**Critically Appraised Topic (CAT)**

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| **Project Team:**  |
| **9A-3** |
| **Project Team Participants:**  |
| **Curtis Henderson, Chandler Brennan, Margaret Gentine, Sheridan Michaud** |
| **Clinical Question:** |
| **How do you manage patients with severe dental anxiety?** |
| **PICO Format:** |
| **P:** |
| **Patients with severe dental anxiety** |
| **I:** |
| **Behavioral interventions or medications** |
| **C:** |
| **No treatment** |
| **O:** |
| **Reduction of anxiety** |
| **PICO Formatted Question:** |
| **In patients with dental anxiety are behavior interventions or medications, compared to no interventions, effective in reducing anxiety symptoms?** |
| **Clinical Bottom Line:** |
| **A wide array of behavior modification techniques and pharmacological interventions are effective in reducing anxiety symptoms in patients with dental anxiety.** |
| **Date(s) of Search:**  |
| **9/14/20 and 9/15/20** |
| **Database(s) Used:** |
| **PubMed** |
| **Search Strategy/Keywords:** |
| **Dentistry, Dental Anxiety, Conscious Sedation, Sedation, Nitrous Oxide** |
| **MESH terms used:** |
| **Dentistry, Dental Anxiety, Consious Sedation** |
| **Article(s) Cited:** |
| 1. Non-pharmacological interventions for reducing mental distress in patients undergoing dental procedures: Systematic review and meta-analysis

**Burghardt, et. Al.**[**https://0-www-sciencedirect-com.libus.csd.mu.edu/science/article/pii/S0300571217302725?via%3Dihub**](https://0-www-sciencedirect-com.libus.csd.mu.edu/science/article/pii/S0300571217302725?via%3Dihub)1. **Dental fear in adults: a meta-analysis of behavior interventions**

**Kvale, et. Al.**[**https://onlinelibrary.wiley.com/doi/full/10.1111/j.1600-0528.2004.00146.x**](https://onlinelibrary.wiley.com/doi/full/10.1111/j.1600-0528.2004.00146.x)1. **Current methods of sedation in dental patients – a systematic review of the literature**

**Corcuera-Flores, et. Al.**[**https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5005095/**](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5005095/) |
| **Study Design(s):** |
| **Systematic reviews and meta-analyses** |
| **Reason for Article Selection:** |
| **Each article represented a high level of evidence directly pertaining to the PICO question.** |
| **Article(s) Synopsis:** |
| 1. A systematic review of 29 qualifying RCTs concluded that non-pharmacological modalities for reducing the mental distress that comes with many dental procedures are effective. The modality shown to be most effective is hypnosis.
2. A systematic review 38 studies that met criteria concluded that behavior modification techniques result in a reduction of fear for dental patients. 36 of 38 studies showed a reduction in fear, while 2 showed no change.
3. A systematic review 21 studies assessing current pharmacological methods of sedation in dentistry showed several common techniques to be effective for conscious sedation. Midazolam is the most common drug used for conscious sedation. It is shown to be safe and effective. Other techniques including ketamine, dexmedetomidine, and propofol have been shown to be effective for moderate sedation.
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| **Levels of Evidence:** (For Therapy/Prevention, Etiology/Harm) See <http://www.cebm.net/index.aspx?o=1025>[x]  **1a** – Clinical Practice Guideline, Meta-Analysis, Systematic Review of Randomized Control Trials (RCTs)[ ]  **1b** – Individual RCT[ ]  **2a** – Systematic Review of Cohort Studies[ ]  **2b** – Individual Cohort Study[ ]  **3** – Cross-sectional Studies, Ecologic Studies, “Outcomes” Research[ ]  **4a** – Systematic Review of Case Control Studies[ ]  **4b** – Individual Case Control Study[ ]  **5** – Case Series, Case Reports[ ]  **6** – Expert Opinion without explicit critical appraisal, Narrative Review[ ]  **7** – Animal Research[ ]  **8** – In Vitro Research |
| **Strength of Recommendation Taxonomy (SORT) For Guidelines and Systematic Reviews**See article **J Evid Base Dent Pract 2007;147-150**[x]  **A** – Consistent, good quality patient oriented evidence[ ]  **B** – Inconsistent or limited quality patient oriented evidence[ ]  **C** – Consensus, disease oriented evidence, usual practice, expert opinion, or case series for studies of diagnosis, treatment, prevention, or screening |
| **Conclusion(s):** |
| **Dental anxiety can be an impediment to providing safe and accessible dental care to a large population. Several modalities exist to reduce dental anxiety and dental fear. Both pharmacological and non-pharmacological interventions are effective methods for reducing dental anxiety.** |