

FISSURE SEALANT

A fissure sealant is a low viscosity flowable restorative material that is placed in the deep pits and fissures of molar teeth to provide a protective barrier against tooth decay and allowing easier cleaning of the tooth when brushing. Placement of a fissure sealant is highly successful in preventing dental decay in the non cleansable deep pits and fissures of a tooth where a toothbrush bristle can't reach. Whilst very effective, they do not need to be placed in all patients and should be prescribed based on the patient's individual decay history, dental morphology and where bacterial activity has been diagnosed.

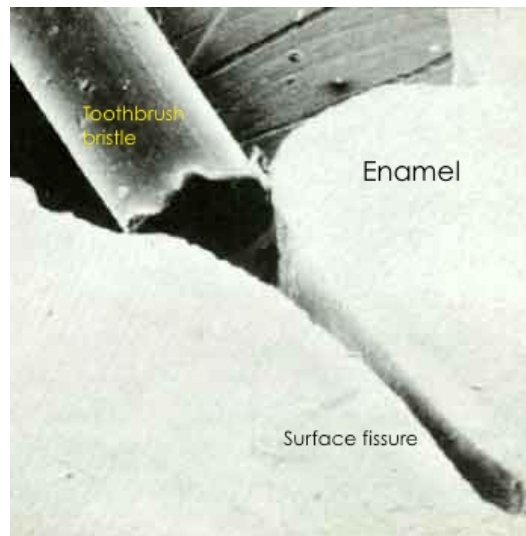


Figure. Cross section of tooth biting Surface

When placing a fissure sealant, no tooth structure needs to be removed. The tooth is cleaned, this may sometimes be done with a LASER to ensure there are no debris in the pits and fissures.

Two types of sealant material are used, a glass ionomer cement or an adhesive composite resin. They both have different properties providing different advantages and are used according to a number of criteria:

- Patient co-operation.
- Patient age.
- Position of the tooth.
- Moisture control.
- Mineralisation of the enamel
- Eruption status of the tooth.

Glass Ionomer Cement (GIC) is a silicate glass powder mixed with a polyalkenoic acid that chemically bonds to the tooth surface. The bond is not as strong as a composite resin material however GICs are bio-active. These materials are particularly useful to increase the mineralisation of enamel help to prevent breakdown of the tooth structure in young teeth.

Moisture control is important but not critical making GIC ideal for teeth that are partially erupted, in a difficult to access area or for the patient that finds it difficult to keep their mouth open.

Placement of glass ionomer cement is a quick non invasive process making it a good option for smaller children, anxious children or children who can't sit still for long.

GICs are not as strong as tooth substance and do wear and fracture. These materials require maintenance with addition of new material over several years of use.

Flowable Composite Resin is a strong, longer lasting adhesive restorative material that physically bonds to the tooth surface. The material does require very good moisture control. The surface of the tooth must be kept free from moisture contamination including saliva during placement of a flowable composite resin. This is achieved by

using some form of saliva isolation device such as a rubber dam or other isolating device.

Placement of a flowable composite resin placement is again non-invasive however as it is technique sensitive and requires excellent moisture control, a high level of patient co-operation is required. These materials are generally used with older children, occasionally as a replacement for a GIC sealant placed years before.



Figure. Tooth with fissural demineraliation

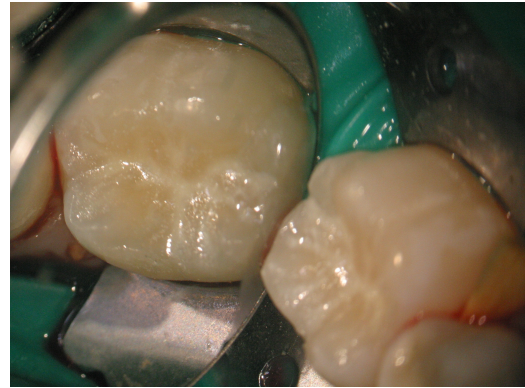


Figure. Tooth fissure sealed