

Nuts and Diabetes

A FACTSHEET FOR HEALTHCARE PROFESSIONALS



Diabetes is Australia's fastest growing chronic disease, with prevalence more than tripling over the last 25 years. It is estimated that more than 1.2 million Australians have known diabetes, and another 2 million are at high risk of developing diabetes^[1].

Diet plays an important role in the prevention of type 2 diabetes, in managing existing diabetes and in preventing or reducing the progression of diabetes-related complications.

The first population study to show an association between nuts and diabetes risk was the Nurses' Health Study^[2]. In the cohort of nearly 84,000 women, both total nut intake and peanut butter intake were associated with a reduced risk of type 2 diabetes, with a 27% and 21% lower risk, respectively, when consuming a handful (~30g) five or more times per week. A further analysis from the same cohort, specifically looking at walnuts showed similar findings^[3]. The more recent PREDIMED study found those consuming more than 3 serves of nuts/week had a 22% lower prevalence of diabetes than those consuming less than one serve of nuts/week^[4].



What the research says

More current research continues to strengthen these findings, with meta-analyses showing that nuts can help prevent the risk of developing type 2 diabetes^[5], as well as manage existing diabetes by improving HbA1c and fasting glucose levels^[6].

- Evidence from a systematic literature review and meta-analysis of five prospective cohort studies and one RCT, showed that consuming a 30g handful of nuts four times per week was associated with a 13% reduction in the risk of type 2 diabetes^[5].
- Evidence from a meta-analysis of twelve randomised controlled trials showed that nuts lowered HbA1c and fasting glucose, but not fasting insulin or HOMA-IR, compared to control diets in people with type 2 diabetes^[6].

Key results

Prevention of diabetes^[5]

- Per 28g serves, 4 times per week, there was a 13% reduction in the relative risk of diabetes (RR 0.87, 95% CI).

Management of diabetes^[6]

- HbA1c – diets emphasising tree nuts significantly lowered HbA1c in comparison to controlled diets (mean difference -0.07%, 95% CI).
- Fasting glucose – diets emphasising tree nuts significantly lowered fasting glucose in comparison to control diets (mean difference -0.15 mmol/L, 95% CI).

How many nuts and for how long?

- To prevent diabetes, a handful of nuts (~30g) at least 4 times per week is recommended^[5].
- To manage diabetes, RCTs that compared a diet emphasising the intake of tree nuts in comparison to diets without tree nuts, matched for energy, the dosage of nuts ranged from 28–85g per day, for a median duration of 8 weeks (3 weeks or longer)^[6].

Potential mechanisms of action

Nuts have a unique nutrition profile, containing many nutrients that may benefit metabolic health, including unsaturated fatty acids, protein, fibre, minerals, antioxidants and phytochemicals. The low carbohydrate and high unsaturated fat content of nuts produces lower postprandial glucose and insulin responses, which is thought to be important for reducing diabetes risk over time.

Glycaemic Index (GI) lowering effect

- While nuts themselves are not low GI (they don't have enough carbohydrate), they have a GI lowering effect, meaning that they reduce the overall GI of a meal^[7].

Rich source of healthy fats

- Nuts contain mainly the healthy unsaturated fats (mono- and polyunsaturated fats), and are low in saturated fats. Replacing saturated and trans fats with unsaturated fats improves insulin sensitivity and reduces type 2 diabetes risk^[8].

Nuts are a good source of fibre

- Diets high in fibre have been shown to help in managing diabetes and metabolic syndrome and can reduce the risk of developing diabetes^[9, 10].

Most nuts are a rich source of magnesium

- Magnesium intake has been inversely associated with type 2 diabetes risk and supplementing magnesium intake has been shown to improve fasting blood glucose and HDL levels in those with diabetes^[11].

What does all this mean?

The body of evidence supports regular nut consumption for reducing the risk of developing diabetes, as well as for managing existing diabetes.

To put it simply, nut intake is good for both preventing and managing diabetes.

In addition to reducing diabetes risk and diabetes management, there is also strong evidence for nuts in reducing the risk of heart disease^[12], overweight and obesity^[13], supporting brain health and reducing the risk of cancer^[14].

What your clients need to know

A 30g serve of nuts a day is helpful to prevent the development of, and assist with the management of diabetes.

A 30g serve also aligns with the Australian Dietary Guidelines serve size guidelines. The Australian Dietary Guidelines recognise nuts as being highly nutritious, and in playing an important role in a healthy balanced diet^[15].

For good health,
enjoy a healthy handful
of nuts every day.

Metabolic syndrome (MetS) – a clustering of cardiovascular disease risk factors including elevated blood glucose, dyslipidaemia, hypertension and abdominal obesity. Individuals with metabolic syndrome have a greater risk of developing cardiovascular disease and type 2 diabetes.

Being overweight or obese, particularly around the abdomen is a major risk factor for type 2 diabetes. People with diabetes are more than twice as likely to die from cardiovascular disease and are more likely to have abnormal blood lipids. So how does this impact nut consumption?

Research supports regular nut consumption for reducing the risk of developing heart disease^[12] and for reducing cardiovascular risk factors^[16], as well as for reducing the risk of overweight/obesity^[13], and for showing significant reductions in body weight parameters^[13].



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