

# Anxiety and fear management in paediatric dentistry using distraction techniques

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## A Commentary on

**Prado I M, Carcavalli L, Abreu L G, Serra-Negra J M, Paiva S M, Martins C C.**

Use of distraction techniques for the management of anxiety and fear in paediatric dental practice: a systematic review of randomized controlled trials. *Int J Paediatr Dent* 2019; DOI: 10.1111/ipd.12499.

## Abstract

**Data sources** PubMed, Web of Science, Scopus, Cochrane Library, Latin American and Caribbean Health Sciences Literature (Lilacs), US National Library of Medicine and Google Scholar. There were no limits on language or publication dates.

**Study selection** Two independent reviewers performed the study selection of randomised controlled trials (RCT) investigating distraction techniques to manage dental anxiety & fear in patients under 18 years old compared to no intervention

**Data extraction and synthesis** Data were extracted by two independent reviewers using standardised data tables. Risk of bias was assessed using Cochrane Collaboration's Risk of Bias Tool. Study heterogeneity precluded meta-analysis. Qualitative analyses were performed.

**Results** Twenty-one RCTs were included in this systematic review. Participant ages ranged from 4 to 16 years old. Distraction techniques included use of audio and audio-visual techniques, instrument camouflage, biofeedback therapy, dental operating microscope and toys. Data were collected pre- and post-dental procedures including: dental examination; prophylaxis; local anaesthetic administration; restoration placement; exodontia; and placement of rubber dam.

Within studies, between one and six instruments were used to measure children's anxiety and dental fear. Objective measures with pulse oximeters and blood pressure cuffs were used most frequently.

**Conclusions** The studies included in this systematic review suggest that distraction techniques might be useful to control children's anxiety and fear during dental appointments, however, the certainty of evidence is very low. There are no contraindications for the use of distraction techniques during children's and adolescents' dental appointments.

## Commentary

Dental anxiety in children is common<sup>1</sup> and its management is challenging for all those involved, from the patient, to the treating clinician and any patient caregiver. Each year in the UK, tens of thousands of children are subject to pharmacological management techniques such as general anaesthesia to facilitate addressing their dental needs. However, the evidence base relating to the detrimental effects of such techniques on children's development,

## Practice point

Distraction techniques might be useful to reduce dental fear and anxiety in children with no contraindications to their use.

their perceptions of dentistry and the health economic implications are significant. Fear and anxiety are emotional states that might trigger behavioural management problems during dental appointments, manifesting as inability, or difficulty, to cooperate and engage during dental treatment and delivery of oral care advice. Additionally, negative dental experiences during childhood and adolescence can influence people's perceptions of dental care in their adult life.<sup>2</sup>

Helping child patients to manage their dental anxiety may be of great importance to their self-efficacy around oral health throughout life and so tools to assist dental care professionals in achieving this are important. Distraction techniques are taught at undergraduate level and considered effective in other areas of healthcare<sup>3</sup> yet the evidence for its use in dentistry is not clear. Synthesis, to clarify what works and what doesn't, as well as who certain distraction techniques might work best for, would help guide clinicians in successful use of distraction as one of the tools in their box.

This systematic review of RCTs to assess the efficacy and effectiveness of dental anxiety management through distraction techniques followed an intensive database search, inclusive of grey literature, without restrictions imposed on publication date or languages. Following independent screening, the authors included 21 studies that used a range of distraction techniques to manage children's dental anxiety. Data extraction was completed by the same authors, independently, using standardised forms. The Cochrane Collaboration's Risk of Bias Tool (CCRB) was used to assess the methodological quality of the studies. Intra-study risk of bias was variable across domains, with only sequence generation of high methodological quality across all studies. The authors state blinding of participants and assessors as the main sources of bias, however, it is unclear how this could have been achieved given the nature of the interventions.

Between the 21 studies, the variety of distraction tools/ techniques used, the participant age ranges studied, and the different methods with which child dental anxiety was measured (n = 25): physiological measurements (n = 5); patient reported outcome measures (n = 11); and dentist perception (n = 9), meant that inter-study heterogeneity was too great to allow meta-analyses to be performed. As such, the results of this systematic review are inconclusive and the evidence presented of very low certainty.

Within dentistry, there are several studies that have investigated the clinical effectiveness of distraction techniques to reduce dental

**GRADE rating**



anxiety in children, yet there is a lack of synthesised evidence, or datasets that allow for quantitative synthesis. There is no evidence of harm, nor any contraindications, associated with the use of distraction techniques to manage children's dental anxiety. However, because of the study quality, wide range of techniques available and the different outcomes that are measured, this systematic review provides only evidence of very low certainty relating to their clinical effectiveness. The evidence base would benefit from high quality RCTs with homogenous data sets to allow meta-analyses, consistency of distraction techniques employed and agreed outcome sets to direct clinicians around use of potentially low-cost, easily applied techniques that could have significant implications for patients' treatment and perceptions of dental care.

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## References

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