



Plaque Removal

in vivo study

Comparison of plaque removal by two Philips Sonicare power toothbrushes with sensitive brush heads and a manual toothbrush

Argosino K, Jenkins W, Milleman J, Nelson M, Souza S, Ward M. Data on file, 2012.

Objective

To evaluate the overall plaque removal efficacy and safety of the Sonicare Essence with e-Series sensitive brush head, Sonicare FlexCare with compact sensitive brush head and a manual toothbrush.

Methodology

A randomized, examiner-blinded, three-arm parallel-design IRB-approved clinical study was conducted in 155 healthy adults (103 females; 52 males) aged 18-65 years (mean, 41.8 years). Eligible subjects were randomized to one of three treatment groups: Sonicare Essence with e-Series sensitive brush head, Sonicare FlexCare with compact sensitive brush head or ADA reference manual toothbrush (MTB). Subjects were instructed to brush twice daily with the assigned product for three days to acclimate to product-use technique. Thereafter, all subjects entered an MTB washout phase for three days. Subjects then returned to clinic with 24 (+/-4) hours plaque accumulation. Efficacy was assessed using the Modified Quigley Hein Plaque Index, where plaque status was assessed before and after a supervised brushing encounter with the assigned device. Compliance was tracked using verbal interviews and review of subject diaries. Safety was assessed in an intraoral examination.

Results

Sonicare Essence with e-Series sensitive brush head removed 43.9% plaque overall, Sonicare FlexCare with compact sensitive brush head removed 44.9% and MTB removed 21.4%. The differences between the power toothbrushes versus manual toothbrush are statistically significant ($p < 0.001$). There was no statistical difference between power toothbrushing groups. There were no adverse events reported.

Conclusion

Both Sonicare Essence with e-Series sensitive brush head and Sonicare FlexCare with compact sensitive brush head were found to be superior to a manual toothbrush in removing plaque when assessed over the entire dentition (overall) as well as in hard-to-reach areas. All products were safe for use.

% of Plaque Reduction

