

Preventing Osteoporosis and Restoring Bone Health

KEY WORDS

osteoarthritis, osteoporosis, osteopenia, natto, natto K, vitamin K, vitamin D3, vitamin D, bones, silica, calcium, magnesium, strontium, boron, fructoborate, osteoclasts, osteoblasts, fracture, bone density

Most of the time when we think of osteoporosis, we only think it applies to the elderly. It doesn't.

Unfortunately, it's easy to forget that bones are *living* tissue. Bone structure is being renewed all the time, like an around-the-clock remodeling project. All of this happens without us ever being aware of it – until something goes wrong.

Most American adults have *no* idea of the impact osteoporosis has on health, disability and premature death. In a small in-depth study reported in the *Journal of Rheumatology* in 2005, researchers interviewed older adults to "take the pulse" of public knowledge regarding osteoporosis and its seriousness.

As the researchers conducted interviews, they discovered that while respondents had heard of the term "osteoporosis," many had a very limited view of what it was, though they were concerned about the cost, side effects, and interactions of prescription drugs for osteoarthritis. In fact, prescription drugs for osteoarthritis can have some horrendous side effects. As we see in health headlines all the time, in some cases, they can actually *increase* fracture risk!

Never wait to take care of your bones. You don't want to put off prevention of osteoporosis until it's too late. Bones need your support every day of your life, starting from birth. However, regardless of your level of bone health (or lack of same) there are nutrients you can use to improve your bone strength. In today's *Terry Talks Nutrition*, we will report some amazing bone-building supplements that can make a real difference in your life.

It's Never Too Early to Build Bone Strength

Normally, specialized cells called "osteoblasts" *add* fresh minerals (primarily calcium, but others, too) to bone and "osteoclasts" *remove* older bone tissue by breaking down the minerals and reabsorbing them into the bloodstream. The two processes are crucial for health and intricately interlinked. But they must be supported with the right nutrients, and this is where we usually fall short.

The beginnings of bone destruction are usually not painful, so a large percentage of the damage is already done before it is detected. Bone health is like a bank account. The more you deposit early in

life, the more you will have to draw from throughout your lifetime. If the withdrawals in our bone account outpace the deposits, we will have less reserve to help our bones survive in later decades.

Food Choices Can Harm Bones

Lifestyle has a tremendous impact on bone health. To begin with, the body must maintain a balance between acidity and alkalinity of the blood. If the blood is too acid, the body releases alkaline minerals from the bone to compensate. What we eat makes a big difference. Foods that are more alkaline-forming (like green leafy vegetables amongst others) protect against excessive acidity of the blood, which in turn protects the minerals in your skeleton. Just because a food is acidic doesn't mean it is acid forming. Some of the biggest offenders are:

- Sugar
- Processed meat
- Soft drinks
- Grains, like bread and pasta

Avoid these foods to keep your bones healthy, as all of these food choices tend to pull calcium from soft tissue and bones.

For the body to maintain a healthy alkaline nature, it uses **calcium** to buffer against excessive acidity. And that simple activity is one of the most common major factors in the development of osteoporosis. Even though milk has been fortified with calcium and vitamin D, most people don't drink enough of it (many people simply don't like the taste, have health issues with dairy, or have a problem with lactose) to make a difference.

Natural Supplement Ingredients Preserve Bone Health

Let's look at the best ingredients to build a foundation for bone health. While you definitely need a blend of calcium and magnesium, you don't necessarily need 'mega-doses' of these minerals.

I have found that high levels of calcium are not necessary or productive. It's more important to have a *moderate* intake of calcium and magnesium with other nutritional factors that increase bioavailability and absorption. Supplements that contain just calcium, magnesium and vitamin D are dramatically lacking several very critical nutrients that the body requires to increase bone density and health. Supplements that contain just calcium alone are in fact *dangerous* for your heart health.

I recommend a combination of calcium, magnesium, vitamin D-3, K-1 and K-2, silicon, boron, zinc, copper and manganese complimented with a probiotic (the "good bacteria" that helps us absorb nutrients) such as *Bacillus coagulans* which provides excellent support for bone health and increased bone density. We'll take a closer look at just a few of them.

