



ARTICLE

## Vitamin K2 & Its Clinically Proven Benefits for Women's Health

by [Dana Cohen](#) · © September 2, 2016

Medicine is an art, and a patient-centered, holistic approach is the vital first step on the path to overall health and wellness. Bone and cardiovascular health are areas that require attention as early as possible to lay a strong foundation for women's later, golden years.

Science supports vitamin K2 for both of these areas of health. In particular, published studies have shown its effect on healthy post-menopausal women.

### Observational Data: An Important Foundation

Impressive observational data demonstrating a link between dietary K2 intakes and health includes one study, published in *Nutrition*, that linked a Japanese fermented soybean food (natto) as a major determinant of a large geographic difference in circulating levels of vitamin K2 as menquinone-7 (MK-7).<sup>1</sup> Kaneki and colleagues showed increased consumption of vitamin K2 leads to more activated osteocalcin, a K-dependent protein linked to increased bone formation and bone mineral density (BMD), and therefore a lower risk of hip fracture.

This 2001 study was supported by the population-based Rotterdam study, which evaluated 4,807 healthy men and women over age 55 and the relationship between dietary intake of vitamin K and aortic calcification and heart disease.<sup>2</sup> Findings indicated eating foods rich in natural vitamin K2 (at least 32 mcg/d) reduced the risk of both arterial calcification and negative cardiovascular events—with no undesirable side effects.

And the Rotterdam findings were confirmed in 2008 by another Dutch population-based study that showed vitamin K2 was found to decrease the risk of negative coronary events by 9 percent for every 10 mcg consumed.<sup>3</sup>

### **Impactful Intervention Trials**

While observational data lays the groundwork for understanding, the importance of vitamin K2 was solidified by two breakthrough intervention trials done with healthy post-menopausal women.

A three-year double-blind, randomized clinical trial published in *Osteoporosis International* showed for the first time clinically statistically significant protection of vitamin K2 as MK-7 against bone loss.<sup>4</sup> In the study, 244 healthy post-menopausal Dutch women (55 to 65 years old) were randomly assigned to receive either 180 mcg of MK-7 (as MenaQ7® from NattoPharma) or placebo capsules daily. The K2 supplementation group significantly increased circulating active osteocalcin (cOC), a biomarker for bone, while decreasing the inactive protein, ucOC, compared to the placebo group. After three years of supplementation, maintenance in both bone mineral content and BMD were statistically significant in the K2 group. Moreover, bone strength was statistically improved, demonstrating therapeutic benefits for the K2 group as compared to the placebo group.

The results of the second arm of this study, published in *Thrombosis and Haemostasis* in May 2015, showed that, when taken daily in nutritional doses (180 mcg of MenaQ7 for three years by a healthy population, vitamin K2 (MK-7) improves cardiovascular health.<sup>5</sup> Again, 244 healthy post-menopausal Dutch women, were randomly assigned to receive daily either MK-7 or placebo capsules. The trial showed substantial benefits in inhibiting age-related stiffening of arteries resulting in increase of the pulse wave velocity (PWV) in the placebo group, but not in the K2 group. Most remarkably, vitamin K2 not only inhibited arterial stiffening, but it also resulted in an unprecedented statistically significant improvement of vascular elasticity in a healthy population.

### **Supplementation in Practice**

Vitamin D is a complementary nutrient to vitamin K to help patients build their bone while protecting their heart. In addition, While studies show calcium can negatively impact cardiovascular health, patients can combine their calcium with magnesium and vitamin K2. K2 is absolutely the missing link ensuring the body safely and properly utilizes calcium.

The acceptance of an integrative view of health is incredibly important. The fact that a growing population is embracing a holistic approach to wellness means they are actively pursuing a path that does not lead them to medications that could come with dangerous side effects. This marks an important shift in the standard of care.

Looking for more insight around vitamin K2 and the current state of the science? Dana Cohen, M.D., will discuss the benefits of vitamin K2 for women's health during the [Understandings and Market Opportunities Around Vitamin K2](#) workshop on Saturday, Oct. 8, at SupplySide West 2016. Or click the following link to explore a companion Digital Magazine, [Exploring the Health Effects of Vitamin K2](#).

In private practice for more than 15 years in New York City, Dana Cohen, M.D., trained under the late Robert Atkins, M.D. She graduated from St. George's University School of Medicine and completed a three-year internal medicine residency at Albany Medical Center. She has been the program director for the American College for the Advancement in Medicine (ACAM), where she created the bi-yearly symposiums on cutting-edge integrative medicine topics. Cohen's passion for integrative medicine stems from her belief that medicine is an art, and a patient-centered, holistic approach is the vital first step on the path to overall health and wellness.

## References

<sup>1</sup>Kaneki M et al. "Japanese fermented soybean food as the major determinant of the large geographic difference in circulating levels of vitamin K2: possible implications for hip-fracture risk." *Nutrition*. 2001;17:315-21.

<sup>2</sup>Geleijnse JM et al. "Dietary intake of menaquinone is associated with a reduced risk of coronary heart disease: the Rotterdam Study." *J Nutr*. 2004;134:3100-5.

<sup>3</sup>Gast GC et al. "A high menaquinone intake reduces the incidence of coronary heart disease." *Nutr Metab Cardiovasc Dis*. 2009;19:504-10.

<sup>4</sup>Knapen MH et al. "Three-year low-dose menaquinone-7 supplementation helps decrease bone loss in healthy postmenopausal women." *Osteoporosis Int*. 2013 Sep;24(9):2499-507.

<sup>5</sup>Knapen MHJ et al. "Menaquinone-7 supplementation improves arterial stiffness in healthy postmenopausal women: double-blind randomised clinical trial." *Thromb Haemost*. 2015 May;113(5):1135-44.