VITAMIN K FACT SHEET

There are Two Forms of Vitamin K

Vitamin K is the name of a group of compounds - Vitamin K1, K2 and K3. The first one discovered was Phylloquinone or K1. In the last decade most of the research has turned to the more effective Menaquinones, or vitamin K2. The vitamin K2's are further divided into MK-4, MK-7 and several other forms. Recent studies have shown vitamin MK-7 to be more complete.

Also, several studies on Vitamin K2 has found that K2 promotes bone metabolism and reduces the incidence of fracture in osteoporosis. As compared to vitamin K1, vitamin K2 has been found to be more effective in decreasing bone turnover in vitro and in vivo. Vitamin K2 cleans calcium deposits from your arteries and deposits calcium in your bones. Vitamin K2 has been clinically proven to provide extraordinary benefits for bone health and cardiovascular health, plus it is a powerful anti-oxidant. Emerging studies indicate that vitamin K2 might help your joints and intestinal health.

K2 has been reported to decrease serum cholesterol and cholesterol deposits in the aorta, contributing to the suppression of atherosclerosis. Vitamin K2 has been linked to a reduction in coronary heart disease. In fact one very large and significant study conducted in the Netherlands in 2004 followed 4800 healthy men and women for ten years. It found vitamin K2 reduced the risk of coronary heart disease mortality by 50%! Aortic calcification was also reduced by 30-40% in this famous Rotterdam study.

Your Body May Not Manufacture Enough Vitamin K

A healthy intestinal tract can produce Vitamin K, but in many cases it is not produced efficiently. Vitamin K is different from other fat soluble vitamins because it cannot be stored in the body. It will almost always be necessary to get Vitamin K from your diet.

When you eat vitamin K1 in your food, only 5-10% of ingested K1 is absorbed and reaches your blood, but almost 100% of K2 is absorbed into your blood stream, where it can be distributed for beneficial use in tissues including bones and arteries. Vitamin K2 also lasts for several days in your bloodstream compared to K1 which mostly disappears in a few hours.

Foods that include reasonable amounts of vitamin K1 include leafy vegetables, olive oil, cheese, liver, Brussels sprouts, broccoli, cauliflower, coffee, and green tea. More than 80% of the Vitamin K in western diets consists of vitamin K1. The more beneficial form, K2, is difficult to find in your diet (please see the list of foods containing K2).
Natto - the Food of the Samurai Warrior, Builds Bones

Natto is made from steamed and fermented soy beans. Its use in Japan dates back hundreds of years to the age of Samurais who believed it increased their strength and quickened their reflexes. Today about 7.5 billion packages of Natto are sold in Japan each year. Natto is an integral part of the Japanese school breakfast programs. In the last ten years several studies have found natto, containing the active component vitamin K2, to increase bone mineral density and reduce bone fractures. The problem with natto is that most Americans find it completely repulsive!

Vitamin K2 Safety

If you take Coumadin, Heparin, or another anti-coagulant you should consult your physician before taking vitamin K2 supplements. Vitamin K2 helps normal coagulation of blood. High levels of K2 do not cause abnormal blood clotting. You should not be concerned about taking levels of 45 mg/day or less, as numerous Japanese studies have shown even this high level is safe for adults.

Most vitamin K2 supplements offer 45 - 150 micrograms per day.

Pregnant Women REALLY Need Vitamin K

Pregnant women should be especially conscious of their vitamin K intake because the following birth defects have been linked to vitamin K deficiency:

- Cardiac dysfunction
- Craniofacial abnormalities
- Flat nasal bridge
- Growth disorders
- Learning disorders
- Microcephaly
- Neural tube defects

Why Vitamin K2 Is Hard to Come By

Vitamin K2 costs $1.5 million per kilogram, so most supplement companies find it is not cost effective to include in their formulas. Vitamin K2 has been added to the Garden of Life Raw Calcium™ and the Garden of Life Grown Bone System™ and it is naturally present in Blue Ice Royal (a blend of butter oil and cod liver oil).
How Much Vitamin K Do I Need?

250 mcg (micrograms) of Vitamin K a day is currently recommended.

FOODS SOURCES OF VITAMIN K

**Vitamin K 1**
- Dark green lettuce
- Broccoli
- Spinach (eat with lemon juice to keep the oxalic acid from blocking calcium absorption)
- Brussels sprouts
- Kale
- Kelp
- Extra-virgin olive oil

**VITAMIN K 2** absorption is close to 100% in the body

Vitamin K 2 increases the effectiveness of Vitamins A & D! Vitamin K 2 is produced by lactic acid bacteria. It is found in fermented foods, egg yolks, butter fat and goose meat, especially goose liver. It is mostly in organ meats and bones (as opposed to muscle meat, which is what most Americans consume). Chicken and duck contain higher amounts of Vitamin K 2 than beef and pork. Fat-free animal foods do not contain any Vitamin K 2 at all and low-fat animal foods contain smaller amounts than full-fat animal foods. Sauerkraut contains more than four times as much Vitamin K 2 as beef as and more than twice as much as pork.

**Foods rich in Vitamin K 2**

- Yogurt made from raw milk
- Raw cheese (fermented) (which means aged cheese)
- Egg yolks
- Goose meat, goose liver
- Fermented fish oils (Green Pasture Fermented Cod Liver Oil)
- Butter oil (Green Pasture Butter Oil)
- Butter from grass fed cows
- Natto (Japanese fermented soy food) – contains the highest K2 of any food measured, but is considered inedible by most Americans!
- Sauerkraut

It is now thought that the “X-factor” that Dr. Weston Price found in butter oil is Vitamin K 2. Vitamin K2 hyper-activates any vitamin A in your diet, and helps you to better assimilate minerals as well. Dr. Price found that butter produced from cows eating growing green grass contained a very high amount of Vitamin K2. According to Dr. Price, Vitamin K2 "plays an essential role in the maximum utilization of body building minerals."