

# Study finds that just one high-fat meal can affect your heart health

October 30 2012

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Eat a breakfast sandwich and your body will be feeling the ill effects well before lunch – now that's fast food!

High-fat diets are associated with developing atherosclerosis (narrowing of the arteries) over a lifetime. But how quickly can damage start?

Just one day of eating a fat-laden breakfast sandwich – processed cheese and meat on a bun – and "your [blood vessels](#) become unhappy," says Heart and Stroke Foundation researcher Dr. Todd Anderson, director of the Libin Cardiovascular Institute of Alberta and head of cardiac science at the University of Calgary.

Atherosclerosis can eventually lead to serious problems including [heart disease](#), stroke or even death.

Delegates at the Canadian Cardiovascular Congress heard today about a study at Dr. Anderson's lab, led by student researcher Vincent Lee. The key ingredients: breakfast sandwiches and a group of healthy, non-smoking university students.

Fats can build up in your arteries over decades. One important gauge of how "happy" your arteries feel is how much blood flow can increase in your arm in response to its brief interruption – measured as VTI (velocity time integral). You can measure VTI with [doppler ultrasound](#) at rest and then after a blood pressure cuff been inflated.

"VTI tells us how much blood flow you can get in your arm," says Dr. Anderson. The higher the better, which means the small vessels can dilate to capacity, and the blood vessel hormones are working well.

So what would happen to the university students after starting their day with a breakfast of fat champions?

The objective of this study was to assess the acute effects of just one high-fat meal on microvascular function, an indicator of overall vascular (blood vessel) health.

The students were studied twice, once on a day they had no breakfast, and once on a day when they consumed two commercially available breakfast sandwiches, total of 900 calories and 50 g of fat. Two hours after eating the sandwiches, their VTI had decreased by 15-20 per cent, reports Dr. Anderson.

From just one isolated meal, the results are temporary. But the study shows that such a high-fat offering can do more harm, and do it more quickly, than people might think.

"I won't say don't ever have a breakfast sandwich," says Dr. Anderson. But enough of a diet like that, and you can see how you can build up fat in the walls of your arteries.

Dr. Anderson is also co-chair of the group that updated the Canadian Lipid Guidelines (on managing and treating high blood cholesterol), presented at the Canadian Cardiovascular Congress.

"This study reminds us that our behaviours are the backbone of preventing heart disease," says Heart and Stroke Foundation spokesperson Dr. Beth Abramson.

"Remember that whether you eat at home or go to a restaurant, you're still in charge of what you eat. So consider all the choices, and try to cut down on saturated and trans fats, calories and sodium. That's one of the keys to decrease your risk of heart disease and stroke."

Provided by Heart and Stroke Foundation of Canada

Citation: Study finds that just one high-fat meal can affect your heart health (2012, October 30)  
retrieved 3 May 2024 from

<https://medicalxpress.com/news/2012-10-high-fat-meal-affect-heart-health.html>

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