

1538 1-Month Randomized Controlled Trial Comparing Brush Effects on Sensitivity Response

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Abstract:

Objectives: A randomized controlled trial was conducted to compare power and manual brushing effects on a professional + at-home sensitivity regimen. **Methods:** In this practice-based research, institutional review was obtained, adults with a history of dentinal hypersensitivity were screened, and test sites with air sensitivity were selected. After baseline measurements, a professional treatment with oxalate acid potassium salt solution (Super Seal® Dental Desensitizing Liner, Phoenix Dental) was administered. Balancing for baseline, subjects were then randomly assigned to a rotation-oscillation power brush (Oral-B® Professional Care 4000, Procter & Gamble) or manual crisscross brush control. Test products were dispensed in blinded test kits with a 0.454% stannous fluoride dentifrice for at-home use. Sensitivity was measured after stimulation with a 1-sec application of cool air from a dental air syringe. Two measurements were collected: clinical sensitivity was measured using a standard 4-point scale (Schiff), while self-assessment used a 100 point pain-ranking scale (VAS) collected via a tablet. **Results:** A total of 24 adults were enrolled (12 per group), ages ranged from 21-67 years, most (92%) subjects were female, and 23 completed the 1-month recall. Baseline sensitivity means (SD) were 2.4 (0.72) for Schiff Air, and 57.9 (17.0) for VAS. Both groups exhibited significant ($p < 0.05$) durable reductions in sensitivity (Schiff and/or VAS) with treatment. Overall, the power brush group exhibited greater sensitivity reductions, and groups differed ($p = 0.006$) for VAS sensitivity. Each treatment was well-tolerated, and there were no “for cause” dropouts. **Conclusions:** In practice-based research, use of a rotation-oscillation power brush improved dentinal hypersensitivity responses to professional plus at-home care over a 30 day period.

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