

# Fissure Sealants



When fluoride was introduced into the Australian water supplies in the 1960's it was intended that the fluoride would be ingested by children, incorporated into their tooth enamel and confer on them the life time benefits of reduced rates of decay. This has happened and it has been a major success in preventive dentistry – 60% overall reduction in decay, but a 90% decrease in the front teeth!

The aim of fluoride is to increase the hardness of the tooth enamel and decrease the solubility of the enamel in response to an acid attack caused by plaque. While this is a positive response, unfortunately, it also means that decay does not become as evident to the dentist as it did previously. Instead of the decay forming an open cavity which was easily visualised and easily felt by a sharp metal probe, decay now tends to start inside a tooth, below the enamel. This is because the enamel is so hard and insoluble the bacteria and saliva can get through at the very fine crack on the surface, called the fissure and commence decaying at the softer portion of the tooth inside called the dentine. As a result of this, the decay can go undetected for many, months or years and ends up in what dentists refer to now as a 'fluoride bomb'. The inside of the tooth is completely decayed but the outside looks fairly normal. Sometimes there is a slight discolouration evident through the enamel, but often the decay cannot even be felt with a sharp metal probe. This is of major concern to dentists because for decades we have relied on diagnosis of decay by feeling the softening of the enamel with a metal probe. We can no longer do this.

## **What are Fissure Sealants?**

Fissure sealants are thin plastic coatings which are applied to the chewing surfaces of the back teeth to help prevent decay. Most tooth decay in children and adolescents occurs on the chewing surfaces of these back teeth, which are called molars. This is because molars have irregular surfaces with pits and grooves which tend to trap food and bacteria debris. Sealants flow into and coat these pits and grooves so that bacteria cannot multiply and cause decay.

## **Why is Sealing a Tooth Better Than Filling a Cavity?**

Sealants help maintain sound teeth. Decay destroys the structure of the tooth. Each time a tooth is filled or a filling is replaced, additional tooth structure is lost. Composite fillings last an average of two of five years before they need to be replaced. Appropriate use of sealants can save time, money, and the discomfort associated with restorative dental procedures.

## **How are Sealants Applied?**

Applying sealants is quite simple and may be done by a dentist or an oral health therapist. First, the teeth are cleaned. Then the teeth to be sealed are dabbed with a very mild acid solution similar in strength to vinegar or lemon juice. This roughens the tooth surface very slightly so that the sealant will bond to it properly. After the tooth is prepared, the sealant is painted onto the tooth. It flows into the pits and grooves and hardens in about 60 seconds. After sealing, bacteria cannot reach the pits and grooves, and therefore cannot cause decay. Applying sealants requires no drilling or removal of the tooth surface. Tooth structure is left intact and healthy teeth are protected from decay forming bacteria.

**Does it hurt?**

No. Fissure sealants do not involve the removal of any tooth structure so there is no discomfort involved. Local anaesthetic is not necessary either.

**How Long Will Fissure Sealants Last?**

A sealant application can last five years and often even longer. Sealants should be checked regularly and reapplied when they appear to have worn off. Because teeth are most susceptible to decay when they are young, preventing decay during the first 5 to 14 years after a tooth erupts is critical.

**How do Sealants Fit into a Preventive Dentistry Program?**

For maximum benefit, sealants should be used as part of a child's total preventive dental care. A dentist should examine the child's teeth and gums regularly to check bite, tooth eruption, and the condition of both hard and soft tissues. A complete preventive dentistry program also includes: brushing and flossing, use of fluorides, good nutrition, and regular dental check-ups.

**Do Sealants Cost More Than Fillings?**

The cost of sealing a tooth is generally less than the cost of having a tooth filled.

**Will Sealants Replace Fluoride?**

No! Fluorides such as those used in fluoridated water, fluoride toothpaste, and fluoride mouth rinse help prevent decay on the smooth surfaces of teeth; however, fluorides have less effect on the rough, pitted chewing surfaces of the back teeth where food particles and decay producing bacteria are trapped. Sealants are effective on the uneven chewing surfaces.

**Have Sealants Been Thoroughly Tested?**

Yes! Thousands of children across Australia and in other countries have had their teeth sealed in controlled clinical studies. These studies have shown sealants to be effective, easy-to-apply, inexpensive and non-toxic.

Fissure sealants are truly a remarkable advance in preventive dentistry. This treatment is so effective, we consider it essential, not optional, that all children have their first and second molars treated if there is any evidence of staining of the groove or the groove becomes 'sticky' to the dentist's probe. It is essential that you bring your children in as soon as you see the molars coming through the gum with about two thirds of the top of the tooth exposed. This begins to happen at about 6 years of age with the 1st molar appearing behind the "baby" teeth. If the tooth has just started to come through, wait a few weeks till the majority of the tooth is exposed, but do not be concerned if part of it is still covered with gum.

Remember, Fissure sealants are a safe and painless way of protecting your child's teeth.