

Oral-B iO Electric Toothbrush versus a Manual Toothbrush for Reduction of Gingivitis and Plaque: An 8-Week Randomized Controlled Trial

Grender J, et al. *Int Dent J* 2020; 70 (Suppl 1): S7-S15.

KEY GINGIVITIS RESULTS

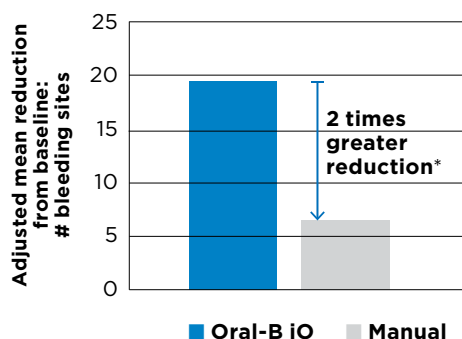
Subjects using the novel Oral-B® iO oscillating-rotating electric toothbrush showed greater improvements in gingivitis compared to those using a manual toothbrush as early as 1 week and throughout the 8-week study. At Week 8, Oral-B® iO demonstrated:

- More than 2 times greater reduction for number of bleeding sites (Figure 1)
- 3 times greater reduction in gingival bleeding (GBI)
- 2 times greater gingivitis reduction (MGI)

All between-treatment differences at Weeks 1 and 8 were statistically significant ($P < 0.001$).

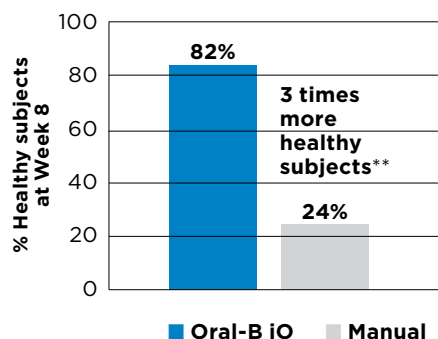
82% of subjects (45/55) using the Oral-B® iO toothbrush were categorized as Healthy (<10% bleeding sites) at Week 8 compared to 24% of subjects (13/55) using the manual brush. The difference was statistically significant ($P < 0.001$). See Figure 2.

Figure 1. Reduction in bleeding sites from Baseline to Week 8.



* $P < 0.001$; overall baseline number of bleeding sites = 32.11.

Figure 2. % of subjects classified as "healthy" (<10% bleeding sites) at Week 8.



** $P < 0.001$

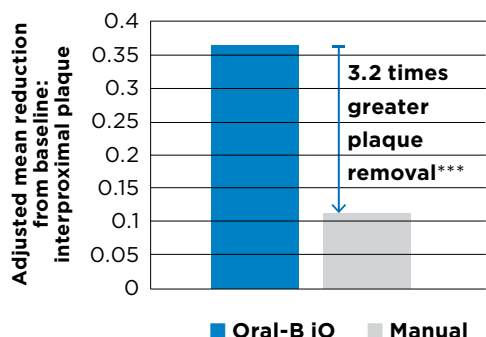
KEY PLAQUE RESULTS

Subjects using the novel Oral-B® iO oscillating-rotating electric toothbrush showed greater reductions in plaque compared to those using a manual toothbrush as early as the first brushing, at Week 1 and throughout the 8-week study. At Week 8, the Oral-B® iO brush removed:

- 2 times more whole mouth plaque
- 3 times more interproximal plaque (Figure 3)
- 6 times more plaque along the gingival margin

All between-treatment differences at Weeks 1 and 8 were statistically significant ($P < 0.001$).

Figure 3. Reduction in interproximal plaque



*** $P < 0.001$; overall baseline whole mouth plaque score = 0.62.

OBJECTIVE

To evaluate the efficacy of the Oral-B® iO oscillating-rotating electric rechargeable toothbrush with micro-vibrations to a standard manual toothbrush for reduction of gingivitis and plaque.

STUDY DESIGN

- This was an 8-week, single-center, examiner-blind, 2-treatment, parallel group, randomized controlled trial conducted at All Sum Research Center in Ontario, Canada. The clinical trial is registered in the clinicaltrials.gov database (NCT03624647).
- 110 subjects with evidence of gingivitis and plaque were enrolled and randomized to one of two treatments, balancing for baseline gingivitis and plaque scores, number of bleeding sites and tobacco use:
 - Oral-B® iO oscillating-rotating electric rechargeable toothbrush with micro-vibrations and Ultimate Clean brush head (M7/OC15, Procter & Gamble)
 - Manual control toothbrush (American Dental Association reference control)
- Subjects brushed with their assigned toothbrush and a standard sodium fluoride dentifrice (Crest® Cavity Protection) twice daily for the 8-week study. Subjects in the manual toothbrush group brushed according to their customary manner while those in the electric toothbrush group brushed according to manufacturer's instructions.
- Gingivitis was assessed at Baseline, Week 1 and Week 8 using the Modified Gingival Index and Gingival Bleeding Index. Plaque was assessed at Baseline, Week 1 and Week 8 using the Rustogi modification of the Navy Plaque Index. Oral Soft Tissue examinations were also conducted at Baseline and Week 8.
- All 110 subjects finished the study. Subjects had a mean age of 47.2 years; 77 were females.

CLINICAL COMMENT

The Oral-B® iO electric rechargeable toothbrush combines the clinically proven oscillating-rotating technology with gentle micro-vibrations to represent the next generation in oscillating-rotating toothbrushes. Consistent with published meta-analyses showing oscillating-rotating toothbrushes provide significantly greater gingival health benefits versus a manual toothbrush,¹⁻³ this 8-week randomized controlled clinical trial demonstrated that Oral-B® iO provides statistically significantly greater gingivitis and plaque reductions than a standard manual toothbrush. In addition, at the end of the 8-week study period, there were 3 times as many “healthy” subjects (<10% bleeding sites) in the Oral-B® iO group compared to the manual brush according to the new periodontal disease classification.⁴

1. Grender JM, et al. *Am J Dent* 2013;26:68-74.

2. Yaacob M, et al. *Cochrane Database of Systematic Reviews* 2014, Issue 6. Art. No.: CD002281.

3. Klukowska M, et al. *Compend Cont Educ Dent* 2014;25 (9):702-706

4. Trombelli L, et al. *J Periodontol* 2018; 89(Suppl 1), S46-S73.