

Other journals in brief

A selection of abstracts of clinically relevant papers from other journals.

The abstracts on this page have been chosen and edited by Reena Wadia

Brush or floss first?

The effect of toothbrushing and flossing sequence on interdental plaque reduction and fluoride retention: A randomised controlled clinical trial

Mazhari F *et al.* *J Periodontol* 2018; **89**: 824–832.

Flossing followed by brushing is preferred to brushing then flossing in order to reduce interdental plaque and increase fluoride concentration in interdental plaque.

This randomised controlled crossover trial aimed to evaluate the efficacy of the sequence of brushing and flossing on reducing interdental plaque and increasing fluoride retention in that area. After prophylaxis, 25 dental students discontinued all forms of oral hygiene for 48 hours. The study was performed in two phases with two-week washout intervals. In one phase, they first brushed, then flossed. In the other they used dental floss then brushed. Dental plaque (using the Rustogi Modified Navy Plaque Index) and fluoride concentrations (using a fluoride ion specific electrode) were measured before and after flossing and brushing. In the floss-brush group interdental and whole plaque was reduced significantly more than the brush-floss group. However, marginal plaque did not show any statistically significant difference between the two groups. Fluoride concentrations in interdental plaque were significantly higher in the floss-brush group than the other group.

DOI: 10.1038/sj.bdj.2018.1062

Connected toothbrushes

Connected toothbrushes: Bridging the gap to personalized oral health

McKenzie KW, Pretty IA. *Am J Dent* 2018; **31**: 115–120.

The use of connected toothbrushes in patients' home care routines can improve overall brushing duration and offers the opportunity to understand authentic brushing habits on an individual and population level.

The purpose of this study was to describe the health-related metrics available from a connected toothbrush and potential insights into individualised toothbrushing behaviour and performance. A total of 1,926 participants used a new connected electronic toothbrush within a 4-month period. Data were collected from the brush using a smartphone application including frequency of use, duration and surface coverage of each brushing session across 16 zones covering occlusal, buccal and lingual surfaces. The population was comprised of 73% males, and 11% were left-handed. Overall, there was no statistical difference between gender or handedness and mean duration (124 seconds) or mean proportional zonal duration (70%) of a brushing session. Both duration and zonal duration improved with usage of brush up to 60 days. The authors commented that such brushes are in their infancy and further developments may enhance insights into whole mouth care and links with general health.

DOI: 10.1038/sj.bdj.2018.1064

Single tufted brushes in ortho patients

Effect of a single-tufted toothbrush on the control of dental biofilm in orthodontic patients: A randomised clinical trial

Cunha LDD *et al.* *Int J Dent Hyg* 2018; **16**: 512–518.

The combination of single-tufted and conventional toothbrushes was effective for controlling dental biofilm formation in orthodontic patients.

The aim of this study was to compare the effect of a single-tufted toothbrush with or without a conventional toothbrush to control dental biofilm in healthy orthodontic patients. Twenty orthodontic patients were randomly assigned to receive three different treatments: Group 1 – conventional toothbrush; Group 2 – single-tufted toothbrush and Group 3 – combination of single-tufted and conventional toothbrushes. Stained plaque index (SPI), visible plaque index (VPI) and gingival bleeding index (GBI) were recorded. Intragroup analysis showed that VPI and SPI significantly decreased after 72 hours in Group 3. Anterior and posterior teeth did not show any significant statistical differences after 72 hours, but VPI values in the labial surfaces were different to Group 3 in comparison with the other groups after 72 hours. Group 3 showed a statistically significant reduction for SPI in the interproximal surfaces when compared with Group 1.

DOI: 10.1038/sj.bdj.2018.1063

Soft tissue injury – bristle stiffness and end-shape

Are bristle stiffness and bristle end-shape related to adverse effects on soft tissues during toothbrushing?

A systematic review. Ranzan N, Muniz FWMG, Rösing CK. *Int Dent J* 2018;

DOI: 10.1111/idj.12421. [Epub ahead of print].

Soft and extra-soft toothbrushes tend to be safer. Oral soft tissue injuries are similar for both tapered and end-rounded bristles.

Toothbrushing can be associated with soft tissue lesions. This systemic review examined soft tissue lesions caused by different bristle stiffnesses and bristle end-shapes of manual toothbrushes. Scopus, EMBASE and PubMed databases were searched to find controlled trials that had been performed using at least two manual toothbrushes differing in bristle stiffness and/or end-shape. Trials had to report adverse effects on oral soft tissues after at least 7 days of follow up. Thirteen studies were included. Toothbrush bristle end-shape was investigated in six studies, bristle stiffness in two, and both in five studies. Hard-bristle toothbrushes produced more gingival lesions than medium- and soft-bristle brushes. A slight gingival recession width increase was identified in the end-rounded group, compared with the tapered group. Only four studies presented adverse effects as the primary outcome and therefore further studies were recommended.

DOI: 10.1038/sj.bdj.2018.1065