**Harvard School of Public Health, Boston, MA**

# Active Girls who Drink Colas Are Five Times More Likely to Fracture Bones

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**Around the School**

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Active girls who drink cola drinks are five times more likely to have had bone fractures than girls who don't drink soda pop, according to a study published by Grace Wyshak, associate professor in the Departments of Biostatistics and Population and International Health, in the June issue of the *Archives of Pediatric and Adolescent Medicine.*

More than 460 ninth- and tenth-grade girls reported their activity levels, carbonated beverage drinking habits, and history of bone fractures. From an analysis of the data, Wyshak found that drinking any type of carbonated beverage was linked to an increased likelihood of having a bone fracture and that the greatest increases were for those who drank cola beverages and reported their physical activity as either high-level or vigorous.

Wyshak has examined the relationship between drinking soda pop, physical activity, and bone fractures twice before. In both of the previous studies, the first on postmenopausal women, the second on teenagers, Wyshak consistently found strong relationships between consumption of carbonated beverages and bone fractures in physically active populations.

"This new study confirms again what we've seen before," she said. "In active girls, there is an association between carbonated beverages--cola drinks in particular--and bone fractures."

Wyshak says that she doesn't know why cola beverages or other soft drinks increase likelihood of bone fractures. One possibility is that cola drinks contain phosphoric acid, which has previously been shown to affect calcium metabolism and

bone mass. Others believe that young people may be choosing to replace milk in their diets with soda pop, giving their growing bodies less calcium with which to make bones.

"These studies raise important questions," said Wyshak. "Why is the effect of cola drinks greater for physically active people than for those less active? Is it the phosphoric acid, or something else, that makes the relationship between colas and bone fractures so strong? And is this a foreshadowing of the skeletal health of a population that has gone through adolescence drinking more soda pop than has any previous generation?"

Wyshak's first paper on this topic, "Nonalcoholic Carbonated Beverage Consumption and Bone Fractures Among Women Former College Athletes," was published in the *Journal of Orthopedic Research*, Volume 7, in 1989. Her second paper, "Carbonated Beverages, Dietary Calcium, the Dietary Calcium/Phosphorus Ratio, and Bone Fractures in Girls and Boys," was published in the *Journal of Adolescent Health*, Volume 15, in 1994.