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Why You Should Make Time to Stretch

If I could pick one area of fitness in which we can feel the benefits quickly, it's stretching. The problem is that it's one of the most ignored—until we have a problem. If I don't do my stretches, my knee pain and lower-back pain come back with a vengeance. Maybe a recent study will help illustrate the importance of stretching in being flexible and its impact on exercise.

The PNF Study

Researchers selected 30 untrained men as subjects for the study and divided them into three groups: a control group who didn't stretch, a group that used static stretching, and a group that used proprioceptive neuromuscular facilitation—PNF, for short. The objective was to assess an increase in flexibility after an eight-week stretching program as well as to see if it helped with the effects of eccentric exercise.

What's that, you say? Eccentric exercise occurs when the force increases as the muscle lengthens instead of shortens. (Don't worry if this seems a little fuzzy—when I was a college professor, this was one of the hardest concepts for my students to understand.) An example would be walking downstairs: there's a consistent braking action on the quads. Taken to an extreme when the muscle is really overloaded, it contributes to delayed onset muscle soreness or DOMS.

All subjects warmed up by jogging on a treadmill for five minutes. Subjects in the static stretching group used a basic hamstring stretch while seated on the floor: with one leg extended and the other flexed to touch the inner thigh, subjects bent forward to touch the toe on their extended leg with an assist from one of the researchers who pressed on the shoulders until the subject felt discomfort. The stretch was held for 10 seconds. The subjects relaxed for 5 seconds and switched legs. This was repeated 30 times for a total stretching time of 15 minutes; it was repeated three days a week with at least one recovery day in between.

Subjects in the PNF group began their routine with the same basic hamstring stretch repeated five times. Then they worked with the researcher to complete the PNF portion. With the non-stretching leg on the floor and secured by a second researcher, the subject put the extended leg on the shoulder of the first researcher with the knee locked. The subject then forcefully contracted the hamstring against the shoulder of the researcher for 5 seconds, then relaxed the hamstring for 10 seconds. Then they forcefully contracted the opposition muscles, the quadriceps, for 5 seconds while the researcher pushed the leg even further to assist with the stretch for 10 seconds. This was repeated two more times. While it seems counterintuitive, the contraction of the opposition muscle with assistance helps stretch the hamstrings even further.

The Results

In eight weeks, the subjects in both the static stretching and PNF stretching groups increased their range of motion by almost 25 degrees and increased the length of their hamstrings. During the eccentric exercise test, the blood levels indicating muscle damage were lower; there was less soreness in the stretching groups in the time after the eccentric exercise.

The Bottom Line

Consistent stretching increases flexibility as this study illustrates. Just three days a week significantly increased the range of motion of the hamstrings. While 15 minutes spent stretching just one muscle group seems excessive,

the researchers didn't titrate the stretching down to see the minimum necessary to get a positive effect. No matter—because the message is that stretching works, and some is always better than none.

The hamstrings are particularly important because they impact the lower back. Stretching one generally stretches the other, and that can reduce lower-back pain. If you decide to use these forms of hamstring stretches, be careful if you use assistance. Too much pushing can tear the hamstrings, and that's worse. But done correctly, it will help relieve the pressure on the legs and lower back and may boost your overall exercise program.

What are you prepared to do today?

Dr. Chet

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