

## Got a craving for fast food? Skip the coffee, study says

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Eating a fatty fast food meal is never good for you, but washing that meal down with a coffee is even worse, according to a new University of Guelph study.

Researcher Marie-Soleil Beaudoin has discovered not only that a healthy person's blood sugar levels spike after eating a high-fat meal, but that the spike doubles after having both a fatty meal and caffeinated [coffee](#) - jumping to levels similar to those of people at risk for diabetes.

"The results tell us that saturated fat interferes with the body's ability to clear sugars from the blood and, when combined with caffeinated coffee, the impact can be even worse," said Beaudoin, a PhD student who conducted the study with U of G professors Lindsay Robinson and Terry Graham. "Having sugar remain in our blood for long periods is unhealthy because it can take a toll on our body's organs."

Published today in the *Journal of Nutrition*, the study is the first to examine the effects of saturated fat and caffeinated coffee on blood sugar levels using a novel fat cocktail which contains only lipids. This specially designed beverage allows researchers to accurately mimic what happens to the body when we ingest fat.

For the study, healthy men drank about one gram of the fat beverage for every kilogram of body weight for their first meal. Six hours later, they were given a second meal consisting of a sugar drink.

Typically when we ingest sugar, the body produces insulin, which takes the sugar out of the blood and distributes it to our muscles, said Beaudoin.

But the researchers found that the fatty meal affected the body's ability to clear the sugar out of the blood. The subjects' blood sugar levels were 32 per cent higher than they were when the men had not ingested the fat cocktail.

The researchers also tested the impact of caffeinated coffee combined with the fatty meal. For this test, participants received the equivalent of two cups of caffeinated coffee five hours after ingesting the fat beverage. An hour later, they were then given the sugar drink.

The results showed blood sugar levels increased by 65 per cent compared to what they were when participants had not ingested the fat and caffeinated coffee.

"This shows that the effects of a high-fat meal can last for hours," said Beaudoin. "What you eat for lunch can impact how your body responds to food later in the day."

Besides testing the participant's [blood sugar levels](#), the researchers looked at gastro-intestinal effects by measuring incretin hormones released by the gut after ingesting the fat. These hormones signal the pancreas to release insulin to help clear the blood of sugar. The researchers discovered these hormones' responses to carbohydrates are blunted after ingesting the fat beverage.

"Ultimately we have found that fat and caffeinated coffee are impairing the communication between the gut and the pancreas, which could be playing a role in why participants couldn't clear the sugar from their blood as easily," said Beaudoin.

The results of the study are particularly important for people at risk for metabolic diseases and Type 2 diabetes, she adds.

"We have known for many years that people with or at risk of Type 2 diabetes should limit their caffeine intake. Drinking decaffeinated coffee instead of caffeinated is one way to improve one's glucose tolerance. Limiting the intake of saturated fatty acids found in red meat, processed foods and [fast food](#) meals is also beneficial. This study has shown that the affects of these foods can be severe and long lasting."

Provided by University of Guelph

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