

## **Effect of xylitol on mutans streptococci and lactic acid formation in saliva and plaque from adolescents and young adults with fixed orthodontic appliances.**

Stecksen-Blicks C, Holgerson PL, Olsson M, Bylund B, Sjoström I, Skold-Larsson K, Kalfas S, Twetman S.

Department of Odontology, Pediatric Dentistry, Umeå University, Umeå, Sweden.  
christina.steckson.blicks@vll.se

This study aimed to investigate two dose regimens of xylitol-containing tablets on the ecology of dental plaque and saliva during treatment with fixed orthodontic appliances. The study group comprised 56 healthy patients (mean age 15.8 yr) randomly assigned into the following groups: A, (n = 23) two xylitol tablets two times a day (1.7 g xylitol d(-1)) for 18 wk; B, (n = 23) two tablets four times per day (3.4 g xylitol d(-1)) for 18 wk; and C, (n = 10) no tablets. The levels of mutans streptococci (ms) were enumerated in plaque and saliva and the proportion of xylitol-sensitive (X(S)) strains in saliva was determined by autoradiography with [(14)C]-xylitol at baseline and at 6, 12, and 18 wk. The lactic acid formation rate was assessed enzymatically in sucrose-challenged plaque suspensions. A drop in salivary ms levels was found in Group A after 6 wk but not after 12 or 18 wk. The proportion of X(S) ms was decreased after 6 wk in groups A and B and remained so during the experimental period. **The lactic acid formation rates decreased slightly (approximately 10%) in the two xylitol groups compared with baseline. In conclusion, our results showed that although an alteration of ms strains was demonstrated following a regular daily low-dose intake of xylitol, the long-term total ms counts in plaque and saliva as well as plaque acidogenicity remained unchanged.**

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