Scientific Evidence of Milk/Osteoporosis Link

Osteoporosis

by Bruce Friedrich

"The myth that osteoporosis is caused by calcium deficiency was created to sell dairy products and calcium supplements. There's no truth to it. American women are among the biggest consumers of calcium in the world, and they still have one of the highest levels of osteoporosis in the world. And eating even more dairy products and calcium supplements is not going to change that fact." --Dr. John McDougall

The McDougall Program for Women (2000)

Osteoporosis is a debilitating disease characterized by low bone mass and deteriorating bone tissue that affects tens of millions of Americans and causes 1.5 million fractures annually. The annual cost of treatment totals more than $10 billion. While some people suffering from osteoporosis experience recurring back pain, loss of height, and spinal deformities, many don't even know they have the disease until a bone fracture occurs.

According to the National Osteoporosis Foundation, one in two women over the age of 50, and one in eight men, will experience an osteoporosis-related fracture.

The dairy industry has a powerful hold on the nutrition industry in this country; it pays huge numbers of dietitians, doctors, and researchers to push dairy, spending more than $300 million annually, just at the national level, to retain a market for its products. The dairy industry has infiltrated schools, bought off sports stars, celebrities, and politicians, pushing all the while an agenda based on profit, rather than public health.

Dr. Walter Willett, a veteran nutrition researcher at the Harvard School of Public Health, says that calcium consumption "has become like a religious crusade," overshadowing true preventive measures such as physical exercise. To hear the dairy industry tell it, if you consume three glasses of milk daily, your bones will be stronger, and you can rest safely knowing that osteoporosis is not in your future.

Despite the dairy industry funding study after study to try to prove its claims, Dr. John McDougall, upon examining all the available nutritional studies and evidence, concludes:

"The primary cause of osteoporosis is the high-protein diet most Americans consume today. As one leading researcher in this area said, '[Eating a high-protein diet is like pouring acid rain on your bones.'" Remarkably enough, if dairy has any effect, both clinical and population evidence strongly implicate dairy in causing, rather than preventing, osteoporosis. That the dairy industry would lull unsuspecting women and children into complacency by telling them, essentially, drink more milk and your bones will be fine, may make good business sense, but it does the public a grave disservice.

Most of the world's peoples do not consume cow's milk, and yet most of the world does not experience the high rates of osteoporosis found in the West. In Asian countries, for example, where consumption of dairy foods is low (and where women tend to be thin and small-boned, universally accepted risk factors for osteoporosis), fracture rates are much lower than they are in the United States and in Scandinavian countries, where consumption of dairy products is considerably higher.

But don't take our word for it; examine the science for yourself:

One study, funded by the National Dairy Council, involved giving a group of postmenopausal women three 8-ounce glasses of skim milk per day for two years and comparing their bones to those of a control group of women not given the milk. The dairy group consumed 1,400 mg of calcium per day and lost bone at twice the rate of the control group. According to the researchers, "This may have been due to the average 30 percent increase in protein intake during milk supplementation ... The adverse effect of increases in protein intake on calcium balance has been reported from several laboratories, including our own" (they then cite 10 other studies). Says McDougall, "Needless to say, this finding did not reach the six o'clock news."

After looking at 34 published studies in 16 countries, researchers at Yale University found that countries with the highest rates of osteoporosis--including the United States, Sweden, and Finland--are those in which people consume the most meat, milk, and other animal foods. This study also showed that African Americans, who consume, on average, more than 1,000 mg of calcium per day, are nine times more likely to experience hip fractures than are South African blacks, whose daily calcium intake is only 196 mg. Says McDougall, "[O]n a nation-by-nation basis, people who consume the most calcium have the weakest bones and the highest rates of osteoporosis. ... Only in those places where calcium and protein are eaten in relatively high quantities does a deficiency of bone calcium exist, due to an excess of animal protein."

Harvard University's landmark Nurses Health Study, which followed 78,000 women over a 12-year period, found that the women who consumed the most calcium from dairy foods broke more bones than those who rarely drank milk. Summarizing this study, the Lunar Osteoporosis Update (November 1997) explained: "This increased risk of hip fracture was associated with dairy calcium … If this were any agent other than milk, which has been so aggressively marketed by dairy interests, it undoubtedly would be considered a major risk factor."

