

INTERCETER COMPARISON OF DIFFERENT MAXILLARY EXPANSION MODALITIES IN PATIENTS WITH COMPLETE CLEFT LIP AND PALATE

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INTRODUCTION: The maxillary dental arch of patients with unilateral complete cleft lip and palate is generally constricted showing a transversal deficiency that very frequently requires maxillary expansion. Some centers prefer the rapid orthopedic expansion, using the Hyrax appliance while others prefer the slow maxillary expansion and use the quad-helix appliance. The literature is not clear about each expander promotes the best expansion. **PURPOSE:** to compare the occlusal effects of rapid and slow maxillary expansion, in patients with unilateral complete cleft lip and palate, using digital models. **METHODOLOGY:** 34 patients in the mixed dentition composed the sample. The rapid maxillary expansion using hyrax appliance was performed in 17 patients at the Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo (HRCA-USP) and the slow maxillary expansion was performed in 17 patients, using quad-helix appliance, at the Los Angeles Childrens Hospital, University of South California (LOCH-USC). Conventional dental casts was performed before expansion (T1) and 6 months after the expansion (T2), when the appliance was removed. After digitalization of the dental casts (3Shape R700 3D), the maxillary dental arch transverse dimensions, buccolingual inclination of posterior teeth, dental arch perimeter and palate volume was measured. Dependent tests was used to evaluate the changes between phases ($p < 0.05$) and Independent test was used to evaluate the changes between the groups ($p < 0.05$). **CONCLUSIONS:** Both orthopedic expander and the quad-helix produced significant changes in the maxillary arch widths and perimeter. The palate volume increased in the rapid maxillary group and posterior maxillary tooth tipping was bigger in the quad-helix group.

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