

Low calcium diet linked to higher risk of hormone condition in women

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A low calcium diet is associated with a higher risk of developing a common hormone condition in women, known as primary hyperparathyroidism, suggests a study published on *BMJ* website today.

Primary hyperparathyroidism or PHPT is caused by overactive [parathyroid](#) glands secreting too much parathyroid hormone, which can result in weak bones, fractures and [kidney stones](#). In recent years, several studies have also suggested a link between untreated PHPT and an increased risk of [high blood pressure](#), heart attack and stroke.

PHPT affects one in 800 people during their lifetime. It is most common in post-menopausal women between 50-60 years of age.

Calcium intake is known to influence parathyroid [hormone production](#) and therefore may be important in the development of PHPT. However, no study to date has explored this relation in detail over many years.

So a team of US-based researchers at Brigham and Women's Hospital set out to examine the association between calcium intake and risk of developing primary hyperparathyroidism in women.

They tracked 58,354 US women participating in the Nurses' Health Study I aged between 39 and 66 years in 1986 with no history of PHPT. Calcium intake (from both dietary sources and supplements) was assessed every four years using food frequency questionnaires over a 22-year period.

During follow-up, 277 cases of PHPT were confirmed.

Women were divided into five equal groups, according to intake of [dietary calcium](#). After adjusting for several factors including age, [body mass index](#) and ethnicity, women in the group with the highest intake of dietary calcium had a 44% reduced risk of developing PHPT compared with the group with the lowest intake.

Even for women taking a modest 500 mg/day of calcium supplements, the risk of developing PHPT was 59% lower than those taking no calcium supplements.

Further analyses to test these results did not significantly change the association between calcium intake and risk of PHPT.

The authors point out that "there could be unknown confounders that we did not control for in our analysis." However, they conclude: "Increased [calcium intake](#), including both dietary and supplemental calcium, is independently associated with a reduced risk of developing primary hyperparathyroidism in women."

And they suggest that future research "should examine other environmental and lifestyle risk factors that could chronically stimulate the parathyroid gland and thereby affect subsequent development of primary hyperparathyroidism."

An accompanying editorial says this study "provides evidence to support physicians in confidently encouraging female patients to take calcium supplements."

James Norman, Chief of Surgery at the Norman Parathyroid Center in Florida argues that daily [calcium supplements](#) in modest doses "are likely to provide more benefits than risks" and, over many years,

even a moderate increase in calcium concentration probably helps reduce the incidence of parathyroid tumors."

Provided by British Medical Journal

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