

# Dental Sealants

## A way to protect newly erupted teeth from decay

*“Dear Doctor, Can you tell me about how sealants reduce tooth decay?”*

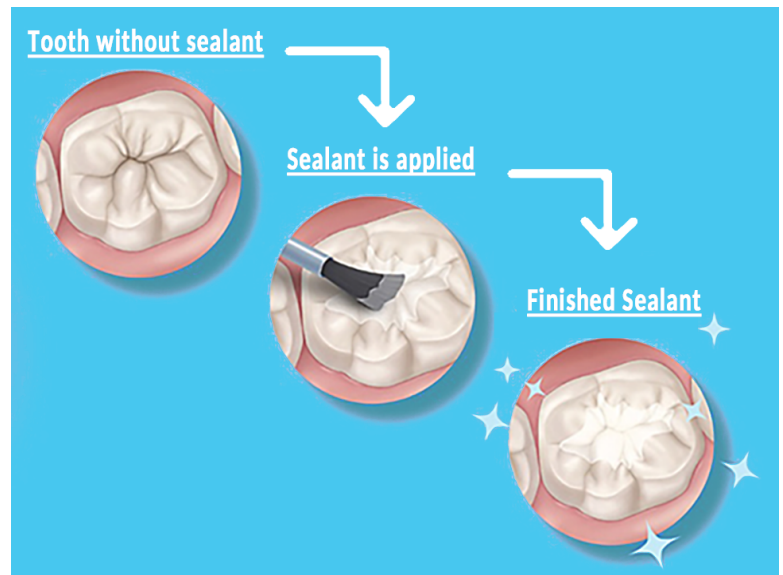
Sure. Let’s start with some background. A cavity, by definition is a hole. The back teeth, especially molars, form with deep grooves called “pits and fissures”. Despite our best efforts, a toothbrush bristles cannot reach down into these fissures to clean them out. **The pits are a warm moist place where bacteria grow and produce acid.** That acid dissolves tooth enamel and starts the decay process.

**Pit and fissure sealants** are something you should consider because along with fluoride, good hygiene and nutrition, sealants can dramatically reduce the chance of tooth decay. Newly erupted immature enamel is more permeable and more susceptible to tooth decay. As the enamel matures, the permeability decreases and it becomes more resistant to acid. Until that happens, it is critical to protect the surface of newly erupted teeth.

Fluoride aids enamel because it makes the surfacer harder and less permeable. But even with fluoride, pits and fissures are at risk because of their shape and need further protection. **Sealants are a protective coating bonded to the enamel in these tiny pits** to prevent decay - actually sealing them from attack. Sealants are most beneficial for children at high risk of decay. However, placing sealants causes no damage to teeth and offers benefits for all children, especially for the first adult molars (6 year molars). **Research shows that sealants can decrease cavities by 80%.**

### How long do sealants last?

Research has shown that **retention rates for sealants are 80% for the first 5 years** after placement. Sealants will wear with chewing and time, but tend to last longest in the deepest pits. They are more important in the first critical 3-5 years that the tooth is in the mouth. As tooth enamel matures, the pits and fissures become less susceptible to decay.



### What does the procedure involve?

The tooth is cleaned with a rotary bristle brush and conditioned with a blue gel. The gel is washed off and the tooth dried thoroughly before the sealant is applied as a liquid. That liquid is cured hard with a blue light. The most critical step is keeping the tooth dry. **No freezing is required.** Sometimes rotary instruments are used to explore deeper pits or fissures that are suspected of having minimal decay lurking inside.

### Which teeth should be sealed?

**Adult molars are at highest risk for pit and fissure decay** and hence benefit most from sealants. In cases of high cavity risk, baby molars can also be sealed. Other teeth may benefit from sealants in specific cases.