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A single episode of high fat intake injures liver metabolism

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Diets that are consistently high in saturated fat are linked to the development of non-alcoholic fatty liver disease and insulin resistance, but it's not clear how high fat foods initiate the changes that lead to disease.

In a study published this week in the *JCI*, Michael Roden's lab at the German Diabetes Center investigated how a single episode of high saturated fat intake affected insulin sensitivity and markers of metabolism in humans and mice.

They found that one instance of fat intake, equivalent to the amount in a rich meal, led to immediate increases in fat accumulation and alterations in liver metabolism. The treatment also led to insulin resistance, elevated triglycerides, and increased glucagon levels in the bloodstream.

These observations indicate that saturated fat ingestion lays the foundation for metabolic diseases through its rapid effects on liver metabolism and fat storage.

More information: Elisa Álvarez Hernández et al, Acute dietary fat intake initiates alterations in energy metabolism and insulin resistance, *Journal of Clinical Investigation* (2017). DOI: 10.1172/JCI89444

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