

# VITAMIN K: THE LESS ACKNOWLEDGED VITAMIN WITH BIG BENEFITS FOR BONE HEALTH

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Bone health is a concern at any age. Youngsters develop bone tissue during their growth years until reaching adulthood. Adults and older people are often predisposed to falling because of bone fragility or loss of balance. Falling is traumatic and depending on which part of the body cushions the fall—whether the vertebrae or long bones of the legs, hip, arms, or wrist—it can be very damaging and painful. Now more than ever before, Vitamin K is one ingredient that is being recognized for bone health.

Vitamin K deficiency may be more common than previously thought. Data from 200 elderly people (men and women with an average age of 67) showed that high dietary intakes of vitamin K were associated with higher measures of bone mineral density and higher scores from ultrasound testing for bone density.<sup>1</sup> This was one of the first studies that showed a direct association between dietary vitamin K intake and more positive scores for bone mineral density. When comparing vitamin K intakes, the researchers reported that every 100 microgram increase was associated with 0.008 gram/m<sup>2</sup> increase in bone mineral density.

The study showed that those who consumed more vitamin K had superior bone properties. An increase in dietary vitamin K intake was significantly related to lower losses of bone mineral density and smaller increases in the porosity and elasticity attributed to aging. This helps to explain the previously reported protective effects of vitamin K intake against osteoporotic fractures.<sup>1</sup> Furthermore, Osteocalcin is a vitamin K-dependent protein, which is essential for the body to utilize calcium in bone tissue. If vitamin K is deficient in the diet, this protein that helps incorporate calcium into the bone matrix remains inactive.

## Two types of vitamin K have been identified:

1. Vitamin K1 (phytonadione) is found in green leafy vegetables such as lettuce, broccoli and spinach. K1 makes up about 90 percent of the vitamin K in a typical Western diet.
2. Vitamin K2 (menaquinones) is naturally-occurring in animal-based foods but only makes up about 10 percent of the vitamin K consumed in a Western diet. This type of vitamin K can be synthesized by gut microflora<sup>1</sup> and is a fat-soluble micronutrient.

Vitamin K2 is incorporated into the base formula of OMEGA<sup>+++</sup>, the exclusive LPGN omega 3, 6 and 9 formula that is enhanced with borage oil, Fertilized Avian Egg Extract, gamma linolenic acid and our unique micro-active CoQ10. The vitamin K2 contained in OMEGA<sup>+++</sup> is naturally sourced from fermented soybeans. A traditional Japanese dish made from fermented soybeans is called Natto, and is associated with major health benefits including decreased blood pressure and reduced incidence of osteoporosis. Subsequent clinical and population-based studies found that these benefits were largely attributed to the fact that Natto was full of vitamin K2.<sup>2</sup>



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The fermentation process of Natto is facilitated by *Bacillus subtilis*, which exists naturally and produces vitamin K2 as a byproduct.<sup>3</sup> The vitamin K2 in OMEGA+++ is directly extracted from *Bacillus subtilis* through an advanced filtration process to ensure the highest quality. In addition, the vitamin K in OMEGA+++ is allergen free, nonGMO and Kosher Certified.

As noted by the American Health Journal, OMEGA+++ primarily addresses circulatory health; however, the beauty of its unique formulation is that it delivers so many other benefits, of which bone health is one. Vitamin K2 redirects calcium deposits out of the blood vessels and arteries, which improves circulation in the body, but this little recognized ingredient also supports bone health and helps decrease the risk for osteoporosis, even more reason to incorporate it into every daily regimen. When taken in OMEGA+++ , you are guaranteed a vitamin K2 that is highly bioavailable and stable, allowing the body to absorb and utilize it for optimum effectiveness.

## References:

1. Bullo M, Estruch R, Salas-Salvado J. Dietary vitamin K intake is associated with bone quantitative ultrasound measurements but not with bone peripheral biochemical markers in elderly men and women. *Bone* 2011;3;767.
2. Kaneki M, Hodges SJ, Hosoi T, Fujiwara S, Lyons A, Crean SJ, Ishida N, Nakagawa M, Takechi M, Sano Y, Mizuno Y, Hoshino S, Miyao M, Inoue S, Horiki K, Shiraki M, Ouchi Y, Orimo H. Japanese fermented soybean food as the major determinant of the large geographic difference in circulating levels of K vitamins2: possible implications for hip-fracture risk. *Nutrition*. 2001;17(4):315-21
3. Elder SJ, Haytowitz DB, Howe J, Peterson JW, Booth SL (January 2006). "Vitamin k contents of meat, dairy, and fast food in the U.S. Diet". *J. Agric. Food Chem.* 54 (2): 463-7. doi:10.1021/jf052400h. PMID 16417305.