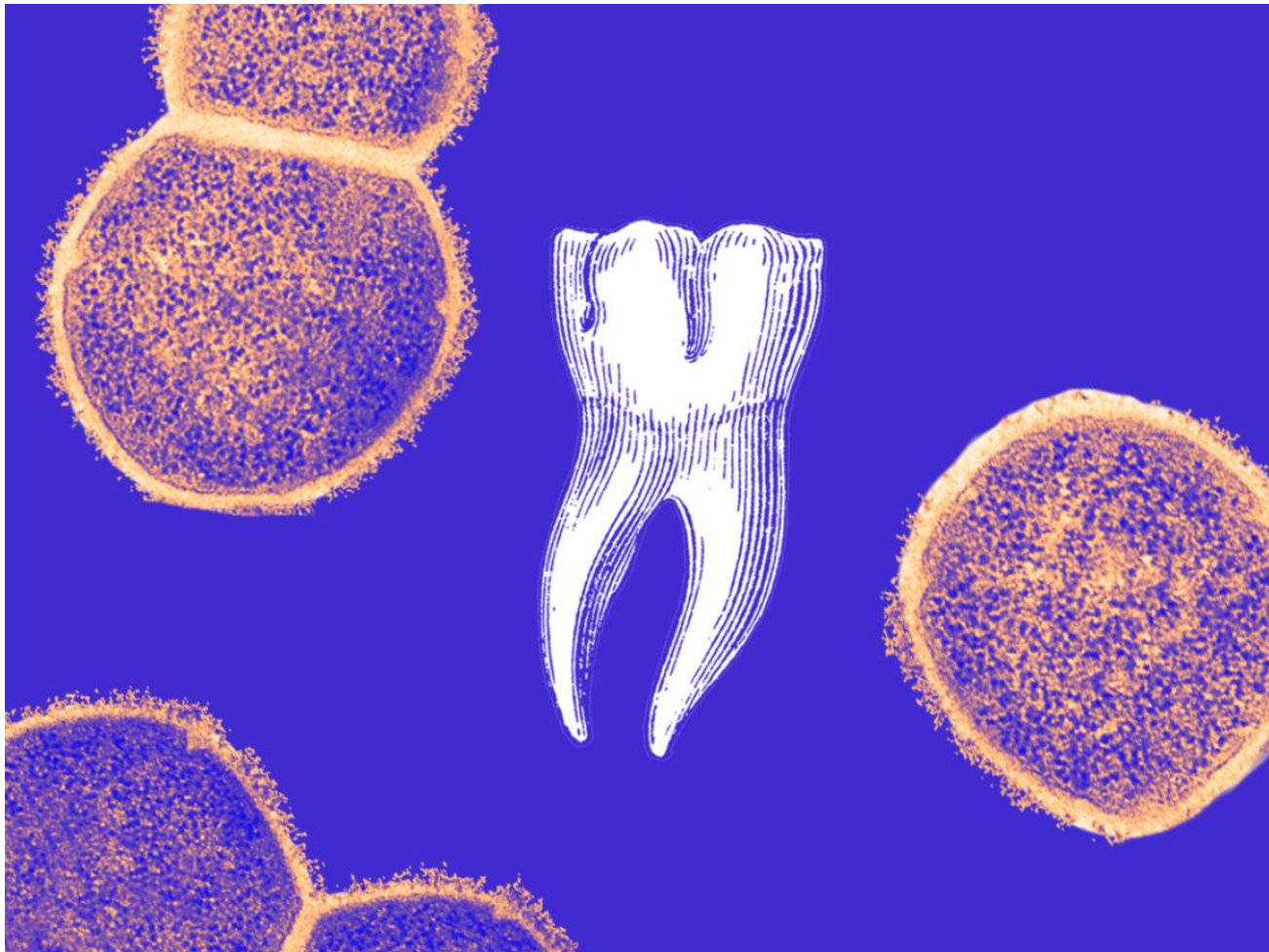


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How More Kids Could Avoid the Dentist's Drill

By Katherine HobsonFiled under Personal Health

Whether or not to floss has been [the dental question of the summer](#). There's not a lot of strong evidence to support its ability to prevent tooth decay or gum disease, though [dentists point out](#) that this doesn't mean it *doesn't* do those things. (Plus, do you really want that piece of spinach in your teeth all afternoon?)

But there is something that's been shown to be very effective at preventing cavities, lowering the risk of their development in kids' permanent teeth by 76 percent: dental sealants, which coat the biting surfaces of the molars to protect their nooks and crannies from plaque and decay. "In my world of public health, those outcomes are

stunning," said [Jane Koppelman](#), research director for the Pew Charitable Trusts' dental campaign. The problem is that sealants, which have been around for decades, are underused, especially for the kids who need them most.

[Figures from the Centers for Disease Control and Prevention](#) show that 41 percent of kids ages 6 to 11 had at least one dental sealant on a permanent tooth in 2011-12. But the real indicator that sealants aren't being used enough is that many children and teens are still getting cavities on their permanent molars, said William Maas, a public health consultant and former director of the division of oral health at the CDC. Government data shows that 21 percent of kids ages 6 to 11 and 58 percent of youths ages 12 to 19 [had cavities in permanent teeth](#) in 2011-12.

