

Table VI. Clinical outcomes from home oral irrigation studies*

Home irrigation unit	Agent	Compared to	Subject number	Length	Clinical outcomes	Comments	Reference
Waterpik® Oral Irrigator	Water	Manual brushing	184	20 weeks	OI supplemental to toothbrushing reduced calculus and gingivitis by 50%.	Subjects told to follow manufacturers instruction; no damage to soft or hard tissue noted	Lobene ⁴³
Waterpik® Oral Irrigator	Water	Manual brushing and interdental stimulators	39	90 days	OI added to TB and IS significantly reduced the periodontal index, plaque, and calculus compared to TB & IS alone.	No pain, bleeding, or soreness was associated with the use of the irrigator.	Hoover & Robinson ⁴⁴
Waterpik® Oral Irrigator	Water, 0.04% CHX	0.12% CHX rinsing, manual brushing	125	6 mos	Irrigation showed minimal decrease in PI yet the GI was significantly reduced. Microbial changes were found in OI groups but not rinsing or TB.	Prophylaxis at baseline. Irrigation showed an added benefit even in sites with good plaque control.	Chaves et al. ⁴⁵
Waterpik® Oral Irrigator	Water, 0.06% CHX	0.12% CHX rinsing, manual brushing	222	6 mos	GI and BOP significantly reduced by CHX OI, water OI, and CHX rinsing. PI reduced by CHX OI and CHX rinsing.	Baseline prophylaxis; more than 90% compliance for all groups	Flemmig et al. ⁴⁶
Waterpik® Oral Irrigator	Water, 0.06% CHX	0.12% CHX rinsing, manual brushing	222	6 mos	CFU and % of gram negative anaerobic rods were significantly reduced by CHX OI.	Study is the bacteriology analysis portion of the Flemmig ⁴⁶ et al. study.	Newman et al. ⁴⁷
Waterpik® Oral Irrigator	Placebo, 0.06% CHX	Placebo rinse, 0.012% CHX rinse	48	2 mos	Significant reduction in GI and BOP with 0.06% CHX OI. Significant reduction in BOP for placebo OI.	Subjects had half mouth scaled. Self-care treatment was carried out on entire mouth. Irrigation demonstrated changes in pathogens and inflammation regardless of scaling.	Brownstein et al. ⁴⁸
Waterpik® Oral Irrigator	Listerine® OI	Placebo OI	66	6 weeks	GI significantly reduced for OI with either Listerine® or placebo agent.	Subjects had half mouth scaled. Self-care treatment was carried out on entire mouth. Irrigation reduced gingivitis on both prophy and non prophy sides.	Ciancio et al. ⁴⁹
Waterpik® Oral Irrigator	Water, Zinc Chloride	Routine oral hygiene (TB and floss, if used)	155	6 mos	Water OI significantly reduced GI, BOP, and PD better than ROH. Water was superior to zinc chloride.	Periodontal maintenance subjects; Subjects with the most bleeding at baseline experienced the most reductions in inflammation.	Newman, et al. ⁵⁰
Waterpik® Oral Irrigator	Water, buffered 0.3% acetylsalicylic acid	Routine oral hygiene (TB+floss, if used)	60	6 mos	Both OI groups reduced GI over ROH; water OI reduced BOP by 50%.	There was a positive correlation between use and reductions in GI, BOP, PD.	Flemmig et al. ⁵¹
Waterpik® Oral Irrigator	0.2% CHX	Placebo irrigation	16	56 days	0.2% CHX superior in reducing MPI, GBI, and PPD	Subjects found the irrigator easy to use.	Walsh et al. ⁵²
Waterpik® Oral Irrigator	0.04% CHX via Pik Pocket® tip	Irrigation with tap water via Pik Pocket® tip	60	3 mos	Both OI groups significantly reduced GI and PPD; 0.04% irrigation significantly reduced gram-negative bacteria.	Study included a scaling and professional irrigation component.	Jolkovsky et al. ⁵³
Waterpik® Oral Irrigator	Listerine® via Pik Pocket® tip	Water irrigation via Pik Pocket® tip	50	6 weeks	Listerine® OI significantly reduced PI, BOP, redness, and putative periodontopathogens.	Study included a scaling and professional irrigation component.	Fine et al. ⁵⁴
Waterpik® Oral Irrigator	0.06% CHX via Pik Pocket® tip	0.12% CHX rinsing	24	3 mos	0.06% CHX OI has statistically significant reductions in PI, MGI, and SI over 0.12% CHX rinsing	Each subject needed to have a minimum of two implants.	Felo et al. ⁵⁵
Hydrofloss®	Magnetic water OI	Hydrofloss® with no magnet Water OI	54	3 mos	44% greater reduction in calculus volume and 42% greater reduction in calculus are for magnetized vs. nonmagnetized	Prophylaxis at baseline; indices were apparently used for the first time in this study and are not used in the literature as standard methods for evaluating plaque and calculus. Only evaluated labial and lingual surfaces of anterior teeth; calculus and plaque were not separated in analysis.	Watt et al. ⁵⁶
Hydrofloss®	Magnetized water OI	Hydrofloss® with no magnet Water OI	29	3 mos	Magnetized water was statistically better than water at reducing calculus.	Prophylaxis at baseline; indices used are not used in the literature as standard methods for evaluating plaque and calculus. Irrigator was used only on lower anteriors.	Johnson et al. ⁵⁷
Braun Oral B OxyJet™ (MD15) Oral Irrigator	Water	Manual toothbrushing	64	8 weeks	Device equivalent to manual toothbrushing in reducing MPI, MGI, ABI	Irrigator used a rotating, non-pulsating stream of water.	Frascella et al. ⁵⁸
Waterpik® Oral Irrigator	Water	Routine oral hygiene, (TB+floss, if used)	52	14 days	Water irrigation significantly reduced PPD, BOP, GI, PI, IL-1β, PGE ₂ over routine oral hygiene.	Cytokine analysis was undertaken at least 8 hours after irrigator use to eliminate a dilution effect.	Cutler et al. ⁶²

*Table represents published, in-vivo studies that evaluate clinical outcomes