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Abstract of the Scientific Literature

Air Abrasion Versus Classic Enamel Preparation for Sealants

One of the primary factors in the long-term success of sealants can be directly attributed to a "leak-proof" margin between tooth and sealant material. In this study, the microleakage of sealant material was evaluated after air abrasion and classic enamel preparation methods. Ninety teeth were divided into 3 groups. All of the teeth had the mesial half of the occlusal surface prepared using air abrasion followed by acid etch. The distal half of the occlusal surface was prepared by 1 of 3 methods: (1) acid etch alone; (2) mechanical widening of fissures followed by acid etch; or (3) air abrasion alone. After sealant application, teeth were thermocycled and then subjected to a blue dye for microleakage detection. Those samples which utilized air abrasion alone had significantly higher amounts of leakage compared to all other enamel preparation methods.

Comments: Although this study is narrow in scope, the authors state that microleakage is only one variable in the possible causes of sealant failure. Bearing this in mind, pediatric dentists should not overlook the significance of acid etching in sealant preparation, nor be tempted to skip this seemingly vital step in the interest of speed and/or time management. **GM**

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Microleakage of a pit and fissure sealant: Effect of air abrasion compared with classical enamel preparations. *J Adhes Dent.* 2004;1:43-48

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