

## CALCIUM SUPPLEMENTS AND RISK OF HEART DISEASE

January 23, 2013

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Calcium is essential for the achievement and maintenance of normal bone health. The current daily requirements for elemental calcium are approximately 1200 mg daily preferably from dietary sources and if this is not possible then supplements are recommended ideally in the form of calcium carbonate or calcium citrate. Recently concern has been raised regarding potential increased risk of coronary events in association with calcium supplements.

Research from New Zealand evaluated the results of 11 randomized controlled trials of calcium supplementation involving more than 12,000 patients. Ian Reid and his colleagues found an increase in the risk of heart attacks by 31% in the groups receiving calcium in comparison to placebo with 143 women experiencing a heart attack in the calcium groups and 111 women experiencing a heart attack in the placebo groups. This analysis however included studies in which women reported the presence of a heart attack based on their own opinion and the facts were not confirmed by medical records. In the review of the Women's Health Initiative women who were taking calcium and vitamin D in addition to their own personal use of calcium did not have an increased risk of heart attacks or stroke. There was also no relationship between daily dose of personal calcium supplements and the risk of a heart attack or stroke

Li and colleagues evaluated 23,980 men and women from the European Prospective Investigation into Cancer and Nutrition cohort study (EPIC study). Participants completed questionnaires providing information on dietary calcium intake and the use of supplements. Those people with an increased intake of dietary calcium had a lower risk of heart attacks by approximately 31%. People using calcium supplements actually had an almost 2 fold increased risk of heart attacks. This study also has been criticized as the questionnaire simply asked the people if they took "vitamins" but did not ask which ones and the amounts taken. The presence of heart attacks was however confirmed by following medical records or reviewing the death certificates.

In summary the research studies which have been completed have been relatively small and have been of less than ideal design. Further research with large well designed studies is needed.

Osteoporosis Canada recommends that daily intake of calcium be obtained largely from dietary sources. If this is not possible then supplements may be used preferably calcium carbonate or calcium citrate following discussion with your doctor regarding the safe dose for each individual.