

## Research shows in the long run, charcoal toothpaste likely won't whiten teeth

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Using charcoal toothpaste to whiten teeth may leave a person with more issues than just ash in the mouth.

While the latest dental fad has gotten high marks from celebrities, a group of Creighton University School of Dentistry students has spent the past year taking a more in-depth look at how well charcoal toothpaste whitens and what detrimental effects such an abrasive substance could have on teeth. The students, all in their first year of dental school,

presented their findings at a research seminar at the Boyne Building, April 24.

"It's been a big trend," said Jon Howell, one of six students on the project, which was overseen by School of Dentistry professors Donal Scheidel, DDS, Sonia Rocha-Sanchez, Ph.D. and Martha Nunn, DDS, Ph.D. "You see a lot of patients coming into a dentist's office and asking about it and wondering if and how it works, so we thought it was worth looking into."

The short answer as to whether charcoal toothpaste—at upwards of \$7 a tube—works, Howell and his research partners said, is "No."

"You might use it to get rid of some surface stains on the teeth from something like coffee," Howell said. "Initially, it might help. But, as our experiments have demonstrated, there'll be a cost."

That cost is in a pronounced wearing away of tooth enamel under the harsh scrubbing of the gritty charcoal. Under lab conditions simulating extended use of charcoal toothpaste through of brushing for six minutes every day, the students observed a significant loss of enamel and watched as the toothpaste made its way into the dentin of the teeth used in the experiment, leaving them with a gray to a yellow shade. The bottom line is: continuous use of charcoal tooth paste has proven to cause the very discoloration most people are hoping to ward off when they first start using it.

Using an electron microscope in some trials, the students were also able to see the level of abrasion on [tooth enamel](#).

"Enamel does not grow back," said Ben Huber, another [student](#) researcher. "And once the charcoal gets into the dentin, the teeth start to get gray."

Compared with more traditional whitening methods like whitening strips or regular whitening toothpaste, the charcoal seemed to be a bit of a risk, in the researchers' opinions.

"There are other tooth-whitening options that could be safer and more effective," Howell said.

As it turns out, for all its seeming trendiness, the [charcoal](#) whitening method isn't new to this century.

Josh Hanson, another of the researchers, said patricians in Ancient Rome used the stuff to clean their [teeth](#). It was just one of many methods the Romans happened upon in the longstanding quest for pearlier whites.

"They also tried limestone," Hanson said. "In fact, if you look on some [toothpaste](#) ingredient labels, you'll see bicarbonate, which the Romans discovered in limestone as a cleaning agent. So maybe something was working there."

Provided by Creighton University

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