

# UK dietary saturated fat guidance supported by study

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A new study from the University of Reading has provided strong support for current U.K. dietary guidelines on saturated fat consumption, while also highlighting the potential for personalized nutritional advice in the

future.

The [research](#), published this month in *The American Journal of Clinical Nutrition*, simulated the effects of switching from a diet high in saturated fats to one that aligns with U.K. dietary fat recommendations—lower in saturated fats and higher in [unsaturated fats](#).

Key findings include:

1. On average, reductions in total and LDL—cholesterol (often called "bad" cholesterol) levels were seen in the middle-aged male participants.
2. The ratio of LDL to HDL ("good" cholesterol) improved.
3. Individual responses varied significantly, with some participants showing dramatic improvements while others had minimal changes.

Professor Julie Lovegrove, lead researcher on the study, commented, "Our results strongly support current U.K. [dietary guidelines](#) to reduce saturated fat intake to no more than 10% of [total energy](#) and replace it with unsaturated fats. However, the variation in individual responses is fascinating and opens up exciting possibilities for personalized [nutrition](#)."

Several ways in which dietary saturated fats affect [blood cholesterol levels](#) were examined in this human study. One important pathway for the uptake of bad (LDL) cholesterol by the liver was increased when saturated fats were replaced with unsaturated fats in the diet, but the large variation in response between participants was not solely explained by this pathway.

"How our bodies respond to dietary change is very complex and involves a number of different bodily processes" said Dr. Kim Jackson, co-

investigator on the study. "It emphasizes the need for further research to identify reliable blood markers that can predict an individual's response to reducing saturated fat intake."

The research team is currently conducting a follow-up study to investigate other factors that could explain the variation in responses to dietary fat changes.

"Once we can identify those who would respond most significantly to saturated fat reduction, we can provide more targeted, personalized dietary advice," Professor Lovegrove explained. "This could lead to more effective dietary interventions and better health outcomes in the future."

This study is part of ongoing research at the University of Reading's Hugh Sinclair Unit of Human Nutrition, which aims to improve human health through nutrition.

**More information:** Athanasios Koutsos et al, Variation of LDL cholesterol in response to the replacement of saturated with unsaturated fatty acids: a nonrandomized, sequential dietary intervention study (RISSCI-1), *The American Journal of Clinical Nutrition* (2024). [DOI: 10.1016/j.ajcnut.2024.07.032](https://doi.org/10.1016/j.ajcnut.2024.07.032)

Provided by University of Reading

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