A National Institutes of Health study out of the University of California, published in the American Journal of Clinical Nutrition (2001), found that;

"Women who ate most of their protein from animal sources had three times the rate of bone loss and 3.7 times the rate of hip fractures of women who ate most of their protein from vegetable sources." Even though the researchers adjusted "for everything we could think of that might otherwise explain the relationship … it didn't change the results." The study's conclusion: "[A]n increase in vegetable protein intake and a decrease in animal protein intake may decrease bone loss and the risk of hip fracture."

Another study published in the American Journal of Clinical Nutrition (2000) looked at all aspects of diet and bone health and found that high consumption of fruits and vegetables

positively affect bone health and that dairy consumption did not. Such findings do not surprise nutritional researchers:

According to Dr. Neal Barnard, author of Turn Off the Fat Genes (2001) and several other books on diet and health, the calcium absorption from vegetables is as good as or better than that from milk. Calcium absorption from milk is approximately 30 percent, while figures for broccoli, Brussels sprouts, mustard greens, turnip greens, kale, and some other leafy green vegetables range between 40 percent and 64 percent.

After reviewing studies on the link between protein intake and urinary calcium loss, nutritional researcher Robert P. Heaney found that as consumption of protein increases, so does the amount of calcium lost in the urine (Journal of the American Dietetic Association, 1993): "This effect has been documented in several different study designs for more than 70 years," he writes, adding, "[T]he net effect is such that if protein intake is doubled without changing intake of other nutrients, urinary calcium content increases by about 50 percent."

Researchers from the University of Sydney and Westmead Hospital discovered that consumption of dairy foods, especially early in life, increases the risk of hip fractures in old age (American Journal of Epidemiology, 1994).

Finally, an analysis of all research conducted since 1985, published in the American Journal of Clinical Nutrition (2000), concluded:

"If dairy food intakes confer bone health, one might expect this to have been apparent from the 57 outcomes, which included randomized, controlled trials and longitudinal cohort studies involving 645,000 person-years."

The researchers go on to lament that "there have been few carefully designed studies of the effects of dairy foods on bone health," and then to conclude with typical scientific reserve that:

"The body of scientific evidence appears inadequate to support a recommendation for daily intake of dairy foods to promote bone health in the general U.S. population."

What we do know is that osteoporosis rates decline markedly as body weight, exercise, and caloric intake rise. Corroborating the researchers' lament about bad studies, only three studies have factored caloric intake into the analysis; two of them found no correlation between dairy intake and osteoporosis. The other found a positive link; that is, the more milk consumed, the higher the fracture risk (Harvard Nurses Study, see above).

The American Journal of Clinical Nutrition (2000) study cited above argued that since we know for certain that total caloric intake and body weight are positively associated with bone mass, such factors are "particularly important" in any study of osteoporosis and bone mass.

Is the dairy industry ignoring these factors by design in its clinical studies, perhaps because dairy consumers tend to be heavier and to consume more calories than those consuming fewer (or no) dairy products? It is remarkable that the dairy industry can't get the results it's looking for, since dairy consumption does tend to make people heavier. Even though dairy researchers ignore this factor, most studies still show no relationship, and some indicate that milk causes osteoporosis. If the tendencies of those who consume more dairy to be heavier and to consume more calories were accounted for, would the studies indicating no link show, in fact, that dairy

intake causes osteoporosis, like the Harvard School of Public Health study? That would bring clinical analysis into line with the population analysis, which clearly states that increased dairy consumption is linked to increased risk for osteoporosis.

So what can I do for strong bones?

Osteoporosis is a horrible disease, and although the evidence is strong that dairy consumption doesn't prevent it, simply eliminating dairy products does not ensure that it won't afflict you. And if, like most people who consume no meat or dairy, you are slender, you should be sure to put some thought (and effort) into keeping your bones healthy.

What the evidence does dictate as useful for strong bones is:

* Getting enough vitamin D (if you don't spend any time in the sun, be sure to take a supplement or eat fortified foods).

* Eliminating animal protein (for a variety of reasons, animal protein causes severe bone deterioration).

* Limiting alcohol consumption (alcohol is toxic to the cells that form bones and inhibits the absorption of calcium).

