

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.

VR vs topical

Almugait M, AbuMostafa A. Comparison between the analgesic effectiveness and patients' preference for virtual reality vs. topical anesthesia gel during the administration of local anesthesia in adult dental patients: a randomized clinical study. *Sci Rep* 2021; **11**: 23608.

A significant majority preferred virtual reality to topical anaesthesia.

This study compared the analgesic effectiveness of virtual reality vs topical anaesthesia gel during the administration of local anaesthesia. Twenty-one adult patients received dental anaesthetic injections in the maxillary premolar area. Each patient received two injections during a single dental visit. One side of the mouth was injected under the influence of the topical anaesthesia (TA) 20% benzocaine. The other side of the mouth was injected when the patient was in virtual reality (VR) watching an animated movie. Immediately after each injection, the patients rated their pain experience and chose which delivery system they preferred. Heart rates were recorded prior to and after the injections. Participants reported a lower pain intensity during needle injection while in VR than the injection with topical anaesthesia gel; however, the difference was not statistically significant. A statistically significant majority of the participants preferred VR to TA. No statistically significant difference heart rate was found. Although dental patients reported less pain during VR distraction vs topical gel anaesthetic, the difference was not significant.

<https://doi.org/10.1038/s41415-022-3896-4>

VR during tooth extractions

Qin Z, Zhou C, Zhu Y *et al*. Virtual Reality for Hypertension in Tooth Extraction: A Randomized Trial. *J Dent Res* 2021; doi: 10.1177/00220345211049393. Online ahead of print.

VR was effective in controlling BP and HR during tooth extraction for patients with hypertension.

Tooth extraction is one of the most common causes of dental anxiety and pain, leading to the elevation of blood pressure (BP) and heart rate (HR). Such effects may cause life-threatening accidents in patients with hypertension. Therefore, the pain and anxiety management of these patients is imperative. Virtual reality (VR) has been demonstrated to be a distraction method to relieve anxiety in clinical operations. In this study, 96 eligible patients with controlled hypertension who needed tooth extraction were randomised to the VR or standard care group by stratified randomisation of anxiety grade and gender. Their BP and HR were dynamically monitored. The results showed that the VR technique significantly decreased the elevation of mean arterial pressure and HR, and this effect was found even after adjusting for baseline characteristics and additional surgical procedures. VR did not increase the incidence of adverse events.

<https://doi.org/10.1038/s41415-022-3898-2>

Denture hygiene

Schmutzler A, Rauch A, Nitschke I, Lethaus B, Hahnel S. Cleaning of removable dental prostheses - a systematic review. *J Evid Based Dent Pract* 2021; **21**: 101644.

The use of chemical and mechanical denture hygiene interventions was significantly more effective than single cleaning approaches.

The systematic review aimed to provide an overview of the scientific evidence available from prospective clinical studies regarding denture hygiene interventions. Investigations addressing the efficacy of removing microorganisms and biofilms formed on the surface of removable dental prostheses (RDPs) and denture base materials *in situ*, and their impact on the properties of denture base materials (such as colour stability, surface roughness and dimensional stability), were included. A systematic literature search was conducted. Inclusion criteria comprised prospective clinical trials with a minimum of ten participants investigating (1) methods to remove biofilms formed on the surface of RDPs and denture base materials *in situ* and/or (2) the influence of these biofilms on denture base materials. A total of 44 studies were included. Data indicated that the combined use of chemical and mechanical denture hygiene interventions was significantly more effective than single cleaning approaches. Only limited evidence was available from clinical studies regarding the effect of denture hygiene interventions on the properties of denture base materials.

<https://doi.org/10.1038/s41415-022-3897-3>

Malignant tumours mimicking periapical lesions

Evangelista K, de Faria Vasconcelos K, Beatriz Teodoro A *et al*. Malignant tumours mimicking periapical lesions: A report of three cases and literature review. *Aust Endod J* 2021; doi: 10.1111/aej.12597. Online ahead of print.

Malignant tumours may mimic periapical lesions and clinicians should look out for atypical features.

Apical periodontitis shows radiographic signs such as widening of the periodontal ligament and periapical radiolucency, which differ in extent depending on the stage of the lesion. However, other lesions can be associated with or coincidental to the apical region, representing developmental lesions and benign or malignant tumours. This article describes three cases of malignant tumours, a central mucoepidermoid carcinoma, a chondroblast osteosarcoma and an osteosarcoma of the jaw that presented as periapical lesions. The authors emphasise that clinicians must be aware of unsuccessful treatment, persistent pain, signs of paraesthesia, a rapid growth rate and delayed response to therapy associated with atypical features. Complementary examinations, such as biopsy and computed tomography, can allow the early diagnosis of malignant tumours, leading to a better prognosis and thus increased survival rates and improvement in quality of life.

<https://doi.org/10.1038/s41415-022-3899-1>