

More people are using fluoride-free toothpaste; dentists are worried

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Dental health experts worry that more people are using toothpaste that skips the most important ingredient - the fluoride - and leaves them at a greater risk of cavities. Photo by: KidStock/Getty Images

Dental health experts worry that more people are using toothpaste that does not include fluoride, the most important ingredient. Toothpaste without fluoride, a mineral which strengthens the enamel of teeth, leaves people at a greater risk of cavities.

Most toothpastes already contain fluoride. While health authorities recognize fluoride as a cavity blocker, the Internet is dotted with claims, often from "natural" toothpaste marketers and alternative medicine advocates, that fluoride-free toothpaste also prevents cavities.

Dental authorities disagree.

Arguing With The Internet

Damien Walmsley is a scientific adviser to the British Dental Association and dentistry professor at the University of Birmingham in England. "It's really important to debunk this idea that brushing your teeth stops decay. You need to have the fluoride," he said.

That view was affirmed on August 6 by an article in the dental journal Gerodontology that reviewed scientific studies on cavities. Its primary conclusion is that, without fluoride, oral hygiene efforts have "no impact" on cavity rates.

The idea that just brushing teeth doesn't stop cavities has largely been accepted among individual researchers for decades, but not always by the public. Dentists generally recommend fluoride for cavity fighting, but even some of them continue to believe that the mechanics of wiping your teeth clean of plaque also reduces cavities. The review findings, published on August 6, gave pause to at least one dentist.

What The Scientific Studies Show

Richard Niederman is a dentist and professor at New York University (NYU) who saw the study and found the findings credible. "It violates certain principles we've been taught and that we teach and that we believe," he said. "What it says to me is that the toothbrush is just a delivery system."

Few studies of the question have been carried out in recent years because the value of fluoride has been widely accepted for decades. In the review, University of Washington researchers looked for high-quality studies since 1950 and found just three. They were carried out in the U.S. and Great Britain and published from 1977 to 1981. They involved a total of 743 children 10 to 13 years old who flossed and brushed for up to three years.

When the studies were evaluated statistically as a whole, there was no significant cavity reduction from simply brushing or flossing without fluoride.

Proof That Fluoride Fights Cavities

Dentist J. Leslie Winston is the oral care director for Crest-toothpaste maker Procter & Gamble. Winston said the review "serves as an important reminder."

"Despite a large body of scientific evidence, there are growing numbers of consumers who believe that all toothpastes are the same," he said in a statement. The new research proves otherwise.

Industry sources estimate that fluoride-free toothpaste makes up no more than 5 percent of all toothpaste sold, but with projected growth of over 5 percent annually. On August 6, Tom's of Maine antiplaque and whitening toothpaste, which is fluoride-free, was listed as the second-best selling toothpaste on Amazon's online buying platform.

Fluoride-Free Toothpaste: No Promises

Paul Jessen, a brand manager at Tom's of Maine, said "the products that don't contain fluoride that we offer do not promise that benefit" to fight cavities. He said his company's customers generally understand this.

Yet customer comments on Amazon's website sometimes indicate otherwise, with many reviews insisting that the company's fluoride-free toothpaste does fight cavities. "If you brush regularly with or without fluoride, you reduce the risk of cavities," one customer insists.

Oral care companies themselves also stray into such claims. The website of Revitin non-fluoride toothpaste says it "strengthens your teeth against tooth decay."

Gerald Curatola, the dentist who founded Revitin and now serves as chief science officer, called the review "misleading." He said that the latest science suggests that a healthy mix of oral bacteria is key to dental health. "I don't think fluoride makes a difference at all," he said.

Other Benefits Of Brushing

Jeff Davis, the CEO of Sheffield Pharmaceuticals that sells toothpaste with and without fluoride, said it's "pretty established" that fluoride is what helps reduce cavities. He said some people worry about the harmful effect of too much fluoride, though, and so choose fluoride-free toothpaste.

Even without fluoride, dentists say there's some value in brushing. Philippe Hujoel is the dentist and University of Washington professor who led the dental review. He said oral hygiene without fluoride might produce real cavity-fighting effects too small to detect in a study, or adults might conceivably benefit where the children in the studies did not.

