

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.

Awareness of the orthodontic-restorative interface

Arunachalam R, Nathwani N, Nejatian T, Fine P, Leung A. Assessing dentists' awareness of the orthodontic-restorative interface. *J Dent* 2023; **141**: 104811.

GDPs lack adequate awareness of the orthodontic-restorative interface in relation to patient care and communication with patients.

This study investigated GDPs' awareness of the orthodontic-restorative interface. Data were collected through a bespoke online questionnaire and open questions to GDPs practising in the UK. Two months after the primary survey, respondents were sent an email with follow-up survey. Reliability responses were compared against the primary responses to assess the repeatability. From the 118 complete responses, 63 GDPs demonstrated a good understanding. These GDPs were characterised by greater age and experience. Respondents perceived orthodontic-restorative treatments as minimally invasive and aesthetics-enhancing. Better education is imperative to facilitate GDPs to understand and utilise aspects of orthodontic-restorative treatments.

<https://doi.org/10.1038/s41415-024-6772-6>

Charcoal toothpaste – how it works?

da Silva D F, Figueiredo F S, Scaramucci T, Mailart M C, Torres C R G, Borges A B. Is the whitening effect of charcoal-based dentifrices related to their abrasive potential or the ability of charcoal to adsorb dyes? *J Dent* 2024; **140**: 104794.

Dentifrices containing activated charcoal do not provide superior results to minimise tooth staining and should be used cautiously.

This study evaluated if tooth colour alteration of activated charcoal-based dentifrices might be attributed to the dye adsorption potential of charcoal (chemical action [C] slurry only) or the association of dye adsorption with abrasion (chemo-mechanical action [CM] slurry/toothbrushing). Surface roughness, gloss, and wear were also assessed. Bovine enamel/dentine specimens were randomly allocated into the treatment groups and test model (n = 15): deionised water (negative control [NC]); Colgate Maximum Anticaries Protection (conventional toothpaste – positive control [PC]); Colgate Luminous White Activated Charcoal (LW); Oral-B 3D White Therapy Charcoal (WT); Curaprox Black is White (BW); Dermavita Whitemax (activated charcoal powder [WP]). Specimens were exposed to the C or CM models, in 28-day staining-treatment cycling. Additional specimens were indented with a Knoop diamond. The CM-model produced lower colour change than C. PC, LW, WT, BW and WP showed similar colour results for both models, differing from NC. Enamel wear values were highest for the WP. Activated charcoal-based dentifrices can minimise tooth staining similarly to conventional toothpaste. The activated charcoal powder damaged the enamel surface, showing a higher deleterious effect on enamel roughness, gloss and wear.

<https://doi.org/10.1038/s41415-024-6774-4>

Severe periodontitis and diabetes

Montero E, Bujaldón R, Montanya E *et al.* Cross-sectional association between severe periodontitis and diabetes mellitus: A nation-wide cohort study. *J Clin Periodontol* 2023; DOI: 10.1111/jcpe.13937.

Severe periodontitis is associated with diabetes in the Spanish population.

This study evaluated the association between severe periodontitis and diabetes mellitus (DM). The di@bet.es epidemiological study is a population-based cohort study aimed to determine the prevalence and incidence of DM in the adult population of Spain. The at-risk sample at the final examination (2016–2017) included 1,751 subjects who completed an oral health questionnaire. This questionnaire, together with demographic and risk factors, had been previously validated to build an algorithm to predict severe periodontitis in the Spanish population. Logistic regression models evaluated the association between severe periodontitis and DM with adjustment for confounding factors. In total, 144 subjects developed DM, which yielded 8% cumulative incidence. Severe periodontitis was detected in 59%, 55% or 69% of the subjects, depending on three selected criteria. All criteria used to define severe periodontitis were associated with DM in unadjusted analysis, but the magnitude of the association decreased after adjusting for significant confounders. The criteria '≥50% of teeth with clinical attachment loss ≥5 mm' presented an odds ratio of 4.9 for DM.

<https://doi.org/10.1038/s41415-024-6773-5>

Association between periodontitis and caries

Romandini P, Marruganti C, Romandini W G, Sanz M, Grandini S, Romandini M. Are periodontitis and dental caries associated? A systematic review with meta-analyses. *J Clin Periodontol* 2023; DOI: 10.1111/jcpe.13910.

Periodontitis was found to be associated with the presence and number of treated/untreated root carious lesions.

This systematic review investigated if adults suffering from periodontitis have a higher presence/number of untreated carious lesions and caries experience (O) than subjects without periodontitis (C). Observational studies that met specific inclusion criteria were included. A total of 18 studies on 21 cohorts, involving 135,018 participants, were included. Meta-analyses showed a significant association between periodontitis and the presence of at least one tooth with either untreated carious lesions or caries experience (decayed and filled teeth ≥ 1). Subjects with periodontitis exhibited a higher number of surfaces and teeth with untreated carious lesions and caries experience than those without periodontitis. Subgroup analyses by caries location indicated that periodontitis was associated only with root caries, not caries affecting the anatomical crown. Caries-specific preventive measures (eg fluorides) should be considered for individuals with periodontitis.

<https://doi.org/10.1038/s41415-024-6775-3>