



## **NUTS BENEFIT THOSE WITH TYPE 2 DIABETES**

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The benefits of nuts for heart health are well understood. More recently there has been growing interest in the potential value of including nuts in the diet of individuals with diabetes. While people with diabetes have twice the risk of heart disease over those without diabetes, the health benefits from eating nuts go well beyond the known cardiovascular health effects.<sup>1</sup>

According to the 2005 Australian Aus Diab Follow-up Study (Australian Diabetes, Obesity and Lifestyle Study), 1.7 million Australians have diabetes but that up to half of the cases of Type 2 Diabetes remain undiagnosed.<sup>1</sup> The good news is that up to 60% of cases of Type 2 Diabetes can be prevented by adopting a healthier lifestyle.<sup>2</sup>

Here's an update on the latest research from around the world which is uncovering more about the importance of nuts for those living with or at risk of diabetes.

### **Reducing Overall Risk of Diabetes**

A prospective cohort study of 83,818 women participating in the Nurses Health Study followed up for 16 years, reported higher consumption of nuts and peanut butter to be associated with a lower risk of Type 2 Diabetes.<sup>3</sup>

A Swedish Research Group examined the association between magnesium intake and risk of Type 2 Diabetes. Based on a meta-analysis of seven prospective cohort studies, they found magnesium intake to be inversely associated with incidence of Type 2 Diabetes.<sup>4</sup> Hence magnesium rich foods such as nuts, wholegrains, beans and green leafy vegetables may contribute to reducing the risk of Type 2 Diabetes.

### **Influencing Post-Prandial Glucose**

According to Jenkins et al (2008) in a review article on the possible benefit of nuts in type 2 Diabetes, while acute feeding studies have demonstrated the ability of nuts, when eaten with carbohydrate to depress postprandial glycemia, their ability to influence overall glycaemic control remains to be established.<sup>5</sup>

### **Improving Insulin Sensitivity**

Dietary fatty acids can influence glucose metabolism through a number of mechanisms including altering cell membrane function, enzyme activity, insulin signalling and gene expression.

Swedish researchers have reviewed both the epidemiologic literature on associations between types of dietary fat and diabetes risk and controlled feeding studies on the effects of dietary fats on metabolic mediators, such as insulin resistance.<sup>6</sup> Taken together, the evidence suggests that replacing dietary saturated fats and trans fatty acids with monounsaturated and polyunsaturated fats is beneficial to insulin sensitivity and is likely to reduce risk of Type 2 Diabetes.<sup>6</sup> Nuts are a good source of monounsaturated and polyunsaturated fats.

A recent study researched the long-term effects of increased dietary polyunsaturated fat, through walnut consumption, on metabolic parameters in Type 2 Diabetes, sufferers.<sup>7</sup>

Fifty overweight adults with non-insulin-treated diabetes were randomised to receive low-fat dietary advice (targeting weight maintenance) +/- 30g or a handful of walnuts per day for one year. The researchers assessed differences between groups by changes in anthropometric values (body weight, body fat, visceral adipose tissue) and clinical indicators of diabetes over treatment time. The walnut group showed significantly greater reductions in fasting insulin levels ( $P=0.046$ ), an effect seen in the first 3 months of the study.<sup>7</sup>

## Improving Markers of Diabetes Control

Researchers from the University of Toronto presented results at last month's Experimental Biology 2009 conference on the largest human clinical trial to date to evaluate the effects of nut consumption on individuals with Type 2 Diabetes.<sup>8</sup> Those who ate a half cup of mixed nuts including pistachios showed significant improvements in glycosylated haemoglobin (HbA<sub>1c</sub>) after 3 months.<sup>8</sup>

## Assisting Weight Management

The Australian Aus Diab baseline study reported that in comparison to people with normal glucose, those with diabetes were more likely to be obese (44.4% vs. 15.9%).<sup>2</sup> Eating a handful of nuts regularly has been shown to help achieve and maintain a healthy body weight.<sup>9</sup>

## Improve Dietary Composition

According to Jenkins and colleagues who reviewed the evidence relating to the possible benefits of nuts in Type 2 Diabetes, in terms of dietary composition, nuts have a good nutritional profile, are high in monounsaturated fatty acids (MUFA) and polyunsaturated fatty acids (PUFA), and are good sources of vegetable protein.<sup>5</sup>

Individuals with diabetes are recommended to follow a low glycemic index diet. Chestnuts for instance are one of the few tree nuts to contain significant amounts of carbohydrate (34%) and are low GI.

In summary, enjoying a handful of nuts a day can help those with, or at risk of, diabetes to manage their risk and their diabetes control by helping to improve not only their heart health, but additionally their diet, their insulin sensitivity, blood glucose control, body weight and markers of longer term diabetes control.

## References

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