



The healthy aging Corner

Part of Parke County's Healthy Aging and Cancer Prevention Initiative

When One Plus One Equals Zero

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When it comes to the health benefits of exercise and antioxidants, adding these two good things together just might add up to a big zero

From the outside, scientific progress seems so orderly. Facts fit together, ideas gel. Surprisingly often, however, there are unexpected results. Things just don't add up. One plus one can equal zero.

A striking example of this sort of disorderly conduct comes from recent work in the field of diabetes research. Doctors are always looking for ways to help people lower their blood sugar. Eating a diet rich in fruits and veggies, maintaining a healthy body weight, and getting regular exercise have all shown merit in controlling high blood sugar. But a new study has rendered a sobering finding – one that might explain why health-conscious people sometimes fail to get the results they expect from doing “good things”. The investigators showed clearly that people who exercised received significant beneficial effects on blood sugar control, compared to people who did not exercise. But here's where the plot thickens. When exercising people took daily supplements of the antioxidant vitamins C and E, the blood glucose-lowering benefits of exercise were completely lost.

On the surface, the results sound puzzling. Why would two good things combined produce zero benefit? We're not certain, but we can speculate why the team of exercise and antioxidant supplements didn't bring home the gold. Exercise produces a degree of oxidative stress inside the body and this stress is part of the signal that may trigger the improvement in blood sugar values provoked by exercise. Daily supplementation with antioxidants shields the body from seeing the exercise signals, thereby blocking the beneficial effects of exercise on blood sugar metabolism. One thing we can be sure of is that, despite our advances, there's still a lot about how the body works best that we don't understand. And until we get a little farther down the bumpy road to scientific certainty, we must expect more of the unexpected.

But don't be discouraged. It simply means we need to keep re-searching for the good things that will promote health. And we must move our thinking away from the individual parts of the optimal health equation and concentrate on the whole – the holistic sum total. That way, someday, we might add one plus one and get at least two.

Source: Ristow et al, Antioxidants prevent health-promoting effects of physical exercise in humans. PNAS 2009; 106: 8665-70.

The Healthy Aging Corner is prepared by health professionals and researchers at the Gerald P. Murphy Cancer Foundation in West Lafayette, IN. Look for The Healthy Aging Corner to provide a glimpse at the most recent research exploring ways we can live longer and healthier lives. Supported by the Parke County Cancer Prevention Fund of the Gerald P. Murphy Cancer Foundation.