scotmann's

SunnyD™ Ultra

Each softgel contains:	
Vitamin D_3 (Cholecalciferol) USP	400 IU
MK-7 Vitamin K_2 as Menaquinone-7 (USP)	90 mcg
Calcium carbonate (USP)	400 mg

BONE MAKER COMPLEX

Calcium is actively absorbed from the small intestine in the presence of vitamin D. Vitamin K2 activates a protein called matrix GLA which removes calcium from soft tissues and it also activates osteocalcin, which holds calcium to bone. So, if you have a lot of calcium, you need vitamin K2 to direct it. Vitamins K2, especially MK-4, promotes bone formation by stimulating the differentiation of the osteoblast, regulating the mineralization of the extracellular matrix, upregulating the expression of the bone marker genes, and inhibiting the osteoclastogenesis. Vitamin K also regulates the transcription of osteoblastic markers, the formation of osteoclasts, and bone resorption. Calcium is absorbed by active transport (transcellularly) and by passive diffusion (paracellularly) across the intestinal mucosa. Active transport of calcium is dependent on the action of calcitriol and the intestinal vitamin D receptor (VDR).

BONE HEALTH

Vitamin D3 promotes calcium absorption and helps maintain calcium and phosphate levels necessary for mineralization of bones. It is also needed for bone growth and bone remodeling by osteoblasts and osteoclasts. Calcium is the major component of the bone and provides the skeleton strength and structure. Calcium carbonate is indicated for low serum calcium conditions, such as osteoporosis, osteomalacia, hypothyroidism, hypoparathyroidism and rheumatoid arthritis. Calcium carbonate gently cleans and whitens tooth enamel naturally. It is also said to aid in "re-mineralizing" or reversing the effects of tooth decay while supporting healthy bones and enamel. Together with calcium, Vitamin D3 also helps prevent osteoporosis in older individuals. Osteoblasts (cells that build up bone tissue) produce the vitamin K-dependent protein osteocalcin. This protein binds calcium to the bone matrix and builds healthy bones. Osteocalcin is a Vitamin K-dependent protein, which means it needs natural Vitamin K2 to function properly. Thus, long term Vitamin K-deficiency may lead to loss of calcium in the bone and reduced quality of bone.

HEART HEALTH

Vitamin D3 supplements appear to lower risk of death from ailments like cardiomyopathy, high blood pressure and heart attack in certain at - risk populations. Vitamin D3 modulates such risks via inhibition of the renin-angiotensin-aldosterone system and thus has an influence on the regulation of blood pressure. Calcium regulating hormones and renin–angiotensin system coordinately mediate blood pressure regulation via altering cellular concentrations of sodium and calcium ions. Vitamin D has antihypertrophic effects on cardiac cells that regulate calcium and myosin, decrease natriuretic peptide and also play an important role in different cardiac infections. Vitamin K2
(MK-7) prevents plaque in blood vessels is by interacting with other proteins.Calcium particles enter the heart muscle cells during each heartbeat and contribute to the electrical signal that coordinates the heart's function. Calcium particles also bind to machinery within the cell that helps the cell to squeeze together "contract" which makes the heart pump blood. Vitamin K may help keep blood pressure lower by preventing mineralization, where minerals build up in the arteries. This enables the heart to pump blood freely through the body. Vitamin K2 can block the progression of arterial thickening and stiffening, therefore, blood pressure.

BACK ACHE & BODY PAINS

Low Vitamin D levels are implicated in various chronic pain conditions. Research has shown that Vitamin D exerts anatomic, hormonal, neurological, and immunological influences on pain manifestation. Persistent pain is associated with Vitamin D-related bone demineralization, myopathy, and musculoskeletal pain. Vitamin D along with calcium has been proven to be a very good combination in maintaining spine health and reduce muscle spasms involving the back and legs. Vitamin D deficiency has been associated with headache, knee, and back pain, persistent musculoskeletal pain, costochondritic chest pain, and failed back syndrome and with fibromyalgia. Higher vitamin K intake correlated with reduced osteoarthritis knee pain and muscle cramps. Calcium and vitamin D deficiencies are associated with abnormal muscular functions including non-specific pain and weakness.

DENTAL HEALTH

Vitamin D3 helps maintain the calcium-phosphate balance and contributes to the shaping of the bone. It is reported that with sufficient vitamin D level, the onset and progression of caries in the tooth structure can be stopped, the formation of caries can be reduced and enamel loss can be prevented. Vitamin K2 is actually a type of protein that collaborates with vitamin D to transport calcium out of soft tissue and your bloodstream and into your teeth and bones. This process is called "mineralization," and it is essential for maintaining healthy teeth and bones. Thus calcium, Vitamin D3 and Vitamin K2 is a critical nutrient for oral and dental health. K2 helps keep the oral microbiome in balance, prevents cavities, and supports remineralization. In addition, Vitamin K2 may also have a protective effect against gum disease and prevent tooth decay.

BRAIN HEALTH

Vitamin D3 may improve brain function. The hippocarmpus and cerebellum, which are the parts of the brain in charge of planning, processing and forming new memories, contain receptors for Vitamin D3, which are important for their functioning. Vitamin K is as a cofactor for the enzyme gamma-glutamyl carboxylase, which is involve in the nervous system. It also normalize blood glucose, reduced anxiety and depression. However, Azheimer's disease (AD) is a progressive and degenerative problem in brain regions, chiefly campus, and neocortex responsible for mental functions that reduced neurotransmitter acetylcholine (ACh). Calcium ions are critically important in many functions of the
nervous system from neurotransmitter release to intracellular signal transduction.

