The Role of Power Toothbrushes in Preventive Therapy

By MA Cugini, RDH, MHP

Since their introduction in the early 1960s, power toothbrushes have been challenged with the task of providing a more suitable cleaning option than manual toothbrushes. The more advanced power toothbrushes available today have met that challenge. Both oscillating rotating and sonic technologies have demonstrated better plaque removal than manual brushes and have been accepted by both professionals and patients as viable alternatives to manual brushing.1,2 While there are many power toothbrush options, there are three key factors to consider when making recommendations to patients: clinical evidence, patient compliance, and professional experience—practice-based data.

Clinical Evidence

Clinical evidence that power brushing is superior in cleaning to manual brushing is one of the most important factors in deciding which brush to recommend. Randomized controlled trials determine the safety and/or efficacy of a toothbrush by controlling patient-related variables, such as oral health status, brushing time, and brushing frequency. These can have an impact on oral hygiene outcomes. Publications of trials conducted among specific populations, such as children or patients with dexterity issues, can be particularly informative when trying to determine the most effective toothbrush for certain patients.

Staying current with clinical publications can be time consuming for dental professionals; therefore, systematic reviews can provide a useful resource to efficiently assess a collective body of evidence. In a recent systematic review of published clinical trials, only oscillating rotating power toothbrush technology (a technology introduced by Oral-B) was found to be both more effective at removing plaque and reducing gingivitis than brushing with a manual toothbrush.3

Patient Compliance

While clinical effectiveness should be the primary factor in considering a power toothbrush, another critical factor is patient compliance. A toothbrush proven to completely remove plaque will not be beneficial if the patient does not use it properly or does not use it at all. The first step to promote compliance begins in the operatory. Understanding a patient’s oral hygiene needs, abilities, and even his or her economic situation can impact acceptance of product and regimen recommendations. Many adults need visual cues to accept new concepts. Proper brushing instructions and office demonstrations can personalize the oral hygiene message and increase the likelihood of new behavior adoption.

At home, feedback mechanisms in the toothbrush, (i.e. digital displays and timer features) further enhance patient compliance by allowing patients to have more control of their brushing routine. The built-in timer feature in many power toothbrushes has been recognized as perhaps the most beneficial feature in enhancing plaque removal by encouraging longer brushing times. Timers that are programmed to notify patients when to move from quadrant to quadrant can distribute the 2-minute recommended brushing time evenly throughout the mouth.

In addition to feedback on brushing time, feedback on brushing technique is also helpful. Manual toothbrush users have been recorded as brushing with upwards of over 500 grams of pressure, while most power users tend to brush in the range of 100 to 300 grams of pressure. Pressure indicators built into the brush can alert the user if too much pressure is being applied. Most pressure indicators are audible; however, a visual pressure sensor is now available (Oral-B™ Triumph™ with SmartGuide™).

Finally, customization features in many power toothbrushes help to motivate patients. The variety of power toothbrush head designs that is available for most brushes allows for personalization of the oral hygiene regimen. Some brands allow for interchanging of brush heads between models, but it’s important to check the product features as this is not always the case with some sonic brushes. Smaller brush heads ensure targeted plaque removal with access to remote, hard-to-reach areas such as the posterior molar.
Power toothbrushes like the ProCare Deep Clean 8000 Rechargable from Oral-B are favored by clinicians and patients alike.

Practice-Based Data

The final consideration is practice-based data. This refers to the “real world” results seen when patients return for follow-up evaluations. These visits determine the performance of the toothbrush when integrated into the patient’s home care regimen. When a clinically proven, safe, and effective power toothbrush is combined with a compliant patient, improvement in plaque control and gingival health should be evident.

In addition to these assessments, the collective experience of dental professionals has been assessed using practice-based trials. Data from practice-based trials has shown an increase in motivation when switching patients from manual to power brushing. A large practice-based trial, in which manual toothbrush users were given an oscillating rotating brush, showed that after 10 months of use, 94% of patients said they would continue to use the power brush and 74% felt the use of the power toothbrush improved their oral hygiene. These results are particularly impressive due to the long 10-month duration of the study, indicating a clear adoption of power tooth brushing habits and improvement in oral health status.

Conclusion

Power toothbrushes have become an integral part of home care regimens for improved plaque control and gingival health. When making specific product recommendations to patients, it is important for dental professionals to consider a power toothbrush with solid clinical evidence that demonstrates safety, efficacy, and compliance enhancing features, as well as positive practice based results.

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References


