## VEGETARIAN DIET AND TYPE 2 DIABETES

A vegetarian diet may protect against type 2 diabetes mellitus, new research suggests. Lead investigator Serena Tonstad from Loma Linda University, CA, USA, observed a "dose response between purely vegan diets affording most protection against diabetes, and protection decreasing as the amount of animal foods in the diet increased." Although BMI was highest in nonvegetarians and lowest in vegans, Tonstadt says, "Controlling for BMI reduced the protection associated with diet, but a strong association remained."

The study included over 60,000 Adventist church members from the US and Canada. Many Adventists "eat little or no meat and correspondingly greater quantities of plant foods," Tonstad comments. Vegetarians tend to have a reduced risk of obesity; in addition, foods consumed by these individuals could have metabolic effects that protect against type 2 diabetes mellitus. "Previous studies in Seventh-day Adventists had strongly suggested that rates of diabetes were lower than expected," she adds.

Tonstad and colleagues assessed selfreported body measurements, medical history (including diagnosis of diabetes mellitus), demographic and lifestyle data (such as diet and physical activity). Compared with nonvegetarians, vegans (who consume no animal products) had a $49 \%$ lower risk of developing type 2 diabetes mellitus. This risk was $46 \%$ lower for lacto-ovo vegetarians (who consume dairy and eggs but no fish, poultry or meat), $30 \%$ lower for pescovegetarians (who consume fish, dairy and eggs but no meat or poultry) and $24 \%$ lower for semi-vegetarians (who eat meat, poultry and fish less than once a week).

The investigators plan to carry out a prospective study to confirm these data. Tonstad concludes that "future research should focus on the efficacy and feasibility of plant-based diets for weight loss and control of diabetes."

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Original article Tonstad, S. et al. Type of vegetarian diet, body weight, and prevalence of type 2 diabetes. Diabetes Care 32, 791-796 (2009).

