

# Nuts and Heart Health

A FACTSHEET FOR HEALTHCARE PROFESSIONALS



Cardiovascular disease (CVD) is a major cause of death in Australia, with 43,477 deaths attributed to CVD in Australia in 2017<sup>[1]</sup>. Cardiovascular disease is one of Australia's largest health problems. Despite improvements over the last few decades, it remains one of the biggest burdens on our economy<sup>[2]</sup>.

The body of evidence for the benefits of nuts for heart health has been established by decades of research. Four large prospective cohort studies (the Adventist Health Study<sup>[3]</sup>, the Iowa Women Health Study<sup>[4]</sup>, the Nurses' Health Study<sup>[5]</sup>, the Physicians' Health Study<sup>[6]</sup>) examined the relation between nut consumption and the risk of CHD and all found an inverse association.

Since then, the evidence has continued to support these findings.



## What the research says

A systematic review and meta-analysis showed that higher nut intakes were associated with a reduced risk of cardiovascular disease and coronary heart disease<sup>[7]</sup>.

- Evidence from the systematic literature review and meta-analysis of 20 prospective cohort studies shows that nuts are associated with a 24% reduced relative risk of coronary heart disease and a 19% reduced relative risk of cardiovascular disease<sup>[7]</sup>. In the dose response meta-analysis, there was a 29% and 21% reduction in the relative risk of CHD and CVD respectively, for a one serving per day increase in nut intake.

An extensive systemic review on nuts and heart health was conducted by researchers from the University of Wollongong in 2015<sup>[8]</sup> and in 2018<sup>[9]</sup> which found a causal relationship between nut intake and heart health indicators and reduced mortality from CVD.

- Moderate to highly consistent reductions in total cholesterol, LDL cholesterol, and LDL:HDL ratio were supported by moderate to highly consistent associations between nut consumption and reduced risk of total incidence and mortality from CVD and CHD<sup>[9]</sup>.

## Key results

### Risk of disease<sup>[7]</sup>

- **Risk of coronary heart disease:** For a 28g/day increase in nut intake, there was a 29% reduction in the relative risk of CHD (RR 0.71, 95% CI)
- **Risk of cardiovascular disease:** For a 28g/day increase in nut intake, there was a 21% reduction in the relative risk of CVD (RR 0.79, 95% CI)

### Mortality and morbidity<sup>[9]</sup>

Observational studies reported moderate to high consistent associations between nut consumption and reduced risk of total incidence of and mortality from CVD and CHD.

### Heart health indicators<sup>[9]</sup>

Total of 136 analyses on cardiovascular outcomes were assessed:

- **Decrease in total cholesterol** – unweighted mean change: -3.28%

- **Decrease in LDL cholesterol** – unweighted mean change: -4.03%
- **LDL:HDL cholesterol ratio** – unweighted mean change: -7.38%
- **Triglycerides, HDL and BP** – lack of any consistent favourable effects

## How many nuts and for how long?

- Findings were based on 1oz servings/day (i.e. 28g or around a handful)<sup>[7]</sup>.
- Doses ranged from 10–100g per day, however observational evidence continues to suggest beneficial outcomes with 1oz (28g) per day, which also aligns with serving recommendations from the Australian Dietary Guidelines, which state a serve of nuts as being 30g<sup>[9]</sup>.
- It has also been found that favourable effects of nut intake are sustained over long periods of time – around 30 years<sup>[10]</sup>.

## Potential mechanisms of action

There are several ways that nuts are thought to reduce heart disease risk and reduce heart health indicators:

### Fatty acid profile

- The fatty acid profile of nuts, namely their high proportion of monounsaturated fat and/or polyunsaturated fat (depending on nut type) relative to saturated fat may in part explain their favourable effects on lipid profiles<sup>[11]</sup>.
- Nuts are rich sources of phytosterols, which are associated with reductions in cholesterol levels, mediated by decreased cholesterol absorption and increased faecal cholesterol excretion<sup>[12, 13]</sup>.

### Amino acids

- Nuts contain arginine, an essential amino acid which is involved in the synthesis of nitric oxide. Nitric oxide causes the blood vessels to dilate and remain elastic – maintaining endothelial function. It is also involved in the prevention of blood clots<sup>[14]</sup>.

### Phytochemicals

- Nuts contain a variety of phytochemicals with antioxidant potential such as vitamin E, riboflavin, selenium, manganese, copper, zinc and polyphenols. It is this antioxidant action that is thought to have positive effects on lipid oxidation, oxidative stress and platelet function<sup>[15-17]</sup>.

### Fibre

- Nuts contain fibre and soluble fibre assists in reducing blood cholesterol by lowering cholesterol re-absorption from the intestine<sup>[18]</sup>.

## What does all this mean?

There is established evidence that nuts lower blood lipids and are associated with reduced cardiovascular disease, based on decades of high quality research.

Current evidence continues to suggest that there is a causal relationship between the intake of nuts and improvements in several indicators of heart health, and between nut consumption and reduced risk of total incidence and mortality from CHD and CVD.

To put it simply, nut intake is good for heart health.

In addition to supporting heart health, there is also strong evidence for nuts in reducing the risk of diabetes<sup>[19]</sup>, overweight and obesity<sup>[20]</sup>, supporting brain health and reducing the risk of cancer<sup>[21]</sup>.

## What your clients need to know

A 30g serve of nuts a day is appropriate for heart health (including the absence of adverse effects on body weight).

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<sup>[22]</sup>.

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

## References

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