

A Radiographic Superimposition in Orthognathic Surgery of Class III Skeletal Malocclusion

Authors : Albert Suryaprawira

Abstract : Patients requiring correction of severe Class III skeletal discrepancy historically has been among the most challenging treatments for orthodontists. Correction of an aesthetic and functional problem is crucially important. This is a case report of an adult male aged 18 years who complained of difficulty in chewing and speaking. Patient has a prominent profile with mandibular excess. The pre-treatment cephalometric radiograph was taken to analyse the skeletal problem and to measure the amount of bone movement and the prediction soft tissue response. The panoramic radiograph was also taken to analyse bone quality, bone abnormality, third molar impaction, etc. Before the surgery, the pre-surgical cephalometric radiograph was taken to re-evaluate the plan and to settle the final amount of bone cut. After the surgery, the post-surgical cephalometric radiograph was taken to confirm the result with the plan. The superimposition between those radiographs was performed to analyse the outcome. It includes the superimposition of the cranial base, maxilla, and mandible. Superimposition is important to describe the amount of hard and soft tissue movement. It is also important to predict the possibility of relapse after the surgery. The patient needs to understand all the surgical plan, outcome and relapse prevention. The surgery included mandibular set back by bilateral sagittal split osteotomies. Although the discrepancy was severe using this combination of treatment and the use of radiographic superimposition, an aesthetically pleasing and stable result was achieved.

Keywords : cephalometric, mandibular set back, orthognathic, superimposition

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