

Surgical Approaches for Bimaxillary Protrusion

Clement CH Lin

Bimaxillary protrusion is one of the common presentations that a patient with Class II malocclusion may have.

Conventional goals of orthognathic-orthodontic treatment in Class II dentofacial deformities are aiming for ideal occlusion and pleasing facial profiles. Clinical examination, dental evaluation and cephalometric studies, 2D or 3D, may provide detailed information for correction of compound dentoskeletal anomalies.

Since the awareness of the correlation between retrognathia and obstructive sleep apnea, the upper airway evaluation became fundamental before the treatment plan decision for patient with Class II deformity. When indicated, a polysomnography should be performed before surgery. A complete upper airway evaluation can help to avoid possible complications of sleep-related disordered breathing, obstructive sleep apnea or perioperative compromise of the airway.

Comprehensive considerations in orthognathic-orthodontic treatment for Class II dentofacial deformity should take care of the aesthetic requirements by the patient, a perfect dentoskeletal relationship, and a patent airway. Common surgical techniques demanded are LeFort I with/without anterior segmental osteotomy, bilateral sagittal splits with/without anterior segmental osteotomy, and genioplasty.

Surgical Manipulation of MMC in CW and CCW Rotation

Clement CH Lin

Alteration of occlusal plane is a powerful technique in orthognathic surgery. The initial evaluation should based on cephalometric measurement of occlusal plane, upper and lower teeth proclination, and facial profile.

Clockwise (CW) rotation can be a powerful tool in the surgery of Class III overbite patients with low occlusal plane. The rotation can act as surgical decompensation for proclined upper front teeth, improve the flat occlusal plane, and achieve large setback and convex facial profile to eliminate prognathic appearance.

Counterclockwise (CCW) rotation is indicated especially in the surgery of Class II, high mandibular and occlusal plane patients with/without narrowed airway and sleep related breathing disorders. The rotation can improve the abnormal cephalometric measurements and improve pharyngeal airway through large mandibular advancement.

Surgical manipulation of MMC should be under the guidance of cephalometry and pharyngeal airway measurements. Upper airway evaluation should be routinely conducted.

Polysomnogrphay is indicated on patients with sleep or upper airway symptom and signs. With proper guidance, MMC rotation can help patients with dentofacial deformities to normalize the face, occlusion, and upper airway function.