

Decalcification Under Orthodontic Bands

Hirshfield RE and Johnston, LE, 1974, Angle Orthod. 44:218-221

To test the efficacy of three fluoride compounds in the reduction of decalcification, the four first premolars in twelve extraction cases were randomly assigned the following treatments: stannous fluoride (eight per cent), amine fluoride (Elmex gel), acid phosphate-fluoride (Thera-flur), and control. After receiving three four-minute treatments (during a period of one week), each tooth was banded in a manner conducive to decalcification: the bands were loose-fitting and were not cemented on the buccal surface. As part of the regular orthodontic therapy, the experimental and control teeth were extracted eleven weeks later, and the extent of buccal decalcification scored (blindly and independently) for four observers.

Statistical analysis of ratings indicated that both Elmex and Thera-flur reduced the amount of visible decalcification as compared with the untreated teeth ($P < .02$). Treatment with stannous fluoride (eight per cent) did not produce a significant decrease in decalcification.

Accordingly, it may be concluded that both Elmex and Thera-flur, applied topically, were effective in reducing decalcification of teeth under orthodontic bands.