

## A steady, high-fat diet is bad, but the news gets worse

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So much for the adage, 'All things in moderation.' Researchers at the University of Calgary have found that people who consume a single, high-fat meal are more prone to suffer the physical consequences of stress than those who eat a low-fat meal.

Published this month in the *Journal of Nutrition*, the study looked at the stress responses of two groups of students: one group consumed a fast-food breakfast from McDonald's, the other ate dry cereal with skim milk, cereal bars and non-fat yogurt.

"What's really shocking is that this is just one meal," says Dr Tavis Campbell, a specialist in behavioural medicine and senior author of the study.

"It's been well documented that a high-fat diet leads to arteriosclerosis and high blood pressure, and that exaggerated and prolonged cardiovascular responses to stress are associated with high blood pressure in the future. So when we learn that even a single, high-fat meal can make you more reactive to stress, it's cause for concern because it suggests a new and damaging way that a high-fat diet affects cardiovascular function."

In the study, 30 healthy young adults fasted the night before, then consumed either a high- or low-fat breakfast. Both meals had the same number of calories and the low-fat breakfast included supplements to balance it for sodium and potassium.

Two hours later the two groups were subjected to standard physical and mental stress tests while having their cardiovascular responses measured. They performed a mathematical test designed to be stressful, completed a public speaking exercise about something emotionally provocative, held an arm in ice water, and had a blood pressure cuff inflated around an arm, which gradually causes a dull ache.

"Regardless of the task, we recorded greater reactivity among those who consumed the high-fat meal in several cardiovascular measures we recorded, including blood pressure, heart rate and the resistance of blood vessels," says Fabijana Jakulj, a U of C student who used the study as the basis for her honours thesis.

Campbell cautions that despite the grim message that even one high-fat meal is unhealthy, more research is needed to fully understand how the mechanisms work. "Telling people to never eat something is probably not a good way to promote a better diet," he says. "At the same time we do have an epidemic of obesity in North America and it's important that people try to make informed choices."

Source: University of Calgary

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