

Could phosphate additives in foods make you less active?

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A new study suggests that high levels of inorganic phosphate—a

preservative widely used in certain sodas, packaged meats and other processed foods—may be a reason why the U.S. population isn't as physically active as it used to be.

Researchers from UT Southwestern Medical Center in Dallas looked at the effect of [phosphate](#) on both mice and humans and found each had similar associations with reduced activity level and increased [sedentary time](#).

Phosphate is a particle that comes from the mineral phosphorus, which the body needs to build healthy teeth and bones. It can be found naturally in some foods, including nuts, eggs and dairy products. But [inorganic phosphate](#) frequently gets added to certain foods to enhance appearance and flavor or increase its shelf life.

An estimated 40 percent to 70 percent of top-selling grocery items, including cola drinks, prepared frozen foods, dry food mixes, packaged meat and bakery products contain phosphate additives, notes the study published Monday in the American Heart Association journal *Circulation*. As a result, up to 25 percent of U.S. adults consume threefold to fourfold the recommended daily allowance of phosphate on a regular basis.

To mirror that type of exposure, researchers took two groups of healthy mice and fed them similar diets, except one group was fed more than three times as much phosphate.

After 12 weeks, the mice on the high phosphate diet spent less time on the treadmill and took in less oxygen when they did exercise compared to the mice in the control group. They also had a reduced ability to burn fat and showed changes in more than 5,000 genes that aid in processing fatty acids and cell metabolism, which the body uses as an energy source.

In a separate part of the study that looked at humans, researchers found a similar correlation between high phosphate levels and reduced physical activity.

Analyzing data on 1,603 [healthy people](#) whose activity was monitored with a fitness tracker for seven days, researchers found that higher serum phosphate levels or the amount of phosphate in the blood were associated with less time spent on moderate-to-vigorous physical activity and more time being sedentary.

The [federal government](#) currently doesn't require phosphate levels to be included on food labels, making it difficult for people to monitor phosphate intake, said Dr. Wanpen Vongpatanasin, the study's senior author and a professor of medicine at UT Southwestern Medical Center.

"I think it might be about time for us to push the food industry to put this on labels so that we can see how much phosphate goes into our food, but this is just the beginning" and more research is needed to support the effort, she said.

Previous studies have linked higher phosphate intake to a higher risk of cardiovascular disease and death, particularly in people with [kidney disease](#).

Normal kidneys eliminate excess phosphate from the body, which is why an overload of phosphate is a problem for people with impaired kidneys, said Dr. Myles Wolf, professor of medicine and chief of nephrology at Duke University School of Medicine in North Carolina.

The new study is "an important addition to a growing body of work suggesting the deleterious effects of consuming an abundance of phosphate in the diet," said Wolf, who was not connected with the research.

"I think the animal data is outstanding," he said. "It's really fascinating, and I think one can take those animal findings and now do some additional human research that would get more at the specifics the study's authors are hypothesizing."

Wolf said one big strength of the study is that it helps alert the public to how widespread phosphate additives are.

"There's relatively low awareness of dietary phosphate as a potential harmful food constituent in excessive amounts," he said. The study adds to "a growing chorus that suggests more attention should be paid to dietary phosphate consumption and its supplementation by the [food industry](#) in the [food](#) supply."

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