

# Calcium supplements remain a valuable tool for maintaining bone health

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Individuals who do not obtain recommended intake levels of calcium through dietary sources can safely utilize calcium supplements to achieve optimal bone health, an expert panel concludes. These findings appear in the November online edition of *Advances in Nutrition*, a journal that highlights the significance of recent research in nutrition and illustrates the central role of nutrition in the promotion of health and prevention of disease.

Responding to questions raised last year about a possible link between [calcium supplements](#) and a potential increased [risk of cardiovascular disease](#), an expert panel composed of academic and industry experts in the fields of nutrition, cardiology, epidemiology, bone health, and [integrative medicine](#) convened on November 10 and 11, 2011 in Washington, D.C.

The panel collected and examined the available body of scientific literature, including [randomized controlled trials](#) (RCTs) and [observational data](#), assessing whether long-term use of calcium supplements could promote the occurrence of strokes, [coronary heart disease](#), heart attacks and other forms of cardiovascular disease, and cross-referenced these findings with four of the Bradford-Hill criteria for causal interference: strength, consistency, dose-response and biological plausibility. The panel concluded that the available science does not suggest an increased risk for cardiovascular disease from calcium supplement use.

"There is a strong body of evidence from a variety of rigorous scientific studies reinforcing the benefits of calcium in promoting [bone growth](#) and maintenance. After reviewing the entire scope of scientific literature for calcium, we are now more confident than ever in both its health benefits and safety," said panelist Robert P. Heaney, M.D., Osteoporosis Research Center, Creighton University Medical Center. "Consumers can feel confident about the safety of their calcium supplements and should continue taking them with confidence. They should, however, be aware of how much calcium their diets provide, and then supplement accordingly."

In addition to Dr. Heaney, panel experts included: Stephen Kopecky, M.D., Division of Cardiovascular Diseases, Mayo Clinic; Kevin Maki, Ph.D., Provident-Biofortis; John Hathcock, Ph.D., former senior vice president, scientific and international affairs, Council for Responsible Nutrition (CRN); Douglas MacKay, N.D., vice president, scientific and regulatory affairs, CRN; and Taylor Wallace, Ph.D., senior director, scientific and regulatory affairs, CRN.

The CRN Foundation, the educational non-profit affiliate for CRN, the dietary supplement industry's leading trade association, commissioned the panel after results from a meta-analysis of RCTs, and reanalysis of the Women's Health Initiative by researchers at a New Zealand laboratory, prompted concern about a potential association between calcium supplement use and a small increase in risk for adverse cardiovascular events. However, a number of issues with the meta-analysis and accompanying studies—such as exclusion of the majority of RCTs which indicate calcium has no effect on the cardiovascular system; large reliance on unpublished data; failure to appropriately ascertain cardiovascular events; and a lack of information on known cardiovascular risk determinants—warranted a complete examination of the scientific literature. The CRN Foundation assembled the expert panel to study the findings of this analysis in context with the larger body

of scientific research on calcium.

"In light of our safety findings combined with the well-documented benefits of calcium, we urge physicians to continue recommending calcium supplements to their patients as appropriate, as our review of the scientific literature further reinforces the valuable role of calcium in helping consumers maintain bone health," said the Mayo Clinic's Dr. Kopecky. "Building and maintaining calcium is vital for all age groups—young children to adolescents to adults and the elderly must obtain adequate amounts of calcium, either through diet or supplementation. For those who are unsure if they need to supplement their diets with additional calcium, make sure to discuss your current nutritional picture with your physician."

Supporting the [expert panel](#)'s conclusion is the recent "Framingham Study," published online in the Nov. 7 American Journal of Clinical Nutrition by Elizabeth Samelson, Ph.D., et al., which also looked at the association of calcium and coronary artery calcification and found that "...calcium intake from diet and supplements appeared to neither increase nor decrease vascular calcification, which is a measure of cardiovascular risk...The use of calcium supplements is important for many older adults to ensure adequate intake for bone health." [1]

The Institute of Medicine currently suggests women ages 19 through 50 and men up to 71 obtain a Recommended Dietary Allowance (RDA) of 1,000 milligrams calcium daily; women over 50 and men 71 and older should obtain 1,200 milligrams daily to ensure they are meeting their daily needs for strong, healthy bones. Calcium is popular among U.S. consumers, and according to CRN's most recent survey of U.S. adults, 17 percent indicate they take a [calcium](#) supplement.

**More information:** [1] Samelson, E.J., Booth, S.L., Fox, C.S., et al. (2012). Calcium intake is not associated with increased coronary artery

calcification: the Framingham Study<sup>1</sup>. Am J Clin Nutr, 96(5), 1-7.

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