Summary of: An analysis of methods of toothbrushing recommended by dental associations, toothpaste and toothbrush companies and in dental texts

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Objectives To assess the methods of toothbrushing recommended for both adults and children by dental associations, toothpaste and toothbrush companies and professional sources such as in dental textbooks and by experts. Secondly, to compare the advice by source and whether recommendations differed for adults and for children. **Methods** Examination of online material on methods of toothbrushing from dental associations, toothpaste and toothbrush companies and associated organisations providing professional advice; as well as from dental texts. **Results** There was a wide diversity between recommendations on tooth brushing techniques, how often people should brush their teeth and for how long. The most common method recommended was the Modified Bass technique, by 19. Eleven recommended the Bass technique, ten recommended the Fones technique and five recommended the Scrub technique. The methods recommended by companies, mainly toothpaste companies, differed from those of dental associations, as did advice in dental textbooks and research-based sources. There was a wide difference in the toothbrushing methods recommended for adults and for children. **Conclusions** The unacceptably large diversity in recommendations on what toothbrushing method to use should concern the dental profession. Higher grades of evidence of effectiveness of toothbrushing techniques are required to inform professional bodies that develop guidelines on toothbrushing.

EDITOR'S SUMMARY

Do you think that there should be consensus around the recommended method for tooth brushing? Or does it really matter in the wider scheme of things, particularly, as Dr Broadbent points out in his commentary, there are so many variables, such as the number of different toothbrush designs, both manual and electric? I'm curious what results a survey of UK dentists would come back with if asked this question.

The authors of this paper feel very strongly that there is an urgent need for research into the effectiveness of brushing methods. The evidence-base is lacking. They came to this conclusion following an extensive study of the online material on methods of toothbrushing from all manner of dental and healthcare associations, in addition to a thorough investigation of the advice provided by toothpaste and toothbrush manufacturers. They determine that there is an unacceptably wide diversity in recommendations on toothbrushing. They suggest that the lack of consensus could be due to a paucity of research in this area.

I found this paper interesting because it spawned many questions in my own head. What method do I use to brush my own teeth? Should there be just one way to brush? What tooth brushing method should patients be advised to use by their dentist? What is the psychology involved? For example, are people more likely to do something if always shown just one way or do they value being provided with choices?

Interestingly, the toothbrushing advice currently on the NHS England website is slightly different to that often provided via articles in this Journal, and indeed in the commentary associated with this very paper. As the authors conclude, there is most certainly a lot of different advice (albeit not necessarily conflicting) out there which could easily be confusing to the public. Given that the important thing to consider in all this is how can we get more people brushing properly, brushing well and brushing regularly – perhaps a consensus is needed?

The full paper can be accessed from the *BDJ* website (www.bdj.co.uk), under 'Research' in the table of contents for Volume 217 issue 3.

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IN BRIEF

- Brings attention to the unacceptably wide diversity in recommendations on toothbrushing methods.
- Highlights the methods recommended by toothpaste companies differed from those of dental associations, as did advice in dental textbooks and research-based sources.
- Stresses higher grades of evidence of effectiveness of toothbrushing techniques are required.

COMMENTARY

This study by Wainwright and Sheiham reviewed public recommendations on toothbrushing techniques, as given by dental associations, textbooks, toothbrush/toothpaste companies and other sources. The review identified that the most commonly-recommended brushing technique was the Modified Bass, but noted that other techniques were also frequently recommended. The authors commented that they viewed the variation in recommendations to be unacceptable.

The review did not discuss whether there was variation in recommendations for brushing frequency or timing, or explain whether the variation in toothbrushing techniques was most marked when comparing between countries. It was unclear when the various recommendations were issued (whether recently or not) and the extent to which public advisories may differ from the advice given in one-on-one clinician-patient interactions.

Many more designs of manual toothbrushes exist than techniques with which to use them. The number of brushing techniques is also exceeded by the number of dentifrice products available to apply to the brush. One major company lists about 30 different toothpaste formulations (plus flavours) and about 10 different toothbrush designs (plus varying softness grades); other companies offer still more. In such an environment, proof of the identity of the best toothpaste formulation and best toothbrush design seems unattainable. Is the type of brush as important as the technique for its use? It is possible that toothbrush A is more effective with the Modified Bass, while toothbrush B might work best with a Fones technique, but this may not be true for all groups in the population.

Consistency in recommendations is important to help minimise public confusion. However, in the absence of evidence that one particular manual toothbrushing technique is superior, variation is unavoidable and not necessarily 'unacceptable'. Perhaps the public should be advised: (a) that the best person to ask how to care for the teeth is a dental professional, (b) the highest-level evidence points to the superiority of powered toothbrushes[1] of any type[2] in conjunction with a fluoride toothpaste[3] of at least 1,000 ppm fluoride,[4] but that (c) if a manual toothbrush is to be used, the user must be thorough. Brushing techniques only help to achieve a goal – clean teeth. Must we all follow the same path, or does more than one road lead to Rome?

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AUTHOR QUESTIONS AND ANSWERS

1. Why did you undertake this research?

I undertook this research because I found that what I was personally taught at dental school (and therefore recommended to my patients) contradicted what was recommended in the *BDJ* book *The scientific basis of oral health education* regarding toothbrushing technique in both adults and children. I felt a study was needed to identify the worldwide scope of differences in advice across professional bodies. My opinion is that dental health professionals would greatly benefit from a consensus in advice surrounding a common activity the majority of the population generally performs twice daily. The integrity of the profession may also be preserved in this subject by preventing patients receiving conflicting advice.

2. What would you like to do next in this area to follow on from this work?

Firstly, to promote a discussion among leaders of the dental profession to establish what the best methods of toothbrushing are for both children and adults. Dialogue will help us to identify where efforts should be made to most efficiently solve the existing problem of wide variations of advice regarding toothbrushing technique.

Secondly, to encourage or conduct research on the most effective methods of toothbrushing. Higher grades of evidence on this subject are required to allow for any future consensus on recommendations. Robust, conclusive research will increase the likelihood of adoption by the various global professional sources and reduce the potential for disagreement. It would also be interesting if future research investigated other factors such as the difficulty in learning a particular technique or associated risks, eg increased likelihood of abrasion or gingival recession.