The decay that leads to cavities is a process. Early on, bacteria release acids that etch the tooth, causing damage that may show up as white spots. If the decay persists, it can lead to tiny holes called cavities. But when a dentist applies a fluid sealant to the pits and fissures of the molars, it hardens to create a protective barrier. And according to newly updated [practice guidelines](#) from the American Dental Association and American Academy of Pediatric Dentistry, sealants can prevent tooth decay from starting and can also stop early-stage decay from progressing into a cavity. Ideally, they're applied soon after the tooth comes in, before decay has a chance to start, and they last for several years.

The groups' analysis of nine randomized trials finds that, assuming a 30 percent risk of cavities, every 1,000 sealant applications would prevent 207 cavities after two or three years of follow-up. They recommend clinicians "reorient their efforts toward increasing the use of sealants" on the biting surfaces of primary and permanent molars in kids and teens. (There is less data on their use in primary teeth.)¹ The groups didn't make a recommendation for adults, saying there weren't any studies that applied to them.

While the practice recommendations apply to all children and teens, dentists say certain kids stand to benefit most. "The population I'm most concerned about are those who we aren't sure are going to come in [to the dentist] every year," Maas said. In 2011-12, [some 22 percent of kids](#) ages 6 to 9 had untreated decay in primary or permanent teeth. A whopping 44 percent of kids in that age range without insurance coverage had untreated decay. (The Affordable Care Act requires plans to include dental coverage for children, but those requirements didn't kick in until Jan. 1, 2014.)

Even low-income kids whose health care is covered by Medicaid, which mandates dental benefits, don't often get regular care, Koppelman said. "We know where we can reach those kids — in school," she said. Pew [has been tracking the performance of states' school-based sealant programs](#), which typically involve dental hygienists bringing equipment to schools to provide sealants to at-risk second- and sixth-graders.² [Research has shown](#) that kids who get sealants through those programs had a median of 50 percent fewer instances of tooth decay four years later compared with kids who didn't get them.

If your kid sees a dentist regularly, sealants might still be a good idea, because "we don't know which kids are at risk," said [Richard Niederman](#), professor and chairperson of epidemiology and health promotion at New York University College of Dentistry. Not every kid needs them; if he or she doesn't seem prone to cavities, doesn't eat a lot of sugar, or doesn't have deep fissures, for example. (The American Dental Association and American Academy of Pediatric Dentistry say that clinicians need tools to be able to assess which teeth are most likely to develop decay down the road.)

The ADA and AAPD [note that there's been concern](#) about bisphenol A, or BPA, which is present in some sealants and which has estrogen-like effects that some worry might harm health. But they say the chemical is present in very tiny amounts only, for a brief time after the sealant has been applied. A [2008 review](#) found that the evidence didn't suggest an exposure risk, and a [2010 look at the literature](#) recommended that sealants be used, though it also recommended reducing exposure by measures including gargling or cleaning out the mouth after application.

But you may need to ask for sealants. Research suggests that dentists don't always follow the ADA's lead, particularly when it comes to the recommendation that initial signs of tooth decay can be safely treated with sealants. A [survey of dentists published in 2011](#) in the Journal of the American Dental Association found that 40 percent of respondents said it wasn't good practice to seal in early lesions, despite the ADA's recommendations, which were first published in 2008. (They may believe it won't arrest the decay and that it will continue underneath the sealant.) "There may be a lack of awareness or familiarity with the evidence," said [Marisol Tellez-Merchán](#), an associate professor at Temple University's Kornberg School of Dentistry and an author of the study.³

Sealants are also about one-third the cost of a filling, according to Pew. And over the

long run, filling instead of sealing in an early lesion can lead to a cycle of increasingly large fillings and eventual replacement of the tooth. "Once you open a tooth, it leads to more restorations over time," Tellez-Merchán said.

The DDS is a surgical degree, and it can be hard to change the mindset away from drilling when it comes to decay. "A lot of people feel in their hearts that this is an infection, and you have to get rid of it," said [Tim Wright](#), a distinguished professor of pediatric dentistry at the University of North Carolina at Chapel Hill School of Dentistry and an author of the updated sealant guidelines. But change isn't impossible: that 2011 study also found that 24 percent of dentists surveyed didn't seal in early lesions but were willing to consider it.

Footnotes

1. Sealants aren't to be confused with fluoride varnishes, which the dentist groups said available research shows aren't as effective.
2. Based on Pew's most recent analysis, most states are failing to enact policies to provide sealants to low-income and at-risk kids; 72 percent of states and the District of Columbia received a grade of C or worse.
3. And there's an even newer non-drilling option. Silver diamine fluoride, cleared by the Food and Drug Administration to reduce tooth sensitivity, has been shown to kill bacteria and treat cavities. It has its downsides, though, including tooth discoloration. [More trials are underway](#), so stay tuned.