

---

## Retention regimens after surgical orthodontics

Retention regimens have become an essential part of the present-day orthodontic treatment plan. The ultimate success of the long-term orthodontic treatment result depends on a compilation of steps, including appropriate planning, well-controlled treatment mechanics, retention compliance and, in general, an appreciation of the biological limits of tooth movement.

Not all cases can be corrected by orthodontic treatment alone. In severe skeletal malformations, a surgical approach would be required. Thus, orthognathic surgery is undertaken. Traditionally, maxillofacial deformities are corrected surgically after an initial orthodontic treatment phase.

A collaborative approach between the orthodontist and maxillofacial surgeon is imperative to successfully devise and execute a comprehensive treatment plan with predictable outcomes.

In an article, the authors emphasize the postsurgical therapeutic protocol which is extremely important for determining the final and permanent retention of the corrected occlusion. Combined surgical and orthodontic correction of the malocclusion was used. The goals of the postoperative therapy were to restore and rehabilitate neuromuscular function, obtain occlusal stabilization, grind teeth selectively, and final occlusion retention. The importance of a surgical occlusal splint for rehabilitating stomatognathic neuromuscular function postoperatively was demonstrated. The long-term results confirmed the efficacy of the treatment protocol presented here from both functional and aesthetical perspectives.

In surgical-orthodontic treatment, the correct control of the postsurgