

## Phosphorous in sodas and processed foods accelerates signs of aging, scientists say

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Here's another reason to kick the soda habit. New research published online in the *FASEB Journal* shows that high levels of phosphates may add more "pop" to sodas and processed foods than once thought. That's because researchers found that the high levels of phosphates accelerate signs of aging. High phosphate levels may also increase the prevalence and severity of age-related complications, such as chronic kidney disease and cardiovascular calcification, and can also induce severe muscle and skin atrophy.

"Humans need a [healthy diet](#) and keeping the balance of [phosphate](#) in the diet may be important for a healthy life and longevity," said M. Shawkat Razzaque, M.D., Ph.D., from the Department of Medicine, Infection and Immunity at the Harvard School of Dental Medicine. "Avoid phosphate toxicity and enjoy a healthy life."

To make this discovery, Razzaque and colleague examined the effects of high phosphate levels in three groups of mice. The first group of mice was missing a gene (*klotho*), which when absent, causes mice to have toxic levels of phosphate in their bodies. These mice lived 8 to 15 weeks. The second group of mice was missing the *klotho* gene and a second gene (*NaPi2a*), which when absent at the same time, substantially lowered the amount of phosphate in their bodies. These mice lived to 20 weeks. The third group of mice was like the second group (missing both the *klotho* and *NaPi2a* genes), except they were fed a high-phosphate diet. All of these mice died by 15 weeks, like those in the first group. This suggests that phosphate has toxic effects in mice, and may have a

similar effect in other mammals, including humans.

"Soda is the caffeine delivery vehicle of choice for millions of people worldwide, but comes with phosphorous as a passenger" said Gerald Weissmann, M.D., Editor-in-Chief of the [FASEB Journal](#). "This research suggests that our phosphorous balance influences the [aging process](#), so don't tip it."

**More information:** Mutsuko Ohnishi and M. Shawkat Razzaque. Dietary and genetic evidence for phosphate toxicity accelerating mammalian aging. FASEB J. [doi:10.1096/fj.09-152488](https://doi.org/10.1096/fj.09-152488)

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