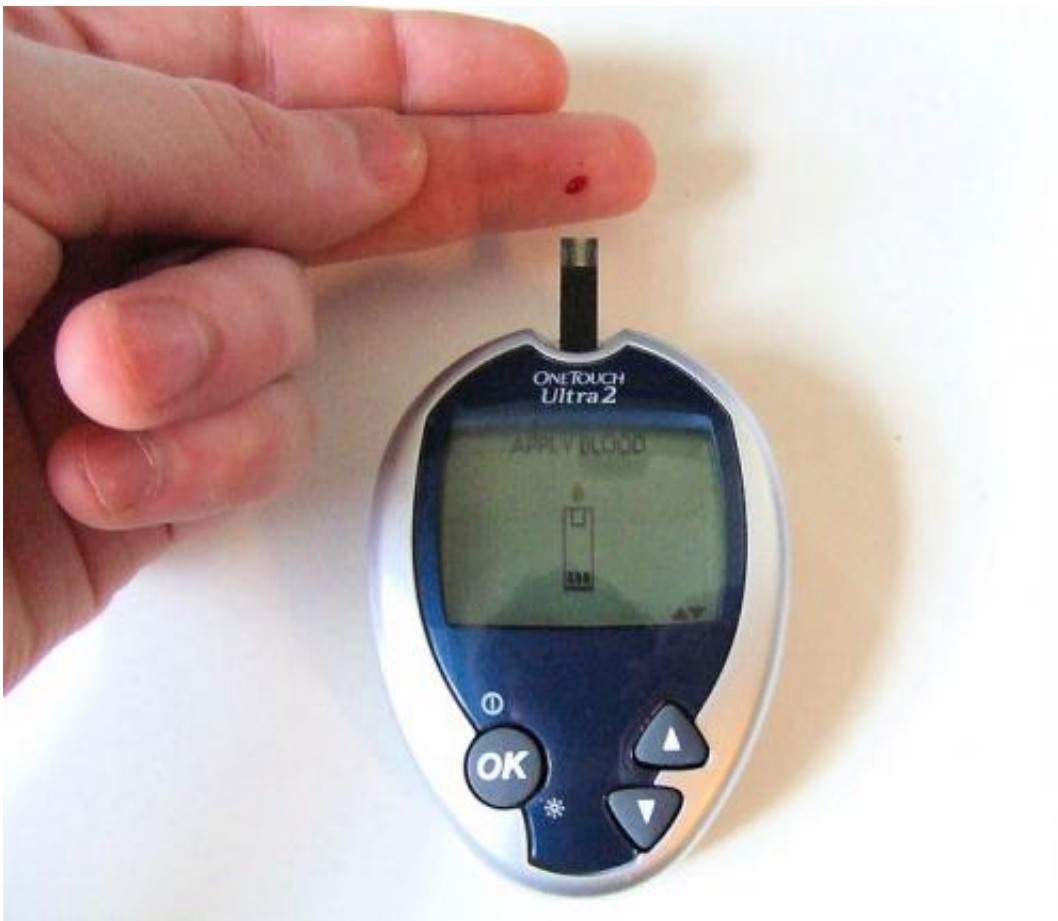


Eating polyunsaturated fats linked to slowing diabetes progress for some

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Blood glucose monitoring. Credit: Wikipedia

Research led by a dietitian at King's College London has found that replacing saturated fat in the diet with polyunsaturated fat, found in

foods such as vegetable oils or nuts, is linked to slower progress of type 2 diabetes in people with prediabetes whose muscles do not take up glucose properly.

Prediabetes is a condition in which [blood glucose levels](#) are higher than normal but not high enough to be classified as type 2 [diabetes](#). Previous evidence has shown that prediabetes can be split into two distinct conditions, one in which the liver produces too much glucose and one in which glucose is not taken up properly by the muscles.

The study, published today in *PLOS ONE*, is the first to consider the differing effects of [dietary fats](#) on prediabetes as two separate conditions, although previous studies have shown that dietary fats have an effect on insulin sensitivity.

This study also considers the distinct paths of diabetes development compared with previous studies which have predominantly used 'full blown' diabetes as the measure of progression for the condition.

Currently, weight loss is regarded as the most effective way to prevent the progression of diabetes in patients with prediabetes but researchers examined whether a targeted dietary intervention could have additional impact for patients alongside a weight loss programme.

Scientists tested small groups of people across a wide spectrum of glucose levels including healthy (15) athletic (14), and obese (23) people, and people with prediabetes (10) or type 2 diabetes (11) using robust analysis of [glucose levels](#) and fatty acids in their blood. Participants' diets were evaluated using a dietary questionnaire.

They found that, in the condition where [glucose uptake](#) into muscles is impaired, replacing saturated fats in the diet with [polyunsaturated fats](#) had a beneficial effect in slowing the development of diabetes. It is

thought that this is because polyunsaturated fats promote uptake of glucose by the insulin receptors in the muscles.

In people whose livers were producing too much [glucose](#), reducing saturated fat was found to be linked to slower progress of diabetes but replacing it with polyunsaturated fat was found to have no effect.

Lead author, Dr Nicola Guess, Division of Diabetes and Nutritional Sciences at King's College London said: 'This study is the first to explore whether we can target dietary advice taking into account the underlying differences in the two prediabetes states.

'The findings suggest that increasing dietary intake of polyunsaturated fats may have a [beneficial effect](#) for patients with a certain type of prediabetes but also illuminates why certain dietary changes may have no effect on progression of type 2 diabetes in the other subtype. We intend to build on this work with larger studies, and ultimately test this idea in a randomised trial'.

Limitations of the study included the small number of participants in each group and the overall small sample size of the study. The cross-sectional design of the study also means the authors cannot confirm causality, i.e. a cause-and-effect.

More information: 'Dietary Fatty Acids Differentially Associate with Fasting Versus 2-Hour Glucose Homeostasis: Implications for The Management of Subtypes of Prediabetes' will be published online in *PLOS ONE* on Monday 21 March 2016. [DOI: 10.1371/journal.pone.0150148](#)

Provided by King's College London

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