

When Exercise Stops, How Long do Benefits Last?

July 31 2007

Scientists examining the relationship between the intensity and length of a workout and the duration of its benefits have made a surprising discovery: More isn't necessarily better, and none may be worse than we ever imagined.

"On the surface, it seems to make sense that the harder we exercise, the better off we'll be, and by some measures that's true," says lead author Cris Slentz, Ph.D, an exercise physiologist at Duke University Medical Center. "But our studies show that a modest amount of moderately intense exercise is the best way to significantly lower the level of a key blood marker linked to higher risk of heart disease and diabetes. More intense exercise doesn't seem to do that."

What may be even more remarkable, he says, is that some of the benefits derived from a modest exercise regimen appear to last much longer than those gained from a more rigorous program.

The study was funded by the National Heart, Lung, and Blood Institute of the National Institutes of Health and is slated for the August issue of the *Journal of Applied Physiology*.

Slentz, along with senior author William Kraus, M.D., a Duke cardiologist, studied 240 middle-aged, sedentary people randomized into one of four groups. Three of them were exercise groups: a high amount/high intensity group, a low amount/high intensity group and a low amount/moderate intensity group. Members of the fourth group

were controls, meaning they didn't do any exercise at all. Workouts included time on a treadmill, an elliptical trainer and a stationary bicycle. Participants went through a two-to-three month ramp-up period, then stayed on their programs for six months. Scientists measured the participants' blood levels of proteins that carry cholesterol and fat (HDL, LDL and triglycerides) at the beginning of their programs, and then at 24 hours, five days, and 15 days after they ended. (The trial is called STRRIDE: Studies of a Targeted Risk Reduction Intervention Through Defined Exercise.)

The researchers were especially interested in what happened after the participants stopped their workouts. "There are lots of studies that demonstrate the benefits of exercise, but we also know that in real life, people don't always adhere to their programs, so we wanted to measure how long those benefits linger," says Slentz. Such studies may help scientists understand why certain changes with exercise occur in the first place, and that may ultimately help them design more tailored programs for people who want to improve their health.

The researchers found that for the most part, no amount of exercise significantly changed LDL levels. HDL levels, however, tended to improve with the length and intensity of the workout, and that the benefit was sustained over time.

But perhaps the most interesting finding was that a modest, low-intensity workout – walking just 30 minutes per day, for example, dramatically lowered triglyceride levels. Triglycerides are the particles that carry fat around in the body, and they're also a good indicator of insulin resistance, a marker for diabetes. Lowering triglyceride levels lowers risk of heart disease and diabetes.

"A proper exercise program appears to be able to lower a person's insulin resistance in just a matter of days," says Kraus. "We were also amazed to

see that the lower triglyceride levels stayed low even two weeks after the workouts ended." Longer, more intense workouts didn't have nearly the same impact, they say.

While the researchers were surprised by the amount and duration of the benefits from a modest exercise program, they say they were not surprised by the results from the control group. "And they are alarming," says Kraus. Over six months, those participants gained two pounds and about a half an inch around the waist. "That may not sound like much, but over a decade at that rate, that would mean an additional 40 pounds and ten inches," he says. "So doing a little is a whole lot better than doing nothing at all."

So is it ever "safe" to take a break from an exercise program? Well, maybe not if you want to retain benefits that are likely to evaporate over a few days. And consider this: When asked why they didn't measure benefits beyond two weeks, Kraus said the trial's review panel wouldn't allow it. "They figured that if people were doing something good for themselves, it would be unethical to ask them to stop for longer than that."

Source: Duke University Medical Center

Citation: When Exercise Stops, How Long do Benefits Last? (2007, July 31) retrieved 20 April 2024 from <https://medicalxpress.com/news/2007-07-benefits.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.