

Seal or Varnish? A randomised controlled trial to determine the relative cost and effectiveness of pit and fissure sealant and fluoride varnish in preventing dental decay

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Plain English summary

A RCT of the cost and effectiveness of sealant and varnish

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Plain English summary

Tooth decay is a very common problem. The biting surfaces of the first adult molar teeth, which erupt at the age of 6 years, are very vulnerable to decay. Rates of decay are especially high in children who live in disadvantaged communities. Two widely used treatments, fissure sealant (FS) (plastic coatings) and fluoride varnish (FV), can prevent decay. We do not know which works better or which is better value for money. This study aimed to answer this. Just over 1000 children were treated with either FS or FV over 3 years. After 3 years, 835 children were still taking part in the study, which was a sufficient number for the research teams to be able to see if one of the treatments was better than the other. Of the children who had the FV treatment, 17.5% had decay in their molars that was bad enough to need a filling or for the tooth to be taken out. In the sealant-treated group, 19.6% of children had decay in their first molars. Although fewer children treated with FV had tooth decay, this was not significantly different from the sealant-treated children. Over the 3 years, there was a cost saving of £68.13 per child in the FV group compared with those receiving sealants. Both treatments were acceptable to the children. The main conclusions from the study are that in a community programme such as this, there is no difference in the benefits gained from the treatments, although FV is slightly cheaper.

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