

## B-7 The Change of the Root Surface Morphology by Different Modes of Tetracycline Hydrochloride Conditioning

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The purpose of this study was to evaluate the in vitro effects of different application techniques of tetracycline HCl on dentin root surfaces.

The study group was comprised of 30 teeth with advanced periodontal disease extracted before the start of periodontal therapy. The diseased root surface was vigorously root planed to expose dentin. The teeth were sectioned and cotton pellets, soaked in a saturated solution of tetracycline HCl, were either 『placed』 or 『burnished』 on the prepared root surface for 3,5 min. respectively. Control surfaces were similarly treated with root planing only. Following the various treatments, teeth were fixed, dehydrated, critical point dried, and coated for scanning electron microscopic (SEM) evaluation.

The surfaces of tetracycline HCl treated specimens differed considerably from specimens treated with root planing only.

Results demonstrated that root-planed, non-acid treated specimens had amorphous, irregular surface which corresponded to a smear layer. A cid-treated specimens exhibited collagen fibers and dentinal tubules exposed by the removal of the smear layer.

Although some differences were seen in surface structures among some specimens, “burnished” application causes more extensive change than “placed” application, and application time of the acid did not seem to have any major impact on the surface morphology.