



IMAGE AWARENESS WELLNESS INSTITUTE

Osteoporosis and Bone Health

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LUCILLE'S STORY

On a wet morning in 1969 my mother was on her way to do a clothing party at the home of a customer. The back door of her car swung open and she got out of the car to close the door. In the process of doing this she slipped ever so gently, but she hurt her arm. Through the course of the day the arm hurt more and more. That evening she asked my father to take her to the hospital to have the arm X-rayed. After examining the X-ray the doctor came out and with a chuckle said, "You broke your arm like a little old lady." She was 43 at the time.

The doctor's message alarmed my mother because she had seen her grandmother die from complications from a broken hip. My mother had been selling clothes that day in the home of a woman named Lillian who was a GNLD distributor. Lillian had tried to interest her in the food supplements she was selling, but my mother turned a deaf ear to her. After learning of the broken bones, however, my mother decided she had better try some of the supplements. Don Pickett used to always say, "Aching bones have listening ears."

Lucille signed up with the company so she could get the products for wholesale and began dosing herself liberally with the food based supplements. The bone healed in half the time the doctor expected

and the doctor asked if she could get some of the supplements for himself and his nurse. This eventually resulted in a change of career for Lucille. She would spend the rest of her selling career sharing the wonderful GNLD supplements with everyone she came in contact with.

This newsletter will discuss some of the many nutritional deficiencies which result in weak bones.

WEAK BONES

One of the most haunting images I have ever seen is a photograph showing the skull of pre-Columbian Indians in Florida alongside a modern skull. One would not even know that the two skulls came from the same species. The thickness of the skulls of the Indians, even after hundreds

of years, are easily two or three times as thick as the skull of modern man.

The bones of most modern men are weak and seriously demineralized. This is reflected in an epidemic of tooth decay in the young and broken bones and osteoporosis in older individuals. I have seen younger and younger individuals diagnosed with osteoporosis during the several decades I have worked with nutrition. The problem is becoming more common, more serious, and impacting the lives of ever younger people.

REFERENCE

Price, Weston, *Nutrition and Physical Degeneration*, Santa Monica, CA.: Price Pottenger Nutrition Foundation, 1975, 99.

PERSIANS AND EGYPTIANS

One of the reasons the native peoples of the New World had denser and heavier bones was because they maintained higher tissue levels of vitamin D due to the fact that they wore little clothing and spent a good deal of their time outdoors.

Cambyes II was the son of Cyrus the Great. He was not a gifted general and engaged in several ill-conceived adventures. In one of these he sent out an army of 50,000 men deep into the Egyptian desert. That army mysteriously disappeared and Herodotus tells us that the troops were resting one morning in the desert sand when a strong and deadly wind arose from the south. Vast columns of whirling sand asphyxiated and bur-





ied men and animals alike as they huddled together.

Cambyses did have one military success at the battle of Pelusium in 525 B.C. at which time he conquered the nation of Egypt and became its ruler. Years ago I read a description of the battlefield by the Greek historian Herodotus, who

is known as the father of history.

Herodotus made special note of the difference between the skulls of the Egyptians and those of the Persians. The skulls of the Persians were so thin and fragile that they could be broken by a small pebble. By contrast, the Egyptian skulls required several strikes from a large stone before they would crack.

Herodotus asked an Egyptian for an explanation for this dramatic difference. The Egyptian observed that the Persians wrapped turbans around their heads to shield themselves from the sun, while the Egyptians lived bareheaded from youth. The Persians developed weaker bones because they hid themselves from the sun.

Bailey, 149

VITAMIN D

Vitamin D is undoubtedly one of the most important nutrients for developing healthy bones and teeth.

Vitamin D deficiency is a known risk factor for weak bones and osteoporosis. Mineralization of bone cannot take place without it.

Bone is not a static tissue as is commonly thought. Every year 20-40% of the skeleton is renewed. The renewal of bone tends to slow with age or with poor nutrition.

It is estimated that a person

with low vitamin D intake will absorb only one third to one half the calcium into the bone of someone with adequate vitamin D status.

