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MANDIBULAR ADVANCEMENT APPLIANCES FOR THE TREATMENT OF PEDIATRIC OBSTRUCTIVE SLEEP APNEA: A SYSTEMATIC REVIEW

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Objective: To evaluate the effectiveness of mandibular advancement appliances (MAAs) for treatment of pediatric OSA.

Methods: A systematic search of several electronic databases (PubMed, EMBASE, MEDLINE, Healthstar), limited grey literature, and manual searches was completed with the assistance of a senior librarian specialized in health sciences database searches. Studies evaluating the effects of MAAs in children with OSA were selected for full article review.

Results: Only 4 articles satisfied all inclusion criteria, and individual analysis of the selected articles was completed. Only one study was a quasi-randomized clinical trial. The remaining studies were of retrospective nature. All included studies had high risk of bias. Absence of control groups, short-term observation periods and small sample sizes were the most limiting characteristics across selected studies. The limited available evidence suggests that MAAs result in improvements in AHI scores; however they do not normalize AHI scores. Sample mean ages ranged from 6 to 12 years of age. A meta-analysis was not possible due to the heterogeneity in study designs and collected information.

Conclusion: Based on current limited evidence, it is not possible to conclude that MAAs are effective to treat pediatric OSA. A reduction in AHI was consistently observed. When MAAs are orthodontically indicated in pediatric OSA patients, they can result in improvement of OSA signs and symptoms.