

New study reveals that every single junk food meal damages your arteries

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A single junk food meal – composed mainly of saturated fat – is detrimental to the health of the arteries, while no damage occurs after consuming a Mediterranean meal rich in good fats such as mono- and polyunsaturated fatty acids, according to researchers at the University of Montreal-affiliated ÉPIC Center of the Montreal Heart Institute. The Mediterranean meal may even have a positive effect on the arteries. The findings are being presented at the Canadian Cardiovascular Congress, which runs in Toronto until Wednesday, by the head of the study, Dr. Anil Nigam, Director of Research at the Cardiovascular Prevention and Rehabilitation Centre (ÉPIC) and associate professor at the university's Faculty of Medicine.

Bad fat vs. good fat

Dr. Nigam undertook the study to compare the effects of junk food and typical Mediterranean meal on the [vascular endothelium](#): the inner lining of the blood vessels. By measuring [endothelial function](#), it is possible to determine how easily the arteries will dilate after a temporary, five-minute occlusion, following the consumption of the two types of meals. This is a very interesting analysis for researchers to perform as endothelial function is closely linked to the long-term risk of developing [coronary artery disease](#).

The study also revealed that participants with higher blood triglyceride levels seemed to benefit more from the healthy meals. Their arteries

responded better to the Mediterranean meal compared to people with low triglyceride levels. "We believe that a Mediterranean-type diet may be particularly beneficial for individuals with high triglyceride levels, such as patients with [metabolic syndrome](#), precisely because it could help keep arteries healthy," Dr. Nigam said.

Mediterranean meal vs. junk food meal

The results were established in 28 non-smoking men, who ate the Mediterranean-type meal first and then the junk food-type meal one week later. Before beginning, the men underwent an ultrasound of the antecubital artery at the elbow crease after fasting for 12-hours to assess their baseline endothelial function. The researchers then tested the effects of each meal. The first was composed of salmon, almonds, and vegetables cooked in olive oil, of which 51% of total calories came from fat (mostly monounsaturated fatty acids and polyunsaturated fats.) The second meal consisted of a sandwich made of a sausage, an egg, and a slice of cheese, and three hash browns, for a total of 58% of total calories from fat: extremely rich in saturated [fatty acids](#) and containing no omega-3s. At two hours and four hours after each meal, participants underwent further ultrasounds to assess how the food had impacted their endothelial function.

Dr. Nigam and his team found that after eating the [junk food](#) meal, the arteries of the study participants dilated 24% less than they did when in the fasting state. In contrast, the [arteries](#) were found to dilate normally and maintain good blood flow after the Mediterranean-type meal.

"These results will positively alter how we eat on a daily basis. Poor endothelial function is one of the most significant precursors of atherosclerosis. It is now something to think about at every meal," Dr. Nigam said.

Provided by Montreal Heart Institute

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