

Osteoporosis: It's not because you didn't drink enough milk!

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All our lives we've heard our mothers telling us to drink milk. And we all know that milk is rich in calcium and calcium gives us strong bones. Having a low intake of calcium throughout your life, especially women, increases the risk for osteoporosis. The lack of Bone Mineral Density (BMD) does in fact result in Osteoporosis and/or osteopenia (decreased BMD). But is the cause really not drinking enough milk or consuming other dairy products rich in calcium?

What our mothers did not tell us, and what is typically not known by most Americans, is that there is another reason why we lose our BMD— an acidic forming diet, like the typical American diet, causes the body to leach a mineral base, specifically calcium, from our bones in order to balance out the pH in our blood and tissues. Consequently, over time, the net depletion of calcium results in a bone mineral density deficiency.

The typical American diet includes salty, processed foods, fatty meats, dairy products, grains, and legumes which all produce a net acid load once metabolized. If these foods are not properly balanced with an abundance fruits and vegetables that produce a net base load, the body will become acidic. It will then need to leach more calcium from your bones in order to be its ideal pH. Depending on the organ or location, the body has different pH requirements. For example, the stomach is a very acidic with a pH of 2, while the blood needs to be at a pH of 7.4, which is slightly alkaline. A diet, like the paleo diet, produces a net acid/base balance because it is much higher in fruits and vegetables. The effects of net acid production and its attendant increased body fluid acidity may contribute to development of osteoporosis and renal stones, loss of muscle mass, and age related renal insufficiency¹, and growth retardation in children². There is evidence to safely say that decreasing consumption of energy dense, nutrient poor, sodium chloride rich, net acid producing foods will decrease your risk for the diseases listed above and in turn, replacing those foods with potassium rich, net alkaline producing foods¹.

Ironically, we are being told to drink milk because of its calcium content, when in actuality, dairy is a net acid producing food which, once it is metabolized by the kidneys, it will then require the body to balance it out by leaching calcium from the bones. I have not yet found a study that describes which mechanism, if any, can overcome the other. However, it is important to note that just because calcium intake is present it does not mean that there is a calcium balance. In fact, it may be possible to be excreting more calcium than your body is actually absorbing, and therefore, causing a calcium imbalance and possibly renal stones down the road. A study by Oster says "Acid loading (i.e. protein ingestion) may contribute to disturbed bone metabolism in idiopathic "[yeah... right]" calcium nephrolithiasis "[kidney stones]" as well as calcium stone formation³.

Is the direct cause of osteoporosis is calcium deficiency? What these findings suggest and what I believe is that calcium leaching from metabolic acidosis is the direct cause of osteoporosis... but Mom may still try to tell you to drink your milk. But for you and your kidney's sake, just say no.

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