

# The damage that one cheeseburger can do

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A single cheeseburger or pizza blowout can alter metabolism, triggering changes linked to fatty liver disease and diabetes, research shows.

While a healthy body can recover from one such meal, regular large helpings of rich, fatty food are likely to cause lasting damage, scientists say.

For the study, 14 lean and healthy men aged 20 to 40 were given either a vanilla-flavoured palm oil drink or plain water.

The palm oil drink contained as much saturated fat as an eight-slice pepperoni pizza or 110g cheeseburger served with a large portion of french fries.

Tests showed that consuming the palm oil immediately increased fat accumulation and reduced sensitivity to insulin.

It also raised triglyceride levels, altered liver function and led to changes in gene activity associated with fatty liver disease.

[inRead](#) Glucagon levels were also up, says lead researcher Professor Michael Roden of the German Diabetes Centre in Dusseldorf.

"The practical implication of this work is that the palm oil challenge used in this study most likely resembles the effects of ingestion of a [takeaway] meal rich in saturated fat," Prof Roden says.

"One such meal would probably be sufficient to induce transient insulin resistance and impair hepatic metabolism."

Lean, healthy individuals are probably able to compensate adequately for excessive fat intake, he says, at least in the short term. But prolonged exposure will ultimately lead to chronic insulin resistance, and non-alcoholic fatty liver disease (NAFLD).

Palm oil was found to reduce insulin sensitivity by 25% in the whole body, 15% in the liver and 34% in fat tissue.

Triglyceride levels in the liver were up by 35% and the mechanism that generates glucose sugar from non-carbohydrate foods became 70% cent more active. - AAP