

Bio-DK-Mulsion

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Is vitamin K2 on your radar as an anti-aging substance? Consider that vitamin K2 offers benefits in the following conditions: Heart Disease, Osteoporosis, Diabetes, Cancer, Dementia, Joint Health, Skin Health, Dental Health, Muscle Function, Neuropathy, Neurodegenerative Diseases, Mitochondria repair, Cardiac Function, and Aging.

How can one substance have an effect on so many conditions? Because it is an essential vitamin, and according to researchers, we are all sub-clinically deficient in this key nutrient! Think about it, if there was a nutrient that increases mitochondrial function, cells could produce more energy, helping to regenerate dying cells. If this same nutrient created better profusion, every cell in the body would get more nutrients and a more robust blood supply.

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stand it, most of the benefits of vitamin K2 come from moving calcium back into bone, where it belongs, which improves circulation.

Cosmetically, patients report their hair and finger nails grow faster. As long as we are talking about cosmetics, if deficient in K2, the tensile strength for collagen and elastin is compromised, and that means wrinkles. You can see a TM to the right that highlights benefits as well as the supporting studies.

Just as vitamin K2 prevents age related tissue destruction, our old friend vitamin D has just as many benefits when

blood levels are sufficient. Here's a brief summary of some of the newer data. Mounting evidence suggests that vitamin D deficiency may be linked to cardiovascular disease and cancer. Vitamin D deficiency was found to be common in children with Type I diabetes. Vitamin D deficiency may be linked to metabolic syndrome by balancing multiple inflammatory pathways, including increasing IL-10 and decreasing TNF alpha. Vitamin D plays a role in the modulation of serotonin and melatonin synthesis.

Alterations in vitamin D levels appear to explain, at least in part, the adverse psycho-

logical effects of sunlight deprivation. Vitamin D modulates neurodevelopment and neuro-protection. Vitamin D deficiency has been implicated with neuronal dysregulation. Several clinical investigations have shown vitamin D deficiency to be particularly common among people with musculoskeletal pain. In patients with osteoarthritis (OA), vitamin D was shown to support multiple healthy inflammatory pathways. Vitamin D supports healthy gene expression, mitochondrial health, and has a positive effect on the microbiome.

Let's review how vitamin D and vitamin K2 work together in regard to bone health and calcium metabolism. Vitamin D3 stimulates the bone building osteoblast cells to release an inactive form of osteocalcin called uncarboxylated osteocalcin. K2 activates it through a process called carboxylation. Through the carboxylation process, the positively charged osteocalcin is changed to a negatively charged ion. Now, the negative ion looks for positively charged calcium which attaches it to the bone. With sufficient levels of Vitamin D, and depleted amounts of K2, calcium levels rise and are deposited in soft tissue and eventually line the insides of blood vessels. Bone matrix is weakened because the calcium which should go in the bones is deposited in other areas of the body instead.

Studies have shown inactive or uncarboxylated osteocalcin inversely correlated with bone mineral density. High serum levels of uncarboxylated osteocalcin are predictive of hip fracture and a six-fold increase in fracture risk. Vitamin K2 also slows the degradation of bone by reducing osteoclast cells similar to estrogen.

With more and more research highlighting the importance of maintaining healthy vitamin D and K2 levels, patients require forms that are bioavailable, easy-to-take, and in a clinically useful dose. Bio-DK-Mulsion Caps™ delivers an impressive 125 mcg (5000 IU) of vitamin D3, with added 500 mcg of K1 and 50 mcg of K2 as MK-7, in an emulsified, easy-to-take capsule form.

Since there are so many benefits for K2, I wondered why even add extra K1? The reason is that the liver takes the lion share of vitamin K mostly for coagulation. The half-life of K1 is 90 minutes, whereas the half-life of K2 is 72 hours. If K1 is insufficient, the liver will convert K2 to the K1 form. So, maintaining adequate levels of K1 helps preserve levels of K2 outside the liver where it is needed.

In addition to emulsified forms of vitamins D and K, Bio-DK Caps™ contain SOD, superoxide dismutase and catalase. SOD is an enzyme that aids in cell repair and provides antioxidant protection against cellular damage from free radicals and environmental toxins. You can see a link to the amazing properties of SOD as an antioxidant. Catalase is an enzyme that converts hydrogen peroxide into oxygen and water and also shows strong antioxidant properties.

By now, everyone is aware of vitamin D and its powerful influence on wellness, but few of your patients know that vitamin K2 is just as important and can amplify its effects. Bio-DK Caps can accomplish both goals.

Thanks for reading this week's Tuesday Minute. I will see you next Tuesday.