

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.

New guideline: stage IV periodontitis

Herrera D, Sanz M, Kepschull M *et al.* Treatment of stage IV periodontitis: The EFP S3 level clinical practice guideline. *J Clin Periodontol* 2022; **49 Suppl 24**: 4–71.

This guideline highlights the most effective modalities to treat patients with stage IV periodontitis and to maintain a healthy dentition over a lifetime.

This S3-level clinical practice guideline was developed by the European Federation of Periodontology. A rigorous and transparent process included synthesis of 13 systematic reviews, evaluation of the quality and strength of evidence, the formulation of specific recommendations and a structured consensus process with leading experts and stakeholders. This guideline focuses on the management of stage IV periodontitis discussing the implementation of an inter-disciplinary approach. Stage IV periodontitis shares the severity and complexity characteristics of stage III periodontitis but includes the anatomical and functional sequelae of tooth and periodontal attachment loss. The guideline culminated in recommendations for different interventions, including orthodontic tooth movement, tooth splinting, occlusal adjustment, tooth- or implant-supported fixed or removable dental prostheses and supportive periodontal care. Prior to treatment planning, it is critically important to undertake a definitive and comprehensive diagnosis and case evaluation, obtain relevant patient information, and engage in frequent re-evaluations during and after treatment.

<https://doi.org/10.1038/s41415-022-4949-4>

Adverse events of metronidazole and amoxicillin

Retamal-Valdes B, Tavares A P L, Monique S *et al.* Adverse events of metronidazole and amoxicillin: retrospective analysis of a large data set of five randomised clinical trials. *J Clin Periodontol* 2022; DOI: doi: 10.1111/jcpe.13704. Online ahead of print.

Diabetics, patients under 49 years old and women tended to report more side effects.

This study aimed to evaluate the frequency of side effects associated with intake of metronidazole (MTZ)+ amoxicillin (AMX) in periodontal treatment. Data from five randomised clinical trials testing MTZ + AMX adjunctive to mechanical therapy were evaluated. Information from 656 subjects was assessed. The frequency of side effects in the antibiotic- and placebo-treated groups ranged from 1.0%–17.7% and 0.9%–13.7%, respectively. The events more frequently observed in the antibiotic than in the placebo group were diarrhoea and a metallic taste. Diabetes significantly raised the odds of a patient reporting discomfort, diarrhoea, weakness and excessive sleepiness. In systemically healthy volunteers, using antibiotics three months post-mechanical treatment (healing phase), being a woman and aged <49 years significantly increased the chances of reporting adverse events.

<https://doi.org/10.1038/s41415-022-4947-6>

Periodontitis and COVID-19: mechanisms

Baima G, Marruganti C, Sanz M, Aimetti M, Romandini M. Periodontitis and COVID-19: Biological Mechanisms and Meta-analyses of Epidemiological Evidence. *J Dent Res* 2022; DOI: 10.1177/00220345221104725. Online ahead of print.

Periodontitis was associated with a more than sevenfold increased odds of death due to COVID-19 complications.

This study critically appraised the recent research discoveries linking periodontitis to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection and to severe COVID. SARS-CoV-2 main receptors and co-receptors are overexpressed in periodontal tissues of periodontitis patients, with inflammation, periodontal pathogens and damage-induced pyroptosis triggering a positive feedback loop. Periodontitis may worsen clinical COVID-19 courses through direct and indirect pathways, including damage to lower airways due to aspiration of periodontal pathogens, exacerbation of the cytokine storm via the low-grade chronic systemic inflammation, and SARS-CoV-2 dissemination through the ulcerated gingival epithelium with consequent induced pulmonary vessels vasculopathy. Meta-analyses of epidemiological studies indicated that periodontitis subjects are more likely to experience a more severe course of COVID-19. Periodontitis was associated with fourfold increased odds of hospitalisation, sixfold of requiring assisted ventilation, and more than sevenfold of death due to COVID-19 complications.

<https://doi.org/10.1038/s41415-022-4946-7>

Periodontal Ehlers-Danlos syndrome

Lepperdinger U, Angwin C, Milnes D *et al.* Oral characteristics in adult individuals with periodontal Ehlers-Danlos syndrome. *J Clin Periodontol* 2022; DOI: 10.1111/jcpe.13698. Online ahead of print.

Characteristic oral traits of pEDS in adults are severe CAL with shallow probing depths and marked gingival recession.

Periodontal Ehlers-Danlos syndrome (pEDS) is a monogenic type of Ehlers-Danlos syndrome characterised by periodontal destruction at a young age. The study aimed to document the oral phenotype of pEDS. Thirty-five adult individuals with confirmed diagnosis of pEDS underwent a systematic oral assessment. Periodontitis stage 3 or 4 or edentulism due to periodontal destruction were diagnosed in 94%. First permanent tooth loss was reported at the age of 21.5 years. Deep periodontal pockets were infrequent, with 94% measuring <4 mm. There was increased clinical attachment loss (CAL) averaging 8 mm, and the probability of being edentate between the age of 35 and 44 years was 28–47%. Radiographic anomalous findings were found in a portion of subjects and consisted of fused roots of maxillary second molars, root hypoplasia, taurodontism and tooth rotation. These indications need to be paralleled by genetic analyses to diagnose pEDS unambiguously.

<https://doi.org/10.1038/s41415-022-4948-5>