

Osteoporosis

The Mis-Information Disease

Many people are taught to think of osteoporosis as a calcium deficiency disease. Nothing could be further from the truth. The United States has one of the highest rates of osteoporosis in the world, yet is one of the highest consumers of dairy products, which are noted for their high calcium content. It is not that Americans are not getting enough calcium; the problem is that they are not getting enough of the right kind of calcium.

By consuming high amounts of pasteurized dairy products, Americans are losing more calcium than they ingest – ending up with a "negative calcium balance". Because of this, osteoporosis kills more women every year than cancer of the breast, cervix and uterus combined. A stunning 25 million people in this country have been diagnosed with osteoporosis (with many others undiagnosed).

When bones lose density, they are called "porous", thus the name, osteoporosis, meaning "porous bones." When bone mass is lost, the bones are weakened and become more susceptible to fracture. Americans suffer more than 1.5 million fractures every year from osteoporosis. It is a widespread disease, affecting both men and women, with potentially devastating consequences. Approximately 25% will never walk again unassisted; 25% will end up in nursing homes and 25% will die within three months of conditions related to the fracture. Like most other chronic, degenerative diseases, osteoporosis is extremely rare among cultures that eat traditional plant-based diets.

The human body replaces about 20% of its bone mass every year, but with osteoporosis, more bone is lost than is replaced. What accounts for this? If you eat a diet that is high in calcium-leaching foods, such as red meat, pasteurized milk, refined sugar, highly heated salt, inorganic phosphorous and caffeine, as well as a diet low in fresh fruits and vegetables, and don't get enough exercise, it's a sure recipe for osteoporosis. The following are a few key factors that can cause bone loss.

1. **Red meat** is a high protein product. Animal protein is metabolized by the body to form two strong acids, sulfuric and phosphoric. To keep the blood pH slightly alkaline, the body needs to neutralize (buffer) these acids; calcium is the best substance the body has to do this. And the most plentiful source of calcium is, you guessed it, the bones. Animal protein also contains large amounts of phosphorous, which reacts with calcium to form an insoluble compound, which inhibits calcium absorption. If you eat a diet high in animal protein, consuming large amounts of calcium can rarely compensate – bone mass will still be lost.

2. **Pasteurized Milk.** Consuming pasteurized milk is another key factor in bone loss. Americans are one of the highest consumers of pasteurized milk in the world. If pasteurized milk were really good for bone integrity, Americans would have some of the strongest bones in the world, yet we have some of the weakest! For the same reasons as meat (high protein), the calcium in pasteurized dairy products causes a negative calcium balance; more calcium is lost than is gained. Additionally, the enzymes have all been killed in pasteurized milk, which act as needed co-factors to adequately absorb the milk's nutrients. Milk is also low in magnesium, a needed co-factor for calcium uptake. To improve your chances of *getting* osteoporosis, drinking plenty of pasteurized milk will speed you on your way!

3. White Sugar. Another contributor to osteoporosis is refined white sugar. Refined sugar is absorbed quickly and rapidly increases the glucose levels in the cells. These levels increase faster than the cell's oxygen level, which causes incomplete oxidation of the glucose, forming acids. These acids act to acidify the body, requiring buffering with calcium which leads to bone loss. Just like pasteurized milk, refined sugar strips the body's stores of magnesium, which is needed for bone re-mineralization. Common sources of hidden refined sugar are breakfast cereals, canned sauces, soft drinks, catsup, canned soups, bread, pastries, bagels, etc.

4. Soft Drinks. Soda drinks containing phosphoric acid also contribute to osteoporosis; once again, the acid must be neutralized with calcium. Although organic forms of phosphorus help mediate calcium levels, diets high in inorganic phosphorus, especially when you're low in calcium, will lead to osteoporosis. Phosphorus is added to many processed foods today since it helps to retain moisture and acts as an anti-caking agent. (Too much phosphorus in the diet can lead to muscle cramps, mini-strokes, high blood pressure, and soft tissue calcification as seen in kidney stones and atherosclerosis).

5. Smoking, Caffeine, Alcohol, Lack of Exercise. While a major culprit, diet isn't the only cause of osteoporosis. Bone loss can be also intensified by smoking, lack of weight-bearing exercise, and consuming caffeine (i.e. coffee) and alcohol.

Plant-Based Sources of Calcium. Besides bone loss, lack of bone *gain* also invites osteoporosis. Adequate absorption of vitamins and minerals are necessary to form new bone. As you might expect, calcium is a big player in this process. It is *usable* calcium that forms bone. Good sources of bio-available calcium are young grasses (such as barley, wheat, oat), many green vegetables (such as broccoli, celery, asparagus) and many fruits (such as mango, blueberries, strawberries). Human mother's milk contains 33mg of calcium per 100 grams; compare to oranges (43), spinach (93), and lettuce (68). The bottom line is that plant-based sources of natural calcium (and especially ionized coral powders) are superior in both absorption and quality to animal protein or rock-based calcium supplements (such as calcium citrate, dolomite or calcium carbonate). Plant-based sources do not have too much protein that can cause a negative calcium balance like pasteurized cow's milk and other animal products.

Plant-based sources of calcium also naturally contain many other naturally occurring minerals. For example, building bone requires magnesium, which converts vitamin D to its bioactive form necessary for calcium absorption. Exposure to adequate amounts of sunlight will provide with vitamin D. Manganese is another player, needed both for bone mineralization and for synthesis of the organic matrix on which calcification takes place.

A host of other nutrients are essential for strong bones. Natural sources of folic acid, vitamins K, B6, C, and the minerals silicon, boron and zinc also play a major role in bone building. Eating a plant-based diet consisting of a variety of fresh, unprocessed, organic fruits, vegetables, nuts and seeds is a great way to get these nutrients in abundance.

Osteoporosis is an avoidable disease. By adopting healthy lifestyle practices that help prevent bone loss and increase bone health, you can benefit by reducing the risk factors of other chronic, degenerative diseases as well. Along with a healthy diet, weight-bearing exercise, and the avoidance of lifestyle habits that interfere with calcium absorption, you help ensure strong, healthy bones for your entire life.