And toothbrushing did reduce swollen gums in Hujoel's review. Brushing the teeth may also dislodge stuck food and help patients recover from oral surgery.

What About Flossing?

The review also cited a 2009 analysis of studies involving 60,000 people that found fluoride rinse prevents cavities about as well as fluoride toothpaste.

In 2016, The Associated Press reported on the poor scientific evidence for the benefits of flossing. As a result, the federal government removed its long-standing flossing recommendation from Dietary Guidelines for Americans.

The review raises questions about how cavities form. Cavities have long been thought to develop in a poorly cleaned mouth when acids left by food start to wear away tooth enamel. The idea is that clean teeth do not decay. This review, though, argues for an alternate model: cavities grow in tiny crevices in the enamel that can't easily be reached with a toothbrush or dental floss alone.

Watch Your Sugar!

Despite the clear benefit of fluoride, some studies have also challenged the belief that fluoridated drinking water stops dental decay as well as fluoride toothpaste or rinses. In any event, it makes sense to combine fluoridated water and dental products for amplified protection, said Niederman, the NYU dentist.

Some dentists also said the most effective way to prevent cavities is simply to reduce sugars in the diet.

Quiz

- 1 Which of the following sentences from the article BEST develops a central idea of the article?
- (A) Dental health experts worry that more people are using toothpaste that does not include fluoride, the most important ingredient.
 - (B) Dentists generally recommend fluoride for cavity fighting, but even some of them continue to believe that the mechanics of wiping your teeth clean of plaque also reduces cavities.
 - (C) Industry sources estimate that fluoride-free toothpaste makes up no more than 5 percent of all toothpaste sold, but with projected growth of over 5 percent annually.
 - (D) This review, though, argues for an alternate model: cavities grow in tiny crevices in the enamel that can't easily be reached with a toothbrush or dental floss alone.
- 2 Which answer choice provides an accurate and objective summary of the article?
- (A) New research has revealed that fluoride is a mineral that can significantly strengthen tooth enamel. Dentists feel confident that the use of fluoridated toothpaste, rinses and drinking water is the only factor that affects whether cavities will develop.
 - (B) Dental experts have published a review of companies that produce dental products without fluoride, such as Tom's of Maine and Revitin. The review warns consumers of the dangers of these products and debunks the false claims published about them online.
 - (C) A review of scientific studies on cavities highly recommends the use of fluoride toothpaste to prevent the risk of cavities. However, some dentists and consumers believe that brushing and flossing is a more important factor in fighting tooth decay.
 - (D) Dentists have long been baffled by the development of cavities in patients with good dental hygiene. Scientists conducted a case study of 743 children to determine whether sugar, fluoride or brushing and flossing habits was most directly related to cavities.
- 3 Which of the following is the STRONGEST evidence to support the author's central claim that fluoride plays a bigger role than other forms of dental care in preventing cavities?
- (A) The idea that just brushing teeth does not stop cavities has largely been accepted among individual researchers for decades, but not always by the public.
 - (B) When the studies were evaluated statistically as a whole, there was no significant cavity reduction from simply brushing or flossing without fluoride.
 - (C) Jeff Davis, the CEO of Sheffield Pharmaceuticals that sells toothpaste with and without fluoride, said it's "pretty established" that fluoride is what helps reduce cavities.
 - (D) As a result, the federal government removed its long-standing flossing recommendation from Dietary Guidelines for Americans.
- 4 The author provides the following evidence in the section "Fluoride-Free Toothpaste: No Promises" to support consumers' claim that fluoride-free toothpaste is just as beneficial as toothpaste with fluoride.

Yet customer comments on Amazon's website sometimes indicate otherwise, with many reviews insisting that the company's fluoride-free toothpaste does fight cavities. "If you brush regularly with or without fluoride, you reduce the risk of cavities," one customer insists.

Is this evidence factual? How do you know?

- (A) Yes; this evidence is statistical and is pulled directly from non-fluoride toothpaste sellers.
- (B) No; this evidence is a customer's testimonial and is not supported by research.
- (C) Yes; this evidence is anecdotal and reflects the actual experience of one individual.
- (D) No; this evidence is argumentative and fails to establish support of either type of toothpaste.

