stretching prevent injuries and improve performance in the athlete? Is it important for the non-athlete? How should you stretch, and when should you stretch? Should all individuals stretch in the same way? The answers to some of these questions are simple, valid and scientifically explainable. For others, the answers are still controversial and not well understood.

Stretching extends a muscle to its full length, and then the connective tissue takes up the rest of the range of motion. This stretch realigns the soft tissue fibers into the direction of the stretch. It is this realignment that rehabilitates traumatized and scarred tissues back into healthy tissue. Stretching also increases blood flow to tissues to increase healing, remove waste by-products and shorten recovery time.

The most common and effective stretch in most instances is the Static Stretch. This stretch requires an individual to hold the stretch for a prolonged period of time, (30-60 seconds). Recent research has showed that for the geriatric population, holding the stretch longer is more effective. Holding a stretch triggers a complex feedback response known as the lengthening reaction; it is this reaction which inhibits the muscles from contracting and causes them to relax. There is good evidence in literature to support static stretching as being effective in increasing range of motion. It is our collective belief here at KPT that the static stretch is the most useful in our profession, although it is by no means the only stretch which may be appropriate in other specific sports or rehab. Other stretches include: dynamic, active, passive, isometric, PNF and ballistic.

Some benefits of stretching include:

1) Increasing the length of muscles and related connective tissues. This can improve balance and coordination for both the athlete and non-athlete. Better balance and coordination is achieved by maintaining full ROM through the joints. This will help keep a person mobile and less prone to falls. Flexible muscles can also improve performance in daily activities such as lifting packages, bending forward to tie shoes, or even running up stairs.

2) Rehabilitating scarred and non-acute traumatized tissues and shortening recovery time.

3) Relaxing muscles. Muscles which are tight cramped or in spasm, can be very uncomfortable, if not downright painful. Stretching can provide much needed relief for pain, and relax muscles which can be related to stress. Common muscles stretched are: hamstring, piriformis, gastroc, soleus, quadriceps, hip adductors and hip flexors.

The one question which is asked most frequently is "does stretching prevent injury?"

Conventional wisdom has always taught that increased flexibility will promote better performance and decrease injury. Studies however, are conflicted and often contradictory. The answer however may be found in a 2004 study performed at Ghent University in Belgium. This study reports the apparent contradictions can be explained by considering the type of activity in which an individual participates. According to the study, "... sports involving bouncing and jumping (e.g. soccer and football) require a muscle-tendon unit that is compliant enough to store and release the high amount of elastic energy that benefits performance in such sports." This study also reported, "...stretching programs can significantly influence the viscosity of the tendon, and may be important in injury prevention. This conjecture is in agreement with the available scientific clinical evidence from these types of sports activities."

By contrast when an activity contains low-intensity or limited stretch shortening cycles, (e.g. jogging, running, cycling and swimming) there is no need for a very elastic muscle-tendon unit and therefore stretching may not be advantageous. This is supported by strong evidence in literature that stretching has no effect on injury prevention in these types of activities. In fact in a study by exercise physiologist David Lally, PhD of 1543 runners who participated in the Honolulu Marathon was able to link stretching before workouts with a higher risk of sustaining injury. This also concurs with the opinion of US Olympian Jeff Galloway, who in correspondence with Gary Kassimir stated the following. "I've now coached over 200,000 runners in my various programs and continue to see an increase in injuries among those who stretch, and elimination of the injuries when they don't stretch."



About the Author: Steve Brooks, PTA

Steve joined our full time professional staff as a physical therapist assistant in October 2006. Steve graduated PTA school Keystone College in 1996, and he has a BS from Towson University in 1988. He has experience in sub acute rehab, geriatrics, out-patient orthopedics and neuro. On Steve's free time he enjoys weight training, football and reading.



After discussing this topic with many physical therapists, personal trainers and coaches, few agree that stretching poses an increased risk for injury. On the contrary, there is ample evidence to support that stretching does have an important role in certain sports, as well as maintaining overall health and function for the non-athlete. "Many coaches and elite runners still hold to the fact that stretching in the middle of the run or after is beneficial to crossing the finish line successfully." Recent conversations with the Orioles trainers revealed that they promote dynamic stretching before the game and reserve static stretching for the end.

Most important to remember for those who are already injured is that stretching is an integral part of the REHABILITATION process in healing an injury or

correcting a muscular imbalance. Besides all of the controversy, it is generally recognized that when preparing to stretch, one should perform a warm-up first. The warm-up may be 5 minutes on a bike, jog, walk, ect. The idea is that you should never stretch cold muscles.

Here at KPT we see an enormous amount of injuries to the upper and low back, cervical spine, and lower extremities that are the result of muscle tightness and inflexibility. So if you ask us, in regards to physical therapy rehabilitation, we will say STRETCH!

Reference list available upon request.

Edited by consultant Candace Grasso CPT, Fitness and Nutritional Expert, ACE, AAI, AFAA

KPT News:

There have been a number of positive changes within KPT in the past 6 months. Our gym area has been reorganized and is now equipped with a plasma TV. E-Rehab Docs software is now being utilized for all progress notes. You may have noticed the nice evaluation letters. New KPT brochures came out in time for our 10th anniversary. The annual KPT pool party was a blast as usual (for KPT event pictures please visit our website at www.kptrehab.com).

We welcomed new staff members Becky Clark (PTA), Erica Weigant and Marat Buberman (PT technicians), Laura

Reitman, PT., and Kelly McCreer (office asst.). With the holiday season upon us, we are planning an annual KPT holiday party and a retirement party for our billing manager of 8 years Hetty Haden. Jennifer Bachtel, PT has reached her 5 year anniversary at KPT in July. Our senior PT technician/Office assistant Lina Kryzhanovskaya has just celebrated a 10 year milestone of loyal service at KPT.

Here at KPT we thank you for your support during the past year and we wish you a happy and healthy holiday season.

To see pictures of recent events, our staff and news check out our website at www.kptrehab.com.



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