

## Brief, intense exercise benefits the heart

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Short bursts of high intensity sprints -- known to benefit muscle and improve exercise performance—can improve the function and structure of blood vessels, in particular arteries that deliver blood to our muscles and heart, according to new research from McMaster University.

The study, lead by kinesiology doctoral student Mark Rakobowchuk, is published online in the journal *American Journal of Physiology. Regulatory, Integrative & Comparative Physiology*.

The findings support the idea that people can exercise using brief, high-intensity forms of exercise and reap the same benefits to cardiovascular health that can be derived from traditional, long-duration and moderately intense exercise.

"As we age, the arteries become stiffer and tend to lose their ability to dilate, and these effects contribute to high blood pressure and cardiovascular disease," says Maureen MacDonald, academic advisor and an associate professor in the Department of Kinesiology. "More detrimental is the effect that blood vessel stiffening has on the heart, which has to circulate blood".

The research compared individuals who completed interval training using 30-second "all-out" sprints three days a week to a group who completed between 40 and 60 minutes of moderate-intensity cycling five days a week.

It found that six weeks of intense sprint interval exercise training

improves the structure and function of arteries as much as traditional and longer endurance exercise with larger time commitment.

"More and more, professional organizations are recommending interval training during rehabilitation from diseases like chronic obstructive pulmonary disease, peripheral artery disease and cardiovascular disease. Our research certainly provides evidence that this type of exercise training is as effective as traditional moderate intensity training," says MacDonald. "We wouldn't be surprised to see more rehabilitation programs adopt this method of training since it is often better tolerated in diseased populations".

Further, this research also shows that those who have a hard time scheduling exercise into their life can still benefit from the positive effects, if they are willing to work hard for brief periods of time, she says.

Source: McMaster University

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