

Poster Presentations

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Clinical Evaluation of the Plaque Removal Efficacy of Three Toothbrushes

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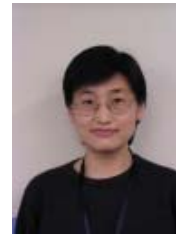
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Variation in the design of manual toothbrushes may lead to differences in their ability to remove plaque. This study compared a recently introduced manual brush to a currently marketed leader and flat trim control manual toothbrush.

Objective: This randomized, single-blind, crossover study compared the safety and plaque removing efficacy of the Oral-B Advantage Plus (ADV), Oral-B Indicator (IND) and the Colgate 360 (COL) toothbrushes. **Method:** Qualified subjects with a mean whole mouth pre-brushing Rustogi Modified Navy Plaque Index score of ≥ 0.6 were randomly assigned to treatment sequence. After 1 min brushing, oral tissues were re-examined and plaque was reassessed. One examiner (NCS) evaluated all subjects at all time points. Changes in plaque scores from pre-treatment means within each treatment at each visit were analyzed using a paired t-test and between treatments using an analysis of variance. **Results:** All brushes significantly reduced mean plaque from pre to post brushing in all areas ($p < 0.001$). ADV and IND removed significantly more plaque than COL whole mouth (0.552 ± 0.04 , 0.527 ± 0.06 vs 0.456 ± 0.06 , $p = 0.0001$), marginal (0.745 ± 0.12 , 0.683 ± 0.12 vs 0.547 ± 0.14 , $p = 0.0001$) and approximal areas (0.939 ± 0.07 , 0.908 ± 0.09 vs 0.810 ± 0.13 , $p = 0.0001$). ADV and IND removed 21.9% and 15.6% more whole mouth plaque, 36.20% and 24.8% more marginal plaque, and 15.93% and 12.1% more approximal plaque respectively than Colgate 360. ADV also removed significantly more plaque than IND whole mouth, margin and approximal surfaces, $p = 0.0001$. No evidence of oral hard and soft tissue trauma was found with any toothbrush.

Conclusion: The results demonstrate that both Oral-B Advantage Plus and Oral-B Indicator were superior to Colgate 360 removing significantly more plaque from all areas.

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Impact of Brushing and Rinsing on F Uptake in situ

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Objective: This research studied influence of brushing and rinsing method on Fluoride (F) uptake using an interproximal, intra-oral model. **Methods:** 3mm diameter discs were removed from extracted human incisors. The fluoride-rich enamel surface was removed using standard grinding and polishing techniques. Demineralized enamel specimens were prepared by placing each specimen in 13ml of an acidic solution containing 0.5 mol/L Lactic acid, 0.2% Carbopol 907, 50% saturated HAP, pH 5.0 for 72 h at 37 degree C. One sterilized specimen was placed in interproximal side of each of the specially made partial denture, totally 8 panelists were involved. Each panelist used 2 different brushing and rinsing methods with the same NaF dentifrice. Brushing method A): Panelists brush with a NaF dentifrice for 1 minute and rinse with unlimited amount of water (~300 ml); Brushing method B): panelists brush with the same dentifrice for 3 minutes and rinse with 15 ml of water. Panelists brushed with instructed method twice a day with denture on the mouth for a period of 2 weeks. During this period, panelists were required not to take off the denture to brush it, but were allowed to rinse the denture with water after meal. At the end of 2 weeks, the specimens were removed and F uptake analyses were performed by the microdrill biopsy technique. **Result:** F uptake ($\mu\text{g}/\text{cm}^2 \pm \text{SD}$) values were: A) 3.56 ± 2.33 , B) 12.74 ± 13.96 . **Conclusion:** Increase brushing time and limit amount of rinsing water can help increase the F uptake.