

# Exercise during pregnancy may reduce markers of aging in offspring

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Exercise during pregnancy may be as effective in protecting the next generation from age-related health risks as efforts made during the offspring's own adulthood, new research suggests. Kevin Pearson, associate professor at the University of Kentucky Department of Pharmacology and Nutritional Sciences, will present preliminary findings on the long-term effects of physical activity during pregnancy at the American Physiological Society's Integrative Biology of Exercise 7 meeting in Phoenix.

Oxidative stress is damage to the body caused by an accumulation of unstable molecules called [free radicals](#). The buildup of free radicals decreases resistance to stress and increases the risk of obesity and age-

related and chronic disease. Reducing [oxidative stress](#) can help lessen the risks of conditions such as cancer, heart disease and type 2 diabetes.

The research team examined markers of oxidative stress, inflammation and [insulin sensitivity](#) in mice that were born to mothers who were exercised while pregnant. The offspring of the exercised mice had better stress resistance and improved insulin sensitivity, even into adulthood, than those born to sedentary mothers.

"To date, caloric restriction has been the most reproducible and promising intervention to improve these outcomes. An intense and expanding area of research is focused on discovering other short-term or easily achievable interventions that can have long-lasting beneficial effects," the researchers wrote.

The results of the rodent studies also have implications for human health. "Our findings highlight pregnancy as a sensitive period when positive lifestyle interventions could have significant and long-lasting beneficial effects on offspring metabolism and disease risk," wrote the research team.

Provided by American Physiological Society

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