IMMUNE HEALTH

Vitamin D3 has been defined as natural immune modulator, and upon activation of Vitamin D3 receptors (VDRs), it regulates Calcium metabolism, cellular growth, proliferation and apoptosis, and other immunological functions. The key functions of Vitamin D include the absorption of calcium as well as contributing to normal immune function. Calcium seems to play a central role in the activation of cells of the immune system. A calcium signal controls whether immune cells can use the nutrients needed to fuel their multiplication into a cellular army designed to fight invading viruses. Vitamin K act as a cofactor for some plasma proteins, thereby affecting immune and inflammatory responses particularly mediated by T cells. Studies have found links between vitamin K levels and diseases, including inflammatory diseases and cancer.

DIABETES MELLITUS

Vitamin D3 supplementation helps increase the body's sensitivity to the blood sugar-regulating hormone, insulin, thus reducing the risk of diabetes. It stimulates insulin secretion. This is via direct action on pancreatic beta cells and indirectly by normalizing calcium levels extracellularly. It is due to the presence of Vitamin D3 receptors (VDRs) on the pancreatic beta cells. Vitamin K is a fat-soluble vitamin that plays an important role in the regulation of the glycemic status. Supplementation of vitamin K may reduce the risk of diabetes mellitus and improve insulin sensitivity. Calcium is essential for insulin-mediated intracellular processes in insulin-responsive tissues such as skeletal muscle and adipose tissue with a very narrow range of needed for optimal insulin-mediated functions.

WEIGHT LOSS

The "American Journal of Clinical Nutrition" says that consuming Vitamin D3 can help lose abdominal fat and prevent weight gain. A high Vitamin D3 intake increases the leptin levels, a hormone that alerts the body to stop eating. However, High vitamin K2 intake may support reducing body weight, abdominal and visceral fat. vitamin K2 plays an essential role in regulating blood calcium levels. Calcium also suppresses appetite and lower hunger sensations. Calcium provides small increases in thermogenesis, the body's core temperature. This may boost metabolism, which can prompt our bodies to burn fat.

CANCERS

Vitamin K2, or menaquinones have received increasing attention in recent years for their impact on cancer. Vitamin K2 inhibits cancer cell growth and causes apoptosis in various cancer cell lines, and in some cancers, increases survival rate. It exhibit an antiproliferative action towards a variety of cancer cells including lung cancer, ovarian cancer and acute myeloid leukemia cells. Vitamin D3 may have this anti-cancerous effect by modulating anti proliferative and pro-differentiating ability of human cells expressing Vitamin D3 receptor (VDR). An adequate calcium intake daily may prevent the risk of certain cancers like colorectal cancer and breast cancer. Calcium is used as a second messenger in the lymphocyte to transcriptionally activate NFAT. The lymphocyte is then able to
release the calcium-dependent perforin, which disrupts the cancer cells' membranes, leading to cell death.

SKIN HEALTH

Vitamin K2 is found to be involved in tissue renewal and cell growth control. It reduces visible signs of skin aging, addresses dark circles under the eyes, helps in clearing of bruising, expedites wound healing and soothes inflammation. Vitamin D3 may activate macrophages that are involved in anti-inflammatory properties which can help treat skin conditions like dryness, acne, psoriasis and eczema. Deficiency of Calcium cause your skin will start to feel noticeably coarse and dry while also exhibiting symptoms of eczema or dermatitis and could also be prone to a number of dark spots as a result of increased pigmentation. Calcium ions (Ca2+) and their concentration gradient in the epidermis are essential in regulating many skin functions, including keratinocyte differentiation, skin barrier formation, and permeability barrier homeostasis.

HEARTBURN & AS AN ANTACID

As an antacid, calcium carbonate neutralizes gastric acid by acting as a buffer in the stomach's acidic environment. When CaCO3 enters the stomach, it dissociates into ionized calcium and a carbonate anion. The carbonate anion will then bind to the free protons (H+) found in the stomach to increase the pH by decreasing the concentration of hydrogen ions. By increasing the pH in the stomach, pepsin, bile acids, and the toxins of Helicobacter pylori become inhibited. As an antacid, calcium carbonate also increases gastrointestinal motility and initiates peristalsis. When the calcium carbonate is chewed and partially digested, the free calcium stimulates peristalsis in the esophagus to move the acid into the stomach and decrease heartburn symptoms.

DOSAGE:

One to two softgel(s) daily or as directed by a qualified healthcare practitioner.

PRECAUTIONS:

Protect from heat, light and moisture. Store at room temperature. Refrigeration is recommended in hot climates. Keep out of reach of children. Sealed for your protection. Do not use if the seal under the cap of the jar is missing or tempered. Shake jar before opening.

خوراک : ایک سے دو سافٹ جیلز روزانہ یا مستند معالج کی ہدایت کے مطابق استعمال کریں۔

احتیاط : دھوپ، نمی اور گرمی سے دور رکھیں اور کمرے کے درجہ حرارت پر محفوظ کریں۔ گرم موسم میں ریفریجریٹر میں محفوظ کرنا تجویز کیا جاتا ہے۔ بچوں کی پہنچ سے دور رکھیں۔ آپ کی حفاظت کے پیشِ نظر اس جار کو سیل کیا گیا ہے۔ اگر جار کی کیپ کے نیچے سیل موجود نہ ہو یا خراب ہو تو سپلیمنٹ استعمال نہ کریں۔ جار کو کھولنے سے پہلے ہلالیں۔

scotmann
Scotmann Pharmaceuticals
(H&OTC Division)
5-D, I-10/3 Industrial Area, Islamabad - Pakistan
www.scotmann.com

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"Nutraceutical - Not for treatment of any disease"
نیوٹراسیوٹیکل: کسی بیماری کے علاج کیلئے نہیں ہے

SRO 412 (1) / 2014 Enlisted Product