



## Replacing Red Meat With Soy Improves Metabolic Syndrome

**Soy as a replacement for red meat in a DASH eating plan had beneficial effects on features of the metabolic syndrome, soy-nut being more effective than soy-protein.**

*"Although some studies have assessed the effects of soy intake on the metabolic syndrome in animals, to our knowledge this is the first study in which such an effect has been evaluated in humans."*

Metabolic syndrome (MetS) is a condition characterized by central obesity, hypertension, and disturbed glucose and insulin metabolism. The syndrome has been linked to increased risks of both type-2 diabetes and CVD.

Fifteen per cent of adult Europeans are estimated to be affected by MetS, while the US statistic is estimated to be a whopping 32 per cent.

Azadbakht and her collaborators from the Harvard School of Public Health recruited 42 postmenopausal women with metabolic syndrome, defined as having a waist circumference larger than 88 cm, low serum levels of HDL-cholesterol (less than 50 mg/dL), high serum triglyceride levels (at least 150 mg/dL), elevated blood pressure (at least 130 over 85 mmHg), and glucose levels outside of tolerable levels (homeostasis).

All women were assigned to a standard 'run-in' diet for three weeks and were then randomly assigned to one of three diets - The Dietary Approaches to Stop Hypertension (DASH) diet (control), the DASH diet with red meat replaced by soy-nut (30 grams of soy-nut replaced one serving of red meat), or the DASH diet with red meat replaced by soy protein (30 grams of soy-protein replaced one serving of red meat).

Diets were followed for eight weeks, followed by a four-week washout period and the subjects then crossed over to one of the other diets.

Comparing the three diets, the researchers found that the most significant effects were a result of following the soy-nut diet, while the soy-protein diet also produced better results on several factors than the control diet.

Total cholesterol levels decreased by 4.2, 9.2, and 12.2 per cent as a result of the control, soy-protein and soy-nut diets, respectively, while LDL-cholesterol decreased by 6.3, 10.6, and 13.8 per cent for the same diets, respectively.

Levels of the apolipoprotein B (ApoB) were also found to decrease by 18.8, 23.4, and 26.4 per cent

as a result of the control, soy-protein and soy-nut diets, respectively.

ApoB is the main apolipoprotein of LDL cholesterol and is responsible for the transport of cholesterol to tissues. In high concentrations it has been linked to plaque formation in the blood vessels, although the mechanism behind this is not clear.

*"Our findings suggest that short-term soy-nut consumption may reduce insulin resistance and improve glycemic control and lipid concentrations in postmenopausal women with the metabolic syndrome,"* wrote the researchers.

The explanation behind the apparent benefits of the soy-nut DASH diet may be due to the combination of isoflavones and the higher amounts of unsaturated fat, which *"may synergistically provide an optimum benefit."*

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