

## Nuts may help lower teenagers' risk of metabolic syndrome

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Modest consumption of nuts every day is associated with an improved cardiovascular risk profile among adolescents, a new analysis of a large national database shows. The study results will be presented Friday at the Endocrine Society's 97th annual meeting in San Diego.

Adolescents who ate at least 12.9 grams (g) per day of nuts—the equivalent of eating a small handful three times per week—had less than half the odds of non-eaters for developing metabolic syndrome. This syndrome is a cluster of clinical features that heightens the risk of early heart disease and type 2 diabetes.

The study sample was 2,233 U.S. adolescents, ages 12 to 19 years, who participated in the National Health and Nutrition Examination Survey (NHANES) between 2003 and 2010.

"The surprising finding," said the study's lead investigator Roy Kim, MD, MPH, an assistant professor of pediatrics at the University of Texas Southwestern Medical Center and Children's Health in Dallas, "is that, in spite of what we know about their [health](#) benefits, the majority of teens eat no nuts at all on a typical day."

Only 8.9 percent of teenagers consumed 12.9 g/day or more of [tree nuts](#) or peanuts— less than half an ounce or one-eighth of a cup —Kim said. Whites ate twice as many nuts as Latinos or non-Hispanic blacks: 0.22 ounces per day on average versus about 0.11 ounces for the other ethnic groups. But more than 75% of all teens reported eating no nuts at all.

The researchers discovered that metabolic syndrome risk decreased with each additional gram per day of nut intake, but only up to 50 g/day (about 1.8 ounces), when the benefit tapered off. Kim theorized that at higher intakes, any benefits may have been offset by eating too many calories.

Tree nuts contain heart-healthy unsaturated fats, fiber and other nutrients but are high in calories, according to the Academy of Nutrition and Dietetics.

A relationship between eating nuts and improved metabolic health has been described in adults, but not previously in adolescents, Kim stated.

"Metabolic syndrome is a major public health problem," Kim said. "Our findings at this stage show only a correlation and do not prove that the risk of metabolic disease in teens will go down by eating [nuts](#). However, the results suggest the possibility that a simple dietary recommendation could have a significant impact on the metabolic health of adolescents."

One in nine U.S. teenagers has metabolic syndrome, according to older NHANES data.

Children age 10 or older receive a diagnosis of [metabolic syndrome](#) if they have any three of these features (using age- and sex-based norms): abdominal obesity, elevated triglycerides, low HDL or "good" cholesterol, high blood pressure and high blood sugar.

Provided by Endocrine Society

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