To your good health,
Terry... Naturally




Quality of Calcium is Crucial – Not Quantity

Calcium and magnesium should be in an excellent ratio of approximately 2:1. I personally find calcium citrate and calcium malate to be the most easily absorbable forms of calcium. Remember, **quantity is not as important as the quality**. For example, only 10% of calcium carbonate can be absorbed while 40% of calcium citrate is absorbable. Also, the quantity of calcium can be substantially lowered when it is combined with many of the accessory nutrients that help provide better calcium absorption. I like to recommend a moderate level of calcium in the 400-600 mg range per day instead of the excessive 1,000-1,500 mg as advised by some nutritionists. Too high a calcium intake can suppress the essential vitamin D circulating in our bloodstream. Vitamin D is crucial in maintaining healthy bones, (and cellular health overall), so by overdoing it with *too much* calcium, you may actually undermine the natural process of bone building in the body.

Vitamin D-3 Significantly Improves Bone Density

I think it's great that vitamin D is finally getting the credit it deserves for helping protect the immune system, and to prevent cancer and Alzheimer's, but it is perhaps best known for building bone density.

Again, it's never too early to start boosting your vitamin D intake. As it is with so many other nutrients, it's common for older individuals to be deficient in vitamin D. For example, a recent study examined serum vitamin D levels in postmenopausal women. As it turned out, 53% percent of the women were *deficient* in vitamin D, and only 17% had sufficient blood levels of the nutrient. Joint pain and joint swelling were reported, (74% and 34%, respectively). Typically, those with the lowest levels of vitamin D showed a higher average joint pain score.

More...

When in doubt, always consult your physician or health care practitioner. This column is to provide you with information to maintain your health.

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In other findings, researchers in Romania who provided bread fortified with vitamin D and calcium on a daily basis to elderly nursing home patients reported a 28% increase in lumbar bone mineral density which far surpasses the 8% increase in bone mass density typically achieved with bone building drugs. We now know that higher levels of vitamin D in our diet have a greater potential for better health and longevity and a big part of that is increased bone density.

Vitamin K-2 from Natto

This vitamin is the optimal bone health supplement. This natural vitamin K-2, also called menaquinone, is extracted from the Japanese fermented food, natto. This unique form of vitamin K has special properties beyond that of traditional vitamin K. This very effective vitamin is essential for the body to utilize calcium to build healthy bone tissue. It activates osteocalcin, a protein required to bind calcium to the mineral matrix thus strengthening the bones. K-2 also helps the body prevent arterial calcification, actually lowering the risk of vascular damage. In other words, it helps calcium absorb into the bones and out of the arteries. Therefore, it is not only an incredible bone supplement, it is a great heart health supplement as well!

Fructoborate

Boron keeps bone and joint building activity proceeding normally. However, boron supplementation isn't always very beneficial, because boron isn't selective about molecular attachment in the body. This means it is not specific in targeting tissues. Boron in plants is naturally combined with other stable compounds that help boron absorb to the tissues that need it most. Boron carbohydrate complexes like fructoborate are such a combination.

Fructoborate has been clinically shown to reduce joint pain in 79% of volunteers suffering from mild to moderate osteoarthritis. This amazing boron complex also reduced joint pain, stiffness and inflexibility in 59% of volunteers with severe osteoarthritis in just 8 weeks.

Plus, fructoborate helps the body absorb vitamin D much better as well. In fact, in a pilot study with volunteers with vitamin D deficiency, fructoborate raised the serum vitamin D level by an average of 24% in just 60 days.

Terry recommends a product with these ingredients.

Vitamin D-3 (Cholecalciferol) 4,000 IU, Vitamin K-1 (as phytonadione) 300 mcg, Calcium (as citrate and malate) 450 mg, Magnesium (as chelate) 200 mg, Zinc (as chelate) 20 mg, Copper (as chelate) 2 mg, Manganese (as chelate) 2 mg, Boron (Fructoborate) 12.5 mg, Vitamin K-2 45 mcg, Lactobacillus sporogenes (*bacillus coagulans*, lactic acid bacteria) 1 billion, Silicon (as sodium metasilicate) 50 mg.

