

Secondhand smoke and cavities: Research indicates link between the two

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Credit: Vera Kratochvil/public domain

Exposure to secondhand smoke could make children more susceptible to cavities, although more research is needed before it can be considered a risk factor. One way to accomplish this would be to look for evidence of exposure to nicotine in the blood of young children, suggests a Tufts dentist.

Researchers in Japan reviewed 15 studies about the possible relationship between secondhand smoke and the development of caries in [young children](#). Overall, the studies found weak to moderate evidence that secondhand smoke causes cavities in primary teeth, but only weak evidence in secondary teeth. The review appeared in the *International Journal of Environmental Research and Public Health*.

David Leader, D85, MPH13, an associate clinical professor of diagnosis and health promotion, wrote a critical summary assessment of the literature review for the *Journal of the American Dental Association (JADA)*.

"As dentistry moves from surgical treatment of [cavities] to prevention and risk-based medical management, it becomes more important to understand behaviors that are associated with a higher risk of developing [cavities]," he writes. "[Secondhand smoke] may be such a risk, but more research is required to establish causality."

Only one of the studies, he notes, took the extra step of measuring the levels of cotinine, a byproduct of nicotine, in the children's blood to see how much smoke they had been exposed to. Leader believes future research in this area should follow suit.

"After going over all these studies, I believe that looking at serum cotinine is going to be the pathway to learning whether secondhand smoke is a risk factor for [tooth decay](#)," Leader says.

Secondhand smoke would join a list of known [risk factors](#), including [low socioeconomic status](#), a diet high in refined carbohydrates, low fluoride exposure and poor or infrequent oral hygiene. The list helps alert dentists to young patients who may need additional preventive care.

"If down the road we find that secondhand smoke is a risk for tooth

decay, then we can counsel parents that this is another problem that smoking is causing," Leader says. "We can also say, Let's see your child more frequently for checkups and fluoride treatments."

The real takeaway for dentists, Leader writes, is that "regardless of the nature of the association with cavities, tobacco use and [[secondhand smoke](#)] are severe health risks, and oral health-care providers are in an advantageous position to provide tobacco-use-cessation counseling."

He adds, "It never hurts for people to hear that again from their dentists, because people trust us."

This is the third paper Leader has written as a reviewer for the American Dental Association (ADA), and the second published in JADA. In that role, he identifies, evaluates and summarizes systematic reviews that are relevant to dentistry.

He received training from the ADA's Center for Evidence-Based Dentistry in order to write about the types of studies involved, the quality of the evidence and whether and how dentists can use the findings in their practices.

"Evidence-based dentistry is what we are moving toward" as a profession, he says. "Dentists need to understand what evidence-based dentistry is and how to evaluate it."

Provided by Tufts University

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