

No difference in effectiveness of powered and manual toothbrushes?

In patient with orthodontic appliances are powered toothbrushes more effective than manual brushes in controlling plaque and gingivitis?

Hickman J, Millett DT, Sander L, Brown E, Love J. *Powered vs manual tooth brushing in fixed appliance patients: a short term randomised clinical trial.* *Angle Orthod* 2002; 72:135–140

Design Randomised controlled trial.

Intervention The 63 patients included in the trial were randomly assigned to use either a powered toothbrush with an orthodontic head or a manual toothbrush, and were instructed in their use by a hygienist. Patients were instructed to brush for a 2-min timed period after breakfast and before going to bed. Toothpaste was supplied and new brushes or brush-heads were dispensed after 4 weeks, and patients were issued with a tooth-brushing diary. The trial was of 8 weeks' duration.

Outcome measures The orthodontic modification of the Silness and Løe plaque index, the Eastman interdental bleeding index and tissue trauma were used.

Results A total of 60 patients completed the trial. After 8 weeks there were no significant differences between the groups for any of the outcomes assessed.

Conclusions A powered toothbrush (Braun Oral B 3D; Braun, AG, Germany) with a dedicated orthodontic head was as effective as a manual toothbrush (Reach; Johnson & Johnson, Maidenhead, Berkshire, UK).

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Commentary

This short-term trial of powered versus manual brushes was published after the completion of the recent Cochrane review¹ and may be included when this is updated in 2 years' time – although the authors will probably need to supply the Cochrane reviewers with additional data not presented in the paper.

This trial, as with most of those in the Cochrane review,¹ is of short duration and, depending on your perspective, either indicates that powered brushes are no more effective than manual brushes or, as the authors of the paper conclude, powered brushes are as effective as manual brushes. Either way this does not seem to provide much encouragement to practitioners to recommend powered toothbrushes. Indeed, the only statistically significant finding in the study was the finding of lower plaque levels in the manual toothbrushing group at 8 weeks.

Of the 29 trials included in the Cochrane review¹ only one was of 12 months' duration and one of 11 months, the remainder being rather short-term, as was this trial. As the majority of people will wish to keep their teeth for a lifetime, we need to see better-quality trials of longer duration to assess both the effectiveness of powered brushes and the cost of ownership.

As the Cochrane review summarises information from several studies it is unlikely that this trial adds significantly to their findings of a marginal benefit on oral health of some types of powered over manual toothbrushes.

Practice point

- This study probably does not alter the Cochrane review finding that some types of powered toothbrushes have a small advantage over manual ones.

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1. Heanue M, Deacon SA, Deery C, *et al.* Manual Versus Powered Toothbrushing for Oral Health (Cochrane Review). The Cochrane Library 2003; Issue 1. Oxford: Update Software.

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