

# Skipping breakfast associated with hardening of the arteries

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Skipping breakfast is associated with an increased risk of atherosclerosis, or the hardening and narrowing of arteries due to a build-up of plaque, according to research published today in the *Journal of the*

*American College of Cardiology.*

Eating a healthy [breakfast](#) has been shown to promote greater heart health, including healthier weight and cholesterol. While previous studies have linked skipping breakfast to coronary [heart disease risk](#), this is the first study to evaluate the association between breakfast and the presence of [subclinical atherosclerosis](#).

"People who regularly skip breakfast likely have an overall unhealthy lifestyle," said study author Valentin Fuster, MD, PhD, MACC director of Mount Sinai Heart and editor-in-chief of the *Journal of the American College of Cardiology*. "This study provides evidence that this is one bad habit people can proactively change to reduce their risk for heart disease."

Researchers in Madrid examined male and female volunteers who were free from cardiovascular or chronic kidney disease. A computerized questionnaire was used to estimate the usual diet of the participants, and breakfast patterns were based on the percentage of total daily energy intake consumed at breakfast. Three groups were identified - those consuming less than five percent of their total energy intake in the morning (skipped breakfast and only had coffee, juice or other non-alcoholic beverages); those consuming more than 20 percent of their total energy intake in the morning (breakfast consumers); and those consuming between five and 20 percent (low-energy breakfast consumers). Of the 4,052 participants, 2.9 percent skipped breakfast, 69.4 percent were low-energy breakfast consumers and 27.7 percent were breakfast consumers.

Atherosclerosis was observed more frequency among participants who skipped breakfast and was also higher in participants who consumed low-energy breakfasts compared to breakfast consumers. Additionally, cardiometabolic risk markers were more prevalent in those who skipped

breakfast and low-energy breakfast consumers compared to breakfast consumers. Participants who skipped breakfast had the greatest waist circumference, body mass index, blood pressure, blood lipids and fasting glucose levels.

Participants who skipped breakfast were more likely to have an overall unhealthy lifestyle, including poor overall diet, frequent alcohol consumption and smoking. They were also more likely to be hypertensive and overweight or obese. In the case of obesity, the study authors said reverse causation cannot be ruled out, and the observed results may be explained by obese patients skipping breakfast to lose weight.

"Aside from the direct association with cardiovascular risk factors, skipping breakfast might serve as a marker for a general unhealthy diet or lifestyle which in turn is associated with the development and progression of atherosclerosis," said Jose L. Peñalvo, PhD, assistant professor at the Friedman School of Nutrition Science and Policy at Tufts University and the senior author of the study. "Our findings are important for health professionals and might be used as a simple message for lifestyle-based interventions and public health strategies, as well as informing dietary recommendations and guidelines."

Prakash Deedwania, MD, professor of medicine at the University of California, San Francisco and author of the accompanying editorial comment said that this study provides clinically important information by demonstrating the evidence of subclinical atherosclerosis in people who skip breakfast.

"Between 20 and 30 percent of adults skip breakfast and these trends mirror the increasing prevalence of obesity and associated cardiometabolic abnormalities," Deedwania said. "Poor dietary choices are generally made relatively early in life and, if remained unchanged,

can lead to clinical cardiovascular disease later on. Adverse effects of skipping breakfast can be seen early in childhood in the form of childhood obesity and although breakfast skippers are generally attempting to lose weight, they often end up eating more and unhealthy foods later in the day. Skipping breakfast can cause hormonal imbalances and alter circadian rhythms. That breakfast is the most important meal of the day has been proven right in light of this evidence."

**More information:** *Journal of the American College of Cardiology* (2017). [DOI: 10.1016/j.jacc.2017.08.027](https://doi.org/10.1016/j.jacc.2017.08.027)

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