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Title: Uric Acid as a Predictor of Weight Gain and Cardiometabolic Health in the Study of Novel Approached to Weight Gain Prevention (SNAP) Study.

Theme: Cardiometabolic Health

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Abstract
Individuals with obesity and multiple cardiometabolic abnormalities have a 10-fold increased risk of type 2 diabetes. Young adults are uniquely susceptible to developing weight gain. Increasing evidence suggest that oxidative stress pathways may contribute to the development of obesity and subsequent cardiometabolic dysfunction. Uric acid (UA), a clinical marker of oxidative stress, is associated with metabolic dysfunction in established cardiovascular disease, type 2 diabetes and kidney disease, however, few trials have examined UA as a marker to predict early cardiometabolic risk in young, healthy populations. The purpose of this study was to examine UA as predictor of weight and cardiometabolic outcomes over 6-years and determine the impact of a weight gain prevention intervention on uric acid in healthy, young adults. We found that higher baseline UA was a significant predictor of less favorable BMI, triglycerides, HDL, glucose, insulin and HOMA, independent of age, sex, baseline weight, baseline cardiometabolic status, and intervention assignment. Additionally, 5% weight loss was sufficient to lower UA. UA may be a promising biomarker for clinical screens so that early intervention can be initiated to prevent the progression to type 2 diabetes in young adults.