

**INTRODUCTION:**
Early Class III treatment with reverse-pull headgear generally results in maxillary skeletal protraction but is frequently also accompanied by unfavorable dentoalveolar effects. An alternative treatment with intermaxillary elastics from a temporary anchorage device might permit equivalent favorable skeletal changes without the unwanted dentoalveolar effects.

**METHODS:**
Six consecutive patients (3 boys, 3 girls; ages, 10-13 years 3 months) with Class III occlusion and maxillary deficiency were treated by using intermaxillary elastics to titanium miniplates. Cone-beam computed tomography scans taken before and after treatment were used to create 3-dimensional volumetric models that were superimposed on nongrowing structures in the anterior cranial base to determine anatomic changes during treatment.

**RESULTS:**
The effect of the intermaxillary elastic forces was throughout the nasomaxillary structures. All 6 patients showed improvements in the skeletal relationship, primarily through maxillary advancement with little effect on the dentoalveolar units or change in mandibular position.

**CONCLUSIONS:**
The use of intermaxillary forces applied to temporary anchorage devices appears to be a promising treatment method.