

## Documents

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**Soft tissue changes with skeletal anchorage in comparison to conventional anchorage protocols in the treatment of bimaxillary proclination patients treated with premolar extraction: A systematic review [Veränderungen des Weichgewebes bei skelettaler Verankerung im Vergleich zu konventionellen Verankerungsprotokollen bei der Behandlung von Patienten mit bimaxillärer Protrusion und Extraktion von Prämolaren: Ein systematischer Review]** (2024) *Journal of Orofacial Orthopedics*, 85 (2), pp. 146-162.

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**Abstract**

Purpose: This review systematically evaluates the evidence related to comparisons between skeletal and conventional anchorage protocols in the treatment of bimaxillary proclination patients who underwent premolars extraction with respect to soft tissue profile changes, treatment duration and three-dimensional (3D) soft tissue changes. Methods: Electronic database search and hand search with no language limitations were conducted in the Cochrane Library, PubMed, Ovid, Web of Science, Scopus and ClinicalTrials.gov. The selection criteria were set to include studies with patients aged 13 years and above requiring extractions of upper and lower first premolars to treat bimaxillary proclination with high anchorage demand. Risk of bias assessment was undertaken with Cochrane's Risk Of Bias tool 2.0 (ROB 2.0) for randomised controlled trials (RCTs) and ROBINS-I tool for nonrandomised prospective studies. The Grading of Recommendations, Assessment, Development and Evaluation (GRADE) approach was used for quality assessment. Results were summarised qualitatively; no meta-analysis was conducted. Results: Two RCTs and two nonrandomised prospective studies were included. According to the GRADE approach, there is low to very low quality of evidence that treatment using mini-implant anchorage may significantly change nasolabial angle, upper and lower lip procumbence, and facial convexity angle compared to treatment with conventional anchorage. Similarly, very low quality evidence exists showing no differences in treatment duration between treatments with skeletal or conventional anchorage. Conclusions: The overall existing evidence regarding the effect of anchorage protocols on soft tissue changes in patients with bimaxillary protrusion and premolar extraction treatment plans is of low quality. Trial registration number: PROSPERO CRD42020216684 © Springer Medizin Verlag GmbH, ein Teil von Springer Nature 2022.

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