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## Stability of maxillary advancement using external rigid distractors in cleft lip and palate patients

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### ABSTRACT

**Purpose:** To evaluate the skeletal changes associated with maxillary advancement using the external rigid distractor in cleft lip and palate patients after distraction and to assess the stability of these changes. **Patients and Methods:** Eight cleft lip and palate patients with maxillary hypoplasia underwent maxillary distraction osteogenesis using external rigid devise. Lateral cephalometric records were obtained before distraction T1 and after completing active distraction T2. After a three month follow up period a final lateral cephalometric record was evaluated T3. **Results:** The maxilla was significantly advanced as indicated by the increase in maxillary depth angle and effective maxillary length (median difference, 10 mm). The palatal plane angle showed a significant increase (median difference, 5°), showing clockwise rotation. At T3 there was a slight decrease in maxillary depth angle (median difference, 3°). Effective maxillary length decreased significantly at T3 (median difference, 2 mm). The palatal plane angle decreased (median difference, 3°) and almost returned to its original position, showing a counterclockwise rotation. **Conclusion:** Maxillary advancement using external rigid distractor resulted in clockwise rotation of maxilla with increase in palatal plane angle and slight increase in mandibular plane angle. The amount of maxillary advancement was slightly reduced during follow up and the palatal plane almost returned to its original position. These changes showed good stable clinical results.

### KEYWORDS

Maxillary Hypoplasia; Cleft Lip; Palate; Maxillary Distraction Osteogenesis

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