Strontium: A Critical Element for Strong Bones

Strontium isn't generally well known as a supplement ingredient, but it should be. This trace element can have a tremendous effect in positively changing bone health and bone density. In fact, it can fight and possibly even reverse osteoporosis.

Strontium citrate, (not to be confused with strontium 90, the toxic radioactive form), has been safely used as a medicinal substance for over 100 years. As late as 1955, strontium compounds were still listed in the dispensary of the United States of America and were used therapeutically here and in Europe.

Mayo Clinic researchers noted clinical and x-ray improvement in severe osteoporosis with strontium lactate. Researchers reported significant microscopic improvement in bone with the use of strontium carbonate. My good friend, Dr. Jonathan Wright, observed significant improvement in the bone density of his patients who used strontium citrate, which of the several forms available, is the most easily absorbed by the body.

In 2004, the results of a three year randomized, double-blind placebo controlled study using 2 grams of strontium daily were published in the *New England Journal of Medicine*, and were impressive: women suffering from osteoporosis experienced a 41% reduction in risk of a vertebral fracture compared to the placebo group. Overall vertebrae (bones that make up the spinal column) density in the strontium group increased 6.8% but there was a 1.3% decrease in the placebo group.

Strontium citrate is very safe and non-toxic. The women in the studies using 2 grams of strontium per day experienced no significant side effects. I'd say that the only concern when using strontium is that it should be taken separated by at least two hours from your calcium supplement. Strontium and calcium fight for the same pathway in the body, and strontium will always win. Nonetheless, be sure to take your supplement that contains calcium, too. As for strontium citrate dosage, I would suggest taking 680 mg once daily.

Terry recommends this product.

Strontium (citrate) 680 mg

Silica – Much More Valuable Than We Think

Silica is known for healthy skin, shiny hair, and beautiful nails – but it is also a critical trace mineral that has an impact on bone health and bone density as well. That is because all these systems depend upon collagen for strength, and silica is a powerful part of collagen generation. Silica also improves calcium absorption into the bones by 50%.

We don't give silica the credit it deserves. There would be no life without silica. It helps provide the structure of our bodies and helps other minerals absorb properly. No silica would mean no skin, no bones, no nails, no form – in other words, no YOU.

According to research conducted at Columbia University, silica is an essential nutrient and must be supplied continuously from food sources. Silica plays an important role in a multitude of body functions and has a direct relationship to calcium and mineral absorption.

The silica I recommend is an organic ingredient obtained from the above-ground parts of the spring horsetail (*Equisetum arvense*) plant. In a special process, the silica in the plant is extracted still attached to the plant bioflavonoids that support its activity in the body. At the same time, all the harsh and potentially harmful substances are screened out using this gentle process. This unique botanical silica is then blended with a specific marine oil to enhance absorption, beneficial effects, and cell membrane penetration of the active compounds. This form of silica is extremely soluble and virtually 100% bioavailable for the body.

Organic silica also has positive effects on the formation of collagen, too, which is a major component of living bone tissue. That's why silica – provided in the right form – is so valuable for stabilizing osteoporosis and osteopenia, and helping with other bone health issues as well.

Terry recommends a product with these ingredients.

Organic Silica from Horsetail (*Equisetum arvense*) Extract, flavonoids and trace minerals (from the sea) bound to marine lipids, 20 mg.

You can have healthy, strong bones throughout your life, but it depends on the choices you make right now. First, focus on a diet of natural foods – not processed – rich in proteins, fresh fruits and vegetables, complex carbohydrates (and of those, only a small fraction of your daily intake), and eliminate sugars, sodas, or other acidic foods. This can do a lot to strengthen your bones.

Secondly – the earlier the better – maintain a healthy calcium and magnesium level with accessory bone health nutrients found in formula #1. If you have been diagnosed with osteoporosis, I would recommend formula #1 and formula #2, strontium citrate. Organic silica can be added to either regimen to increase bone density and bone health to optimal levels.

It's never too early to build healthy bones – but it's never too late, either. Start with your diet and the appropriate formulas today, and you'll have the nutrients to keep your bones strong... for life. **TNT**