* Limiting salt intake (sodium leaches calcium out of the bones)

* Not smoking (studies have shown that women who smoke one pack of cigarettes a day have 5 to 10 percent less bone density at menopause than nonsmokers).

* Getting plenty of exercise. Studies have concluded that physical exercise is the key to building strong bones (more important than any other factor). For example, a study published in the British Medical Journal, which followed 1,400 men and women over a 15-year period, found that exercise may be the best protection against hip fractures and that "reduced intake of dietary calcium does not seem to be a risk factor." And Penn State University researchers found that bone density is significantly affected by how much exercise girls get during their teen years, when 40 to 50 percent of their skeletal mass is developed. Consistent with previous research, the Penn State study, which was published in Pediatrics (2000), the journal of the American Academy of Pediatrics, showed that calcium intake, which ranged from 500 to 1,500 mg per day, has no lasting effect on bone health.

"We (had) hypothesized that increased calcium intake would result in better adolescent bone gain. Needless to say, we were surprised to find our hypothesis refuted," one researcher explained.

Conclusion:

Drinking milk builds dairy producers' profits, but as the above studies show, it's more likely to harm your bones than to help them. And dairy foods are linked to all sorts of other problems, including obesity, heart disease and cancer (including breast cancer and prostate cancer) and are likely to be contaminated with trace levels of antibiotics, hormones, and other chemicals, including dioxin, one of the most toxic substances known to humans (The Washington Post reported that "the latest EPA study concludes that people who consume even small amounts of dioxin in fatty foods and dairy products face a cancer risk of 1 in 100. They may also develop

other problems, such as attention disorder, learning disabilities, susceptibility to infections and liver disorders" (April 12, 2001).

Of course, calcium is an essential mineral, and it is possible to have a calcium deficiency. According to Dr. Neal Barnard, president of the Physicians Committee for Responsible Medicine:

"Milk, in particular, is poor insurance against bone breaks ... the healthiest calcium sources are green leafy vegetables and legumes ... You don't need to eat huge servings of vegetables or beans to get enough calcium, but do include both in your regular menu planning. If you are looking for extra calcium, fortified orange, apple, or grapefruit juices are good choices."

It makes no more sense for humans to consume the mother's milk of cows than for us to consume the mother's milk of rats, cats, dogs, giraffes, or any other mammal. Nature created human mother's milk for baby humans, cow mother's milk for baby cows, and so on.

The late Dr. Benjamin Spock, in Baby and Child Care (the United States' best selling book, other than the Bible, over the past 50 years), after recommending that no one consume cow's milk and cataloging a host of ills associated with milk consumption (heart disease, cancer, obesity, antibiotic residue, iron deficiency, asthma, ear infections, skin conditions, stomach aches, bloating, and diarrhea), concludes:

"In nature, animals do not drink milk after infancy, and that is the normal pattern for humans, too. ...Children stay in better calcium balance when their protein comes from plant sources."

Dr. Spock recommends human mother's milk for baby humans, as nature intended.

"It is hard to turn on the television without hearing commercials suggesting that milk promotes strong bones. The commercials do not point out that only 30 percent of milk's calcium is absorbed by the body or that osteoporosis is common among milk drinkers. Nor do they help you correct the real causes of bone loss." --Dr. Neal Barnard

Says Dr. T. Colin Campbell, the world's leading epidemiological researcher in the field of diet and health, "The dairy folks, ever since the 1920s, have been enormously successful in cultivating an environment within virtually all segments of our society--from research and education to public relations and politics--to have us believing that cow's milk and its products are manna from heaven. ... Make no mistake about it; the dairy industry has been virtually in total control of any and all public health information that ever rises to the level of public scrutiny."

"The association between the intake of animal protein and fracture rates appears to be as strong as the association between cigarette smoking and lung cancer." --Dr. T. Colin Campbell

"Milk, it now seems clear, is not the solution to poor bone density. To the contrary, it's part of the problem." --Dr. Charles Attwood

The above brilliantly referenced guest column was written by Bruce Friedrich, director of communications for People for the Ethical Treatment of Animals (PETA). In addition to PETA.ORG, please visit http://www.milksucks.com

Robert Cohen
http://www.notmilk.com