Stretching more effective than walking to lower high blood pressure, study finds

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A new University of Saskatchewan (USask) study has found that stretching is superior to brisk walking for reducing blood pressure in people with high blood pressure or who are at risk of developing elevated blood pressure levels.

Walking has long been the prescription of choice for physicians trying to help their patients bring down their blood pressure. High blood pressure (hypertension) is a leading risk factor for cardiovascular disease and among the top preventable risk factors affecting overall mortality.

This new finding, published December 18, 2020 in the *Journal of Physical Activity and Health*, shows that stretching should be part of a well-rounded treatment plan for people wrestling with hypertension.

"Everyone thinks that stretching is just about stretching your muscles," said kinesiology professor Dr. Phil Chilibeck (Ph.D.), a co-author of the study. "But when you stretch your muscles, you're also stretching all the blood vessels that feed into the muscle, including all the arteries. If you reduce the stiffness in your arteries, there's less resistance to blood flow," he said, noting that resistance to blood flow increases blood pressure.

While previous studies have shown stretching can reduce blood pressure, the USask research is the first to pit walking against stretching in a head-to-head comparison in the same group of study participants.

Chilibeck and colleagues randomly assigned 40 older men and women (mean age 61) to two groups for the eight-week study period: one did a whole-body stretching routine for 30 minutes a day, five days a week, and the other group walked briskly for the same amount of time and frequency. All participants had elevated blood pressure, or stage 1 hypertension, at the start of the study.

Before and after the study, Chilibeck and colleagues measured participants' blood pressure while they were sitting, lying down, and over 24 hours using a portable monitor—widely considered the gold standard for accurate blood pressure measurement. Stretching resulted in bigger reductions in blood pressure across all three types of measurement. The walkers did, however, lose more body fat off their waist in the eight-week study.

People who are walking to reduce their high blood pressure should continue to do so, but also add in some stretching sessions, according to Chilibeck.

"I don't want people to come away from our research thinking they shouldn't be doing some form of aerobic activity. Things like walking, biking, or cross-country skiing all have a positive effect on body fat, cholesterol levels, and blood sugar."

While the study protocol had participants stretching for 30 minutes at a time, Chilibeck suspects the same benefits can be achieved by doing a shorter routine that emphasizes the larger muscle groups

in the legs, particularly the quadriceps and hamstrings. Yoga produces similar reductions in blood pressure, he said.

The beauty of stretching, said Chilibeck, is that it's so easy to incorporate into a person's daily routine. You're not at the mercy of the weather and it's easy on your joints—a big plus for people with osteoarthritis. And it doesn't require a big commitment of time, another barrier to exercise for many people. "When you're relaxing in the evening, instead of just sitting on the couch, you can get down on the floor and stretch while you're watching TV," he said.

Chilibeck and colleagues are now seeking funding to do a larger study involving more participants. They'd like to expand the scope beyond blood pressure measurement to explore some of the physiological reasons behind why stretching reduces blood pressure—such as arterial stiffness and changes in the body's nervous system resulting from stretching.

More information: Jongbum Ko et al, Stretching is Superior to Brisk Walking for Reducing Blood Pressure in People With High–Normal Blood Pressure or Stage I Hypertension, *Journal of Physical Activity and Health* (2020). DOI: 10.1123/jpah.2020-0365