

**On Nutrition: by Helayne Waldman, Ed.D., N.E.**

# Keeping your Bones Alive and Well

In the past 20 years, Americans are gulping down milk and calcium pills like never before, yet the rate of osteoporosis, a disabling bone disease, has been rising. While more than 10 million women in the U.S. have a confirmed diagnosis, an additional 34 million have a “pre-osteoporosis” condition known as osteopenia. What’s going on here? Here are a few thoughts, and a few suggestions.

## Boning up

Bone tissue consists, in large part, of intercellular substance called “bone matrix,” consisting mainly of calcium and phosphorous which give the bone its hardness, plus organic collagen fibers which give it flexibility and strength. Specialized cells known as osteoclasts break down tired, worn out bone while osteoblast cells actually build new bone tissue, in what could be thought of as a perpetual remodeling project. The main goal in preventing osteoporosis is to minimize bone loss by modulating the activity of the osteoclasts, while supporting robust osteoblast, or bone-building, activity. To a large extent, this dance is hormonally controlled – so at midlife it becomes more of a challenge to keep the remodeling process running smoothly.

## Are you on Acid?

It’s imperative to address bone loss at the source. And a primary source of bone loss is the hyper-acidity and demineralization that overcomes virtually all of us as we reach our 40’s and 50’s. In fact



life in the 21<sup>st</sup> Century is clearly as potent an acid trip as anyone ever took in the 20<sup>th</sup>. Consider the fact that white flour, sugar, stress, and environmental pollutants are all confirmed acidifiers. Now add the calcium-neutralizing mineral phosphorous that all soda drinkers and processed-food eaters consume in copious amounts, and it’s easy to see why the bloodstream must continually steal calcium from the bones in a desperate effort to maintain the proper acid/alkaline balance. Bottom line: stay away from processed foods, while eating plenty of nutrient-rich, alkalizing foods such as vegetables, nuts, seeds, whole grains and figs. If you choose only change to your diet make it this: just say “NO!” to soda.

## Calcium is not enough

Calcium alone will not maintain bone health or restore lost bone. In addition to a calcium-rich diet, our bodies need a hefty dose of magnesium each day, which aids calcium absorption and helps carry out a myriad of other metabolic tasks. Magnesium is abundant in whole grains, seeds, nuts, and dark green vegetables, although our needs for it are so vast, you may

want to consider taking it in supplement form as well.

The importance of Vitamin D or cholcalciferol in enhancing calcium absorption cannot be overlooked either. Since our best source of this hormone-like vitamin is the UV-B rays of the sun itself, many of us are deficient in the winter months and must supplement to keep our levels in the healthy range. The best food sources of Vitamin D are cod liver oil, salmon oil, and other cold water fish and their oils.

Vitamin K, championed in Japan as a conventional treatment for osteoporosis, is also fundamental. Several studies have indicated that both women and men with osteoporosis have much lower levels of Vitamin K, and Vitamin K has demonstrated the ability to significantly reduce the risk of hip fracture. The best sources of Vitamin K are dark, leafy green vegetables such as kale, collards, chard, and dandelion greens, and natto, a type of fermented soybean found in Asian food markets.

Other critical minerals you may have not heard as much about but are equally essential include zinc, silicon and boron, which all play a role in promoting bone health and facilitating collagen formation. So if you choose to take a supplement for bone health, don’t skimp. Get a supplement that includes the full complement of bone building nutrients in therapeutic amounts. A nutritionist or nutrition-oriented physician will be able to help you choose what’s best for you.

## **You are what you assimilate**

The purest, most potent of nutrients won't do you any good if you're not able to absorb them. Certain forms of calcium have a reputation for being highly absorbable, while other forms will just pass on through to the other side. Dr. Susan Brown, director of the Osteoporosis Education Project recommends calcium citrate, and warns against calcium carbonate, dolomite, bone meal and oyster shell, which are prone to heavy metal contamination.

Since calcium, vitamin D, and vitamin K all need fat to facilitate their absorption, it's essential to consume healthy sources of fat along with your bone building nutrients. Think nuts, seeds, olive oil, avocado, yogurt and wild salmon or halibut. Skim milk (0%

fat) on its own is not going to provide you with highly absorbable, bone-building nutrients so parents take note --- *children should never drink skim milk alone as their main source of calcium.*

One more thing: as we age, most of us produce less and less hydrochloric acid (HCl), which helps to break down calcium in the stomach. Look for a supplement that contains betaine hydrochloride in it, or consider taking digestive enzymes on a regular basis to ensure assimilation.

## **Use it or lose it**

Exercise rounds out the picture here in creating a hedge against osteoporosis. "I think exercise is the single most important thing

that people can do for themselves, and specifically, loadbearing exercise," says Dr. Gregory Mundy, professor of Bone and Mineral Metabolism at the University of Texas.

The key, of course, is to listen to both Dr. Mundy and your nutritionist – exercising good choices both at the table and at the gym.

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