I consider lack of adequate exposure to sunlight and vitamin D deficiency to be one of the major contributors to the epidemic of osteoporosis in the United States. People have moved from the largely outdoor life of our ancestors to one spent working indoors and engaging in indoor entertainments.

Dr. Susan Brown notes that up to 80% of all hip fracture patients exhibit vitamin D deficiency. She finds that in general the more adequate the state of vitamin D nutrition the less the bone loss in the elderly. Excess vitamin D can be toxic at levels over 2,000 IU.

REFERENCE:

Holick, Michael, *The UV Advantage*, iBooks, 2003, p. 81-82.

Brown, Susan, *Better Bones, Better Body*, New Canaan, CT: Keats Publishing, 1996, 98-99.

COD LIVER OIL

Vitamin D is not widely available in foods. The best natural sources are eggs, fortified milk, butter and Cod Liver Oil. The fear of fat and abandonment of butter and eggs in the diet has contributed to a weakening of the bones of many people today.

As a child my mother fed me Cod Liver Oil on a regular basis. Most of the mothers of my generation did this. Sadly, children rarely receive this supplement today in spite of the fact that Cod Liver Oil is a powerhouse of nutrients including vitamin D, vitamin A, and omega-3 fatty acids.

Vitamin A is an important nutrient for healthy bones. It plays a role in the development of osteoblasts, the cells which build new bone. Deficiency of vitamin A limits calcium metabolism and slows bone growth.

Omega-3 fatty acids are also crucial for bone development. A surprising benefit of the fish oils according to

Bruce Watkins is their ability to stimulate bone building. The membrane that covers the long bones (called the periosteum) is rich in nerve tissue which controls the growth of the protein matrix on which the body deposits minerals to build bone tissue. Deficiency of omega-3 oils may damage this structure which Watkins calls the "brain of the bone."

Thus Cod Liver Oil contains three key nutrients which play a key role in building and maintaining healthy bone.

CAL-MAG

Calcium and magnesium are also important for bone health. GNLD produces a chelated calcium magnesium with or without vitamin D. I usually recommend the calcium product with vitamin D if an individual rarely gets outdoors.

I think it is very important that magnesium accompany calcium for a number of reasons. Magnesium is necessary for the absorption and proper metabolism of calcium. Magnesium also regulates the thyroid gland production of calcitonin, a hormone which is involved in preserving bone.

Magnesium is absolutely essential for the conversion of vitamin D to its active form. Magnesium deficiency results in a specific syndrome identified as "vitamin D resistance."

The enzyme required for for-





mation of new calcium crystals also requires magnesium for its activation. Even mild magnesium deficiency is associated with increased risk for developing osteoporosis. Both magnesium intake and red blood cell magnesium have been shown to be low among women who develop osteoporosis.

Magnesium supplementation has also been shown to effectively increase bone mass. A study of magnesium supplementation in Israel found that two-thirds of the women who supplemented with 250-750 mgs of magnesium for two years had a bone increase of 1-8%. A control group not receiving the magnesium lost 1-3% of their bone. Magnesium is particularly effective in building bone in post-menopausal women.

Calcium and magnesium actually work together. Supplementing with calcium without including magnesium will increase the rate at which the body loses magnesium and can actually lead to a magnesium deficiency.

Supplementing with calcium without magnesium can lead to deposition of calcium into soft tissues rather than in bone. Supplementing with large amounts of calcium apart from magnesium may also overstimulate the cells that build bone resulting in their premature death. Unfortunately, physicians often recommend very large amounts of calcium for osteoporosis without ever mentioning magnesium to their patients.

REFERENCES:

Brown, Susan, *Better Bones, Better Body*, New Canaan, CT: Keats Publishing, 1996, 103, 85-87.

Underwood, Anne, "Living Longer, Living Better," *Newsweek*, January 18, 2006, 52-69.

BONE BUILDING DRUGS

Dr. John Lee was always quick to point out to women that medications like Fosamax (alendronate) and similar drugs (which end in "dronate") block bone resorption.

To understand the significance of this one must understand that bone repair and maintenance is a two step process. Firstly, old damaged or weak bone must be removed or resorbed. Secondly, new bone is created to replace the bone which has been removed.

Bone building drugs stop bone loss by interfering with the bone resorption process. Obviously, bones get thicker, but the bones are weaker. The body retains old, weak, brittle one at the expense of building new, stronger bone.

Dr. Lee observed that all studies on Fosamax stopped around 3 to 4 years, just when the fracture rates began to increase.

Dr. Lee also emphasized that Fosamax caused digestive problems with surprising frequency among women who used the drug. Problems were far more common than reported in clinical trials used to approve the drug. In one study 46 percent of women taking Fosamax had to quit within 10 months due to ulcers, nausea, abdominal pain and heartburn.

I once read an account of a woman who was on one of these "bone building" drugs. The woman suffered a broken bone when the car she was in hit a bump. The broken bone would not heal until she was removed from the medication.

The use of drugs to build bone is nothing more than a delusion if the bone becomes weaker over time. Sound nutrition offers more promise over the long

term than many medications.

REFERENCE:

Oh No, Not Another Cousin of Fosamax! in *The John R. Lee, M.D., Medical Letter*, December 1998, p. 4.

VITAMIN C

Bone matrix is laid down over a protein matrix called collagen. Bone is actually about 30 percent connective tissue and collagen is a major building block of this connective tissue. Vitamin C also stimulates the cells that build bone, improves calcium absorption, and improves the function of vitamin D in building bone.

The half life of vitamin C in the blood is only about 30 minutes. For this reason I usually recommend GN-LD's Super C. This is a continuous release form which helps to maintain a high tissue level of the nutrient.

It is difficult to overemphasize the importance of the nutrients I have mentioned for bone health. Magnesium, vitamin D, and vitamin C are among the most frequently deficient nutrients in the American diet.

REFERENCE:

Brown, Susan, *Better Bones, Better Body*, New Canaan, CT: Keats Publishing, 1996, 101-102.

BETAGEST

I would be remiss if I failed to mention one other factor which is often involved in bone loss as we age. Minerals are poorly absorbed if one is deficient in stomach acid. Since the production of hydrochloric acid declines dramatically in many





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individuals as they age, stomach acid support can be very important for the maintenance of mineral absorption and healthy bone.

Sadly, many older people are on antacids. In addition, some doctors recommend antacids as a source of calcium. Antacids have a very rapid dissolution because they are designed to quickly disperse and neutralize the stomach acid. Unfortunately, the calcium in antacids is poorly absorbed—the stomach acid is important for mineral absorption.

In addition, many antacids contain aluminum which speeds bone breakdown and slows formation of new bone. The average intake of aluminum is 2-20 mg a day, but one antacid tablet may have 200 mg.

GNLD's Betagest is a concentrate of beet stems and beet roots which contains a natural hydrochloric acid. The supplement has a targeted delivery so that it releases in the stomach where acid support is often very helpful in supporting mineral absorption and protein digestion.

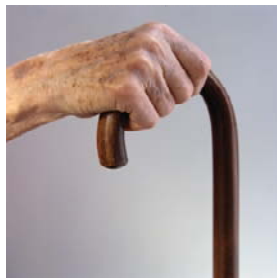
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Gaby, Alan, "Aluminum: The Ubiquitous Poison," *Nutrition & Healing*, Vol. 4, Issue 10, October 1997, pp. 3-4.

OSTEOPOROSIS

Osteoporosis and osteopenia are major health problems in the civilized world according to the Surgeon General of the United States. In the United States there are 1.5 million fractures from osteoporosis every year and 500,000 hospitalizations. There are 800,000 emergency room visits and 2.6 million doctor's office visits which result from osteoporosis. Each year 180,000 people are placed in nursing homes as a consequence of poor bone health. Broken bones cost over 18 billion dollars a year.

When an elderly person breaks a hip the likelihood of death within three months increases four-fold. One out of five people with a hip fracture are in a nursing home within a year. I have visited a number of people in these facilities and it greatly increases one's desire to take care of oneself. Nursing homes are no fun!



Many others become isolated, depressed, or frightened to leave home.

REFERENCE:

<http://www.surgeongeneral.gov/library/bone-health/docs/Osteo10sep04.pdf>

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