



Healthful, balanced diet best for bones

I read that the phosphoric acid in some soft drinks leaches calcium from bones. Is that true?

The association between high consumption of soft drinks and lower bone mineral density has been the subject of study for years. However, most of these studies examine real people and then try to draw correlations between behavior and health. Unfortunately, with this kind of study, you can never determine cause-and-effect. All you can do is look for patterns and hypothesize at the reasons behind them.

A 2006 study tried just that. Researchers examined the consumption of cola beverages and measured bone density. Colas are different from many other soft drinks in that they often contain phosphoric acid, which may adversely affect bone.

The research, led by Katherine Tucker of the Jean Mayer U.S. Department of Agriculture Human Nutrition Research Center on Aging at Tufts University, was reported in the *American Journal of Clinical Nutrition*. For the study, researchers measured bone mineral density at the spine and hip of 1,413 women and 1,125 men, and also asked participants about their dietary intake.

The researchers found that bone density at the hip was lower in women who drank cola every day compared with women who drank less than one cola a month. Results were similar for women who drank

diet cola and, although weaker, for those who drank decaffeinated cola.

However, no differences were seen in the spine of the women tested, nor in men's bone mineral density in the hip or spine. The results remain controversial in part because phosphorus is in other foods, too, such as orange juice, but no one is claiming those other foods undermine strong bones.

Most experts encourage people to think about an overall healthful diet instead of putting all their focus on one food or beverage item. For example, while the consumption of dairy products is an easy way to get calcium and help bone strength, other foods we consume may also play a role: A 2004 study from the United Kingdom found a pattern between eating fruits and vegetables and stronger bone density in premenopausal women. Again, this study doesn't prove that eating produce makes stronger bones, but it is another argument for a healthy, balanced diet.

The bottom line? It's a familiar story: Make sure you consume enough calcium. Eat plenty of fruits and vegetables. Choose whole grains over refined grains. If you drink alcohol, do so in moderation. And limit consumption of saturated fat, trans fat, sugar and other empty calories. If you do all that, you shouldn't have to worry about enjoying the occasional cola.

Chow Line is a service of Ohio State University Extension and the Ohio Agricultural Research and Development Center. Send questions to Chow Line, c/o Martha Filipic, 2021 Coffey Road, Columbus, OH, 43210-1044, or filipic.3@cfaes.osu.edu.



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