

Kids, Dairy, and Bones

Jon Barron, Baseline of Health Foundation - A [recent] study has found that when kids consume high levels of dairy, they develop greater bone density and more bone-mineral content. The study, out of Boston University School of Medicine, followed 106 children, aged three to six, over a 12-year period. At the conclusion of the research, the children who had consumed at least two servings of dairy daily had bone mineral content 175 grams higher than those who consumed less than that. Plus, the kids who ate at least four ounces of meat or other protein a day in addition to two servings of dairy had bone-mineral content a whopping 200-grams higher than the kids who ate less dairy and meat ...

The findings generated headlines announcing, for instance, that "Childhood Dairy Intake May Improve Adolescent Bone Health" (Science Daily) and "Childhood Dairy Intake Boosts Bone Health Later On," (US News and World Report). Meanwhile, chief researcher Dr. Lynn Moore points out, "...dairy is a key source of proteins, calcium, and other micronutrients including phosphorus and vitamin D." The implication is that kids should gulp down the moo juice so that they grow up strong, healthy, and tough.

Holy cow! I'm ready to hang it up and go out and eat an 18-ounce steak and drink a quart of milk! Or not.

What we have here is an example of how facts can be misleading. Because while it may be true that drinking lots of milk builds up bone density in kids, it's also true that dense bones in childhood don't necessarily equate to healthy bones as you age. Surprise, building up bone density by consuming dairy for years on end sets you up for a greater likelihood of osteoporosis later on.

In fact, there are two problems with high consumption of dairy -- let alone high consumption of meat (as recommended in the study).

First, in a healthy young body, old bone material gets shed while new bone material gets built. This happens because certain cells, called osteoblasts, transport new calcium into the cells and use it to build the foundation for new bone matter. In the process of creating this bone foundation, at least half the osteoblasts die. That's normal. However, the more calcium that comes into the bones, the more the osteoblasts must work and the more of them that die. To summarize: the greater the supply of calcium, the faster osteoblasts (your bone building cells) are destroyed. This means that over time the rate that new bone matter gets created slows down, and ultimately stops. Meanwhile, old bone matter continues to be removed. What you end up with is mineral-dense bones, riddled with holes, which make your bones very brittle. And so if you're getting loads of calcium, whether through dairy products or through supplements, you might well have stronger bones in your younger years, but your bones will become brittle faster as you age.

The second problem with excess consumption of dairy is its high phosphorous content, which tends to make the body very acidic and thus requires a lot of minerals from the body to neutralize it. Ultimately, it takes more calcium from the body to neutralize the phosphorus in dairy than you receive from the dairy in the first place. (This is the same problem we see in heavy drinkers of cola with its high levels of phosphoric acid.) And if you're having a large amount of meat on top of that, the problem is compounded.

So whose hypothesis is correct -- the hypothesis the study sets forth saying that high consumption of dairy and meat builds strong bones, or my hypothesis, which says they don't? The answer lies in looking down the road past childhood to the years when osteoporosis actually presents a problem. When we do that, we see that in countries where the average bone-mineral density is highest, the rate of hip fracture also is highest. As I explained in my 2006 newsletter on Osteoporosis, the countries with the highest dairy consumption (including the US) have a hip fracture rate 50 times greater than that found in countries with very low dairy consumption (such as South Africa and New Guinea)!

Bottom line: look at the forest (long-term bone fracture), not the trees (short-term bone density). The evidence is overwhelming: high dairy consumption may offer greater bone density, but it also leads to higher rates of osteoporosis and a greater likelihood of bone fracture.