

Fact sheet: Tooth sealants for children and young people



Brushing your teeth every day, as well as avoiding foods and drinks that are bad for your teeth, can help prevent tooth decay (dental caries or cavities). The regular use of a toothbrush and fluoride toothpaste not only cleans the surfaces of teeth, but also provides them with a small amount of fluoride. That makes them harder, which means they have better protection against tooth decay. The chewing surface of molars (back teeth) are most at risk of tooth decay. This is because bacteria can become permanently stuck in the dents and grooves (called fissures), particularly if they are very deep.

Once children's "milk teeth" molars have been replaced by permanent ones, dentists sometimes suggest using a fissure sealant to try to prevent decay. This seals the grooves in the teeth, which stops bacteria from building up there. Some sealants also release fluoride to strengthen the teeth. You can read more about why fluoride is important here (URL: <http://www.informedhealthonline.org/index.96.en.html>).

What does the treatment involve?

Having your teeth sealed does not hurt and only takes a few minutes. The dentist first prepares the teeth by cleaning the chewing surfaces and roughening them up a bit with a special gel. This helps the sealant stick to the surface of the tooth when it is applied. The gel is then rinsed off using water. Once the dentist has dried the teeth, he or she fills the fissures with a resin (plastic) liquid, and then uses a special light to make it go hard. The sealant is usually white in colour. After it has hardened, the dentist will check whether the teeth in your upper and lower jaw still fit together properly when you bite.

Other types of materials can be used as sealants too, such as so-called glass ionomer cement. For some of these materials, there is no need to prepare the teeth with the gel or make the sealant go hard using a special light.

At what age might sealants be considered?

Sealants are mainly used to protect the chewing surfaces of the permanent back teeth (molars). The first of these molars grow when children are about six years old. Another set comes about six years later. Sealants are used as a long-term preventive measure. They clearly lower the risk of tooth decay on the chewing surfaces of molars. Resin sealants last longer than glass ionomer cement. Dentists check whether the sealant is still there during routine check-ups. If the sealant has worn away, it can be re-applied.

The sealants that are used nowadays are generally thought to be safe. Some people have had allergic reactions to them, but that is rare. You can read more about the benefits of using tooth sealants here (URL: <http://www.informedhealthonline.org/index.95.en.html>).

How good are sealants compared to other strategies?

Sealants should by no means replace daily toothbrushing with fluoride toothpaste. Another preventive treatment that dentists offer is the application of special fluoride gels and varnishes to the whole tooth. The main aim of this is to stop the spread of early stages of tooth decay in the enamel (the outer layer). But using tooth sealants in the grooves of molars provides better protection against tooth decay than applying fluoride gels or varnishes. You can read more about preventing tooth decay here (URL: <http://www.informedhealthonline.org/dental-caries.269.56.en.htm>).

Who covers the costs?

In Germany, health insurance funds cover the costs of sealants for the permanent back teeth (molars) of children and teenagers between the ages of 6 and 17. If a dentist recommends using sealants for other teeth – such as milk teeth and premolars – statutory health insurances will not cover that. In other countries, check with your dentist or insurance programme about costs.

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Glossary

bacteria

Bacteria are micro-organisms that, unlike viruses, can exist on their own. Viruses, on the other hand, can only exist inside a living cell. Most bacteria are not harmful to people, and some are actually beneficial. Bowel bacteria support bowel health. However if they get into the urinary system, they can cause an infection there. Doctors prescribe antibiotics for illnesses where bacteria need to be stopped or killed off. Immunisation is also possible against some bacterial infections, such as diphtheria, tetanus or whooping cough.

fissure

In dentistry, a fissure is a term for the pits, dents and grooves in the chewing surfaces of the molars or back teeth. In medicine generally, a fissure is a natural groove or crevice in the surface of an organ, as well as a tear through injury (a hairline fracture in a bone, for example).

fluoride

Fluoride is a naturally occurring substance. It is used in toothpaste and table salt as a preventive measure against tooth decay (caries or cavities). If children get too much fluoride, it can affect the development of the tooth enamel, causing white patches on the teeth. This is toothpastes made for children have less fluoride than toothpastes for adults.

Sources

IQWiG health information is based on research in the international literature. We identify the most scientifically reliable knowledge currently available, particularly so-called “systematic reviews”. These summarise and analyse the results of scientific research on the benefits and harms of treatments and other health care interventions. This helps medical professionals and people who are affected by the medical condition to weigh up the pros and cons. You can read more about systematic reviews and why these can provide the most trustworthy evidence about the state of knowledge here (URL: <http://www.gesundheitsinformation.de/evidence-based-medicine.61.en.html>) . The authors of the major systematic reviews on which our information is based are always approached to help us ensure the medical and scientific accuracy of our products.

Ahovuo-Saloranta A, Hiiri A, Nordblad A, Mäkelä M, Worthington HV. Pit and fissure sealants for preventing dental decay in the permanent teeth of children and adolescents. *Cochrane Database of Systematic Reviews* 2008, Issue 4. [PubMed summary (URL: <http://www.ncbi.nlm.nih.gov/pubmed/18843625>)]

Hiiri A, Ahovuo-Saloranta A, Nordblad A, Mäkelä M. Pit and fissure sealants versus fluoride varnishes for preventing dental decay in children and adolescents. *Cochrane Database of Systematic Reviews* 2010, Issue 3. [PubMed summary (URL: <http://www.informedhealthonline.org/> <http://www.ncbi.nlm.nih.gov/pubmed/20238319>)]

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You can find a list of the evidence and other scientific literature on which this information is based at **www.informedhealthonline.org**

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