



Professional Education Series 2065/2005

Information contained in this bulletin is for informational and educational purposes only and is not intended as a substitute for advice from your physician. This information should not be used for diagnosis or treatment of any health problem. You should consult with a health care professional for treatment of any health issue.

Calcium Complex

Featuring Calcium Hydroxyapatite (HA)

Calcium is the most abundant mineral in the body, essential to life itself, with 99 percent found in bones and teeth.

The remaining one percent is responsible for strengthening cell membranes and is a cofactor in many enzyme reactions. Calcium supports the nervous system, hormone formations and proper blood clotting PLUS regulates cardiovascular physiology!

Research continues to point to calcium deficiency as the primary cause of osteoporosis, the demineralization of bones. Osteoporosis occurs mostly in postmenopausal women, causing approximately 200,000 deaths a year, more than claimed by cancer of the breast, cervix and uterus combined! This disfiguring, deadly condition referred to as "**brittle bones**" seems to be the result of a diet deficient over a period of years in calcium, compounded by a lower absorption of this essential element due to aging digestive organs.

Research studies indicate that this condition can begin very early in life and rapidly escalate with age and dietary changes. It has been reported in medical writings that **persons over the age of 40 may have a bone loss as high as 25% of stored bone calcium.**¹

Venthen-Paulson (1953) measured the di-

etary calcium of elderly people and found 74% of them ingesting less than 500 mg. of calcium per day had severe osteoporosis.²

A study by Borgdorff, Shock and Parson (1954) revealed that a normal elderly man achieved a positive calcium balance at a dietary intake of approximately 800 milligrams per day. The same study revealed that **osteoporotic patients needed as high as 1500 milligrams per day to achieve positive calcium balance.**³

In 1970 Baltimore et. al., and Alveoli, McDonald & Lee, (1967) revealed that subjects in their late seventies consumed 18% less calcium than subjects in their early seventies.⁴

Medical research has shown that the addition of calcium supplements to the diet can restore strength to the bones, *particularly when the calcium is balanced with minerals that enhance the absorption and utilization of this important element.*

Calcium supplements tend to lower blood levels of cholesterol and triglycerides.

It has also been established that people with diets higher in calcium tend to have lower blood pressure. More recent research indicates that **calcium also plays a role in preventing cancer by detoxifying potentially cancer-causing compounds in the bowel.**

Because calcium also supports the functioning of nerves and muscles, **early indications of calcium deficiency are muscle cramping and irritability.**

With the support of medical research, the market has been flooded with calcium supplements, many which fail to take into consideration calcium metabolism.

*After extensive research, we at New Spirit Naturals, Inc., feel our **High Grade Calcium Complex** provides supplementation designed for superior absorption, balanced with elements which insure utilization of calcium in a myriad of metabolic functions.*

Our **High Grade Calcium Complex** begins with a source of calcium respected as "the most absorbable calcium" available:

Calcium Hydroxyapatite
Calcium Hydroxyapatite (HA) (1200 mg.), is a light tan freeze-dried (cold processed) source of concentrated calcium obtained from New Zealand. This special calcium contains a 2:1 ratio of calcium to phosphorus. It also contains trace minerals, matrix proteins and glycosaminoglycans. Hydroxyapatite supplies calcium in the form it occurs in the body. As such, it can be absorbed rapidly.

A study entitled "*Treatment of Cortical Bone Therapy in PBC*" (Epstein et. al.) outlined a study in which a control group was compared to a group receiving hydroxyapatite (HA) and with a group receiving calcium gluconate (CG) over a period of 14 months.⁵

Over the 14 month period there was a significant loss of cortical bone in the control group and a significant increase in cortical bone thickness in the HA group. When compared to control group, patients receiving HA had a net cortical bone gain of 11.6%. The CG group showed only a net gain of 7%.⁶

The difference between 7% and 11.6%

represents a gain of over 60%. **Why is HA more readily absorbed than soluble alternatives?** The study suggests that it is the result of at least three factors:

- (1) Calcium absorption is enhanced in the presence of protein.
- (2) Calcium absorption is enhanced by an organic matrix.
- (3) The microcrystalline structure of HA

gives a large surface area from which the minerals may be released from the organic matrix in the intestine.

Further, calcium balance studies in patients with osteogenesis imperfecta indicate that HA produces more prolonged positive calcium balance than other soluble calcium salts.⁷

IT TAKES MORE THAN CALCIUM

Additional studies indicate that vitamins and minerals can help increase calcium absorption. As such, we have added **magnesium, zinc, manganese, silica, boron, chondroitin sulfate complex, GTF chromium and vitamins C & D.**

Magnesium (chelated to hydrolyzed rice protein) (600 MG). Enhances calcium absorption and proper deposit. Works with calcium in supporting the nervous system, relaxing muscles and calming nerves.

Zinc (10 mg). An important trace mineral, effecting numerous functions, including digestion and the proper functioning of reproductive organs. An increased calcium intake can effect the metabolism of zinc. Hence, whenever calcium consumption is increased, zinc should be augmented in the diet as well.

Manganese (5 mg). A trace mineral that plays an important role in activating numerous enzymes. An increase in calcium increases the need for manganese.

Silica (25 mg). Recent studies show more and faster bone growth in the presence of silica.

Boron (3 mg). Supplements with boron have been shown to reduce the urinary excretion of calcium and magnesium. Boron assists in synthesizing and raising the level of estrogen and testosterone in older women, thereby playing a major role in preventing bone loss.

Vitamin C (200 mg.). A high percentage of bone matrix is made with collagen, which depends heavily on Vitamin C. The production of collagen is one of the major functions of Vitamin C. (NOTE: Available Vitamin C is drastically reduced by smoking. This could be one of the reasons that smokers are more susceptible to osteoporosis.)

Vitamin D (400 IU). Aids in the absorption of calcium from the intestinal tract and the breakdown and assimilation of phosphorus, which is required for bone formation.

Chondroitin Sulfate Complex (400 mg). Allows minerals to absorb better into the bone structure.

GTF Chromium (50 mcg). An important mineral that has received little recognition to date. Chromium assists in the metabolism of fats, including cholesterol. Chromium

is a cofactor for insulin which seems to increase the efficiency of the hormone. As such, it improves glucose tolerance, which leads to more energy and stamina. Recent studies indicate that a high percentage of the population is deficient in this important mineral.

AN EFFECTIVE DELIVERY SYSTEM

After studying different delivery systems, it was determined that using a gelatin capsule with powdered calcium was a better form of delivery than a compacted tablet. With the gelatin capsule, rapid release can occur, enhancing the absorption. Most calcium products are sold in tablet form. Some reports show that these hard packed tablets may pass through the entire digestive system without being dissolved completely. In addition, most tablets contain fillers and binders which may also slow the absorption rate.

New Spirit Naturals' **High Grade Calcium Complex** provides a new approach to an old problem: **calcium bio-availability**. *Each capsule is preservative free and contains NO binders, NO filler or excipients, NO sugar, NO starch, NO artificial coloring, NO yeast, NO wheat, NO soy.*

Recommended Usage: As a dietary supplement, take 1 to 6 capsules per day.

References

- ¹ "The Effects of Whole-Bone Extract on Calcium Absorption in the Elderly." Age and Aging (1973) A.C.M. Windson, D.P.O. Misra, J.M. Loudon and G.E. Stoddard Department of Geriatric Medicine, Bristol General Hospital.
- ² Ibid.
- ³ Ibid.
- ⁴ Ibid.
- ⁵ "Treatment of Cortical Bone Therapy in PBC", Epstein et. al.
- ⁶ Ibid.
- ⁷ Ibid.