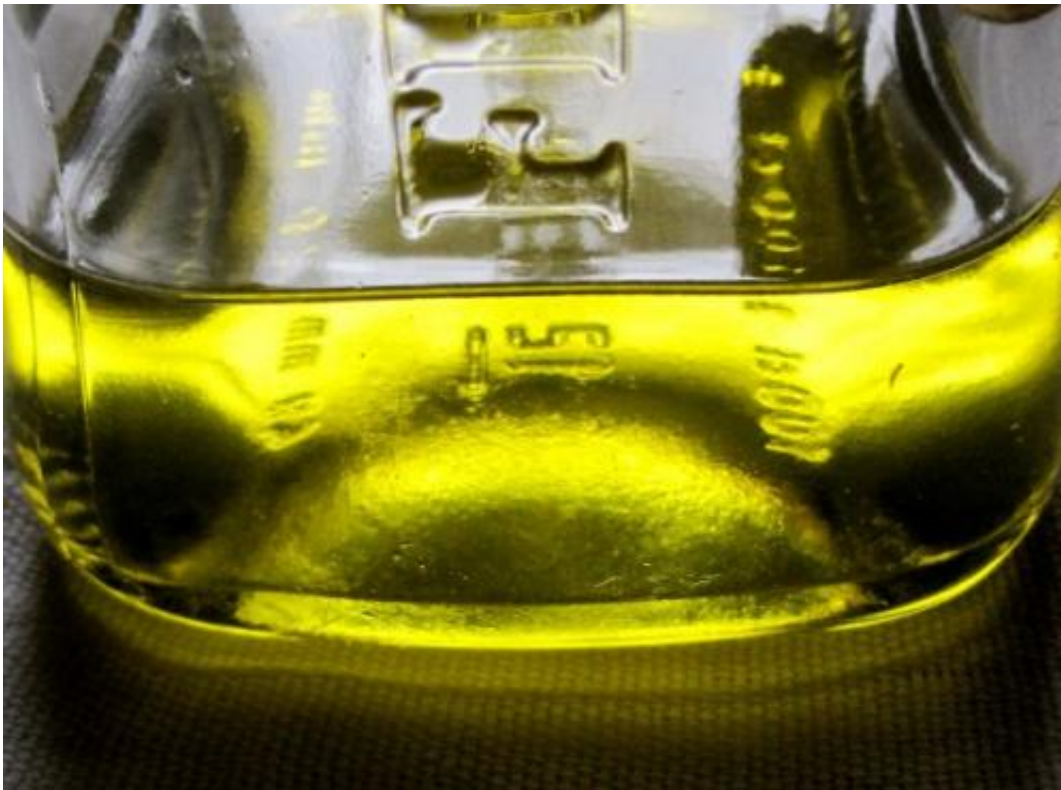


Study shows why you need olive oil on your salad

May 19 2014



Credit: Lynn Greyling/public domain

A diet that combines unsaturated fats with nitrite-rich vegetables, such as olive oil and lettuce, can protect you from hypertension, suggests a new study led by King's College London. The findings, published in the journal *PNAS*, help to explain why some previous studies have shown that a Mediterranean diet can reduce blood pressure.

The Mediterranean diet typically includes unsaturated fats found in [olive oil](#), nuts and avocados, along with vegetables like spinach, celery and carrots that are rich in nitrites and nitrates.

When these two food groups are combined, the reaction of unsaturated fatty acids with nitrogen compounds in the vegetables results in the formation of nitro fatty acids.

The study, supported by the British Heart Foundation, used mice to investigate the process by which these nitro fatty acids lower [blood pressure](#), looking at whether they inhibited an enzyme known as soluble Epoxide Hydrolase which regulates blood pressure.

Mice genetically engineered to be resistant to this inhibitory process were found to maintain their [high blood pressure](#) despite being fed the type of nitro fatty acids that normally form when a Mediterranean diet is consumed. However, nitro fatty acids were found to lower the blood pressure of normal mice following the same diets.

Thus, the study concludes that the protective effect of the Mediterranean diet, combining unsaturated fats and vegetables abundant in nitrite and nitrate, comes at least in part from the nitro fatty acids generated which inhibit soluble Epoxide Hydrolase to [lower blood pressure](#).

Professor Philip Eaton, Professor of Cardiovascular Biochemistry at King's College London, said: "The findings of our study help to explain why previous research has shown that a Mediterranean diet supplemented with extra-virgin olive oil or nuts can reduce the incidence of cardiovascular problems like stroke, heart failure and heart attacks."

More information: Protection from hypertension in mice by the Mediterranean diet is mediated by nitro fatty acid inhibition of soluble epoxide hydrolase, *PNAS*,

www.pnas.org/cgi/doi/10.1073/pnas.1402965111

Provided by King's College London

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