

Demonstration of the Sustained Effect of Colgate Total by Confocal Microscopy.
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An intra-oral model has been developed which uses the confocal microscope to assess the effects of antibacterial agents on plaque viability. The objective of this work was to show that this model could visually and quantifiably document the sustained antibacterial effect of Colgate Total (triclosan dentifrice) versus a NaF dentifrice. The plaque tested were established during 50 hours of intra-oral growth on hydroxyapatite disks. One disk was removed at baseline and the remaining three were removed 3, 6, and 12 hours after a single brushing with the test dentifrices. Plaque viability before and after treatment was assessed by staining the plaque with a propidium iodide/SYTO 9 dye pair and then quantifying the relative fluorescent intensities of the live and dead bacteria with the confocal microscope. The results of the study showed that the triclosan dentifrice reduced plaque viability from baseline at 3, 6, and 12 hours post treatment by 8.00%, 11.79%, and 5.09%, respectively. The reductions in viability were statistically significant at each time point. The NaF dentifrice gave reductions in viability for the 3, 6, and 12 hour time points of 4.43%, -0.93%, and -1.70%, respectively. At 3 and 6 hours, there was no significant difference from baseline, but at 12 hours, the plaque was significantly more viable for the NaF dentifrice. A statistical comparison between the two dentifrices showed that the triclosan dentifrice was significantly more effective than the NaF dentifrice at inhibiting plaque bacteria up to 12 hours after a single brushing. **In conclusion, confocal microscopy can be applied to pictorially and quantitatively document the 12-hour, antibacterial effect on plaque bacteria by the triclosan dentifrice versus a NaF toothpaste.**