

For now, reality of tooth decay outweighs concerns over sealant

December 21 2010, By Julie Deardorff

Dental sealants, the popular, thin plastic coatings applied to the grooves of teeth, can reduce tooth decay in children by more than 70 percent. While highly effective, sealants pose concerns: They're made with bisphenol A (BPA), a controversial and ubiquitous synthetic chemical that in low doses has been associated with changes in behavior, prostate and urinary tract development and early onset of puberty.

So far, experts strongly recommend sealants based on their proven benefits and the brief exposure to [BPA](#), which can be minimized by taking certain steps in the application process. At the same time, however, there are gaping holes in the data, including the "quality and quantity of BPA absorption," according to a review of the literature recently published in the [journal Pediatrics](#).

"We know BPA derivatives break down into BPA and that BPA is present in saliva for up to three hours," said lead author Abby Fleisch, a pediatric endocrinology fellow at Children's Hospital in Boston. "What we don't know is whether there's more chronic low-level leaching; there is also a need for additional research regarding whether the BPA in saliva becomes absorbed in the blood or urine.

"It would behoove the dental industry to look at alternatives," added Fleisch. "But right now there are none."

Some sealants are considered safer than others. Resins called "bis-GMA-based" are recommended over bis-DMA-based (both are derivatives of

BPA) but "many products contain mixtures," said Dr. Perry Sheffield of Mount Sinai School of Medicine and a co-author of the Pediatrics study. "Thus, we emphasize the application techniques more strongly at this time."

The American Dental Association says there's no basis for health concerns relative to BPA exposure from any dental material. But BPA researcher Fred vom Saal calls lack of information about the different sealants a "big problem."

[Tooth decay](#) is a serious medical condition, and for some children, sealants are necessary, said vom Saal, a professor of biological sciences at the University of Missouri. "But it would be nice to know which on the market are not going to keep exposing your child to BPA," he said.

Pregnant women should minimize their exposure to dental sealants and composites (tooth-colored material used to treat cavities), which also contain BPA.

WAYS TO REDUCE EXPOSURE

To reduce your child's exposure to BPA, researchers in the Pediatrics study suggested asking your dentist to do the following:

Have children gargle 30 seconds and spit immediately after sealants or composites are applied to prevent saliva from breaking down the chemical into BPA.

Rub the surface of the materials with pumice to remove the top liquefied layer of the sealant.

For kids who have trouble rinsing and spitting, try substituting a

thorough rinse with an air-water syringe.

Using a rubber dam (a thin square of latex rubber) during the application could further limit potential exposures.

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