



Osteoporosis Canada

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Calcium Intake Statement

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Prepared and reviewed by members of the Scientific Advisory Council of Osteoporosis Canada

- Dr. Stephanie Atkinson, Biochemist & Nutritionist, McMaster University
- Dr. Susan Barr, Nutritionist & Dietitian, University of British Columbia
- Dr. Susan Whiting, Nutritionist, University of Saskatchewan
- Dr. Bill Leslie, Internal Medicine and Radiology, University of Manitoba
- Dr. Alexandra Papaioannou, Geriatrician, McMaster University

A recent study has reported that calcium supplements may increase the risk of heart attack and stroke in healthy postmenopausal women. The researchers looked at the risk of vascular events in women who had participated in a 5-year trial that determined the benefit of calcium supplementation on bone density and fracture risk. Women over 55 years of age were divided into two groups of approximately 730 participants each: one group was given placebo and the other calcium citrate supplements to provide 1000 mg calcium each day in addition to their dietary sources of calcium. Going into the study, women were consuming, on average 860 mg calcium.

After five years, the incidence of heart attack (myocardial infarction), stroke or sudden death were higher in the group given calcium supplements. The effect on myocardial infarction was most pronounced, with 45 events in the calcium supplement group compared to 19 events in the placebo group (resulting in a relative risk of 2.12). While the researchers did not analyze the data according to total calcium intake (diet plus supplement), they looked at those who reported taking over 60% of the supplement – in that case, vascular event rates rose. This suggests that higher intakes of calcium may be responsible, though the researchers acknowledged that their data do not permit definitive conclusions. Other studies (including the Women's Health Initiative with 36,282 women participating) have not found a significant increase in heart attack risk in relation to high calcium intakes.

Is it time to stop calcium supplementation? No, but high doses (i.e. 1000 mg) of calcium supplements should not be used by post-menopausal women who do not need extra calcium or just a more modest amount. It's important to assess total intake from diet and supplements. In terms of dietary intake, each of the following provides about 300 mg calcium: 1 cup milk, fortified soy beverage, or fortified orange juice; 175 ml yogurt; 50 g hard cheese. In addition, other foods in the diet generally provide about 300 - 400 mg in total. If total intake is in the range of 1200 - 1500 mg (i.e., between the Adequate Intake (AI) of 1200 mg, recommended by the Institute of Medicine and Health Canada, and Osteoporosis Canada's recommendation of 1500 mg), further supplementation should not be recommended.

In the words of the study's authors: "The present data do not permit definitive conclusions to be reached in this regard but do flag cardiac health as an area of concern in relation to calcium use and mandate that this is assessed carefully in future studies of calcium supplementation. In the meantime this potentially detrimental effect should be balanced against the likely benefits of calcium on bone, particularly in elderly women."