

Preventing the transfer of cariogenic microorganisms from primary molars to permanent first molars using chlorhexidine
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Purpose: To investigate if the application of 1% chlorhexidine-containing wax on primary molars during the period of eruption of the first permanent molars could prevent the transfer of certain oral flora namely *Streptococcus mutans* to the permanent molars.

Methods: Fourteen children with a mean age of 6.5 years (7 males and 7 females) were assigned into two groups; a chlorhexidine group (n=9) in which 1% chlorhexidine-containing wax was painted on primary molars on one side of the mouth and a placebo wax group (n=5) in which a similar wax, but without chlorhexidine was painted on primary molars on one side of the mouth. Baseline saliva samples and pooled plaque samples from the primary molars on both sides of the dentition were obtained from the two treatment groups. Following treatment, plaque samples from the occlusal fissures of the first permanent molars on both sides of the dentition were obtained. The levels of *S.mutans* and other members of the oral flora on the treated sides (chlorhexidine or placebo) were compared with those on the untreated sides.

Results: The results showed that the proportions of *S.mutans* to *S.sanguinis* were significantly lower in the chlorhexidine-treated sides compared to the untreated ($p=0.04$) and in the chlorhexidine-treated patients compared to placebo ($p=0.029$).

Conclusion: Since lower mutans to sanguinis ratios have been associated with lower caries experience, treating primary molars with 1%-chlorhexidine wax during eruption of permanent first molars may be a simple means for shifting the fissure flora of the permanent molars towards a more favorable balance.