

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.

The subsurface lesion in erosive tooth wear

Jadeja S P, LeBlanc A, O'Toole S, Austin R S, Bartlett D. The subsurface lesion in erosive tooth wear. *J Dent* 2023; **136**: 104652.

Natural enamel when exposed to erosion alone showed less wear and minimal subsurface alterations, but with added abrasion, it saw increased wear and notable subsurface changes.

This study compared the surface change on natural and polished enamel exposed to a joint mechanical and chemical wear regimen. Human enamel samples were randomly assigned to natural (n = 30) or polished (n = 30) groups, subjected to erosion (n = 10, 0.3% citric acid, 5 min), abrasion (n = 10, 30 s), or a combination (n = 10). Wear in the form of step height was measured with a non-contact profilometer, and surface changes were inspected with SEM on selected sections. After four cycles, polished samples had mean step heights of 3.08 (0.40) μm after erosion and 4.08 (0.37) μm after erosion/abrasion. For natural samples, these measurements were 1.52 (0.22) μm and 3.62 (0.39) μm , respectively. Natural surfaces displayed less wear than polished surfaces under erosion-only conditions, but the difference disappeared with added abrasion. SEM revealed a shallow subsurface layer for polished surfaces and natural ones undergoing only erosion. However, natural surfaces exposed to both erosion and abrasion showed deeper subsurface changes up to 50 μm . The pronounced subsurface lesions observed on eroded/abraded natural enamel surfaces highlight how combined wear challenges may accelerate tooth tissue loss.

<https://doi.org/10.1038/s41415-023-6457-6>

Colour stability of resin cements

Hardan L, Bourgi R, Hernández-Escamilla T *et al.* Colour stability of dual-cured and light-cured resin cements: A systematic review and meta-analysis of in vitro studies. *J Prosthodont* 2023; DOI: 10.1111/jopr.13757.

To reduce the likelihood of colour change after the luting of thin ceramic restorations, clinicians should employ light-polymerisable resin cements.

This systematic review and meta-analysis aimed to evaluate the difference in the colour stability of light-cure and dual-cure resin cements. Two separate reviewers used the PubMed, Scopus, Web of Science, Embase, and Scielo databases to execute the systematic review. Following the screening of titles and abstracts, 44 studies were selected for full text review, and a total of 27 articles were used for the qualitative analysis. Finally, 23 articles remained for the qualitative analysis. The majority of studies were labelled as having a medium risk of bias. The global analysis showed that the dual-cure resin cements had considerably greater differences in the colour change. A high heterogeneity index was found.

<https://doi.org/10.1038/s41415-023-6458-5>

LA infiltrations – location vs volume

Smithson 2nd J, Fowler S, Drum M, Nusstein J, Reader A, Ni A. Articaine Infiltrations of the Mandibular Lateral Incisor-Is It Volume or Location of the Infiltrations That Affect Success? A Prospective, Randomized Crossover Study. *J Endod* 2023; DOI: 10.1016/j.joen.2023.07.026.

The location of the infiltrations was more important than volume when considering pulpal anaesthesia success for the mandibular lateral incisor.

The purpose of this prospective, randomised crossover study was to determine the anaesthetic efficacy of a labial infiltration of a 3.6 mL volume of 4% articaine with 1:100,000 epinephrine compared with labial infiltration (1.8 mL) plus lingual infiltration (1.8 mL) of 4% articaine with 1:100,000 epinephrine in the mandibular lateral incisor. One hundred subjects randomly received two sets of injections, using 4% articaine with 1:100,000 epinephrine, consisting of labial and lingual infiltrations of 1.8 mL (3.6 mL total) and two labial infiltrations of 1.8 mL (3.6 mL total) of the mandibular lateral incisor in two separate appointments. Electric pulp testing was used to determine anaesthetic success (highest 80/80 reading). The labial and lingual combination had a significantly higher anaesthetic success rate (97%) when compared with the two labial infiltrations (74%) and had significantly higher 80/80s readings from 1 minute to 58 minutes.

<https://doi.org/10.1038/s41415-023-6459-4>

Dental implants and social media

Ma S, Bai C, Chen C, Bai J, Yu M, Zhou Y. Public sense of dental implants on social media: A cross-sectional study based on text analysis of comments. *J Dent* 2023; **137**: 104671.

The hot topics of public concern were procedure, cost, feelings associated with prognosis and multidisciplinary approaches.

This study investigated the most discussed topics and possible new interests in dental implants among the public, as well as the public sentiments towards dental implants. Comments of the top 100 most viewed dental implant-related YouTube videos were studied. The comments were analysed by topic analysis and sentiment analysis. The basic information of videos was collected and classified. Seventy-four videos with 61,618 comments were considered eligible in this study. Most videos targeted the public with high viewing and comments, but the theme was single and the quality was low. From topic analysis, the most discussed topics in the comments were procedure, cost, feelings associated with prognosis, and expectations. Multidisciplinary approaches in implant dentistry were frequently discussed. From sentiment analysis, the public mainly expressed positive sentiment through comments. In detail, the public had positive feelings about aesthetics and health, negative feelings about pain, and neutral feelings about cost.

<https://doi.org/10.1038/s41415-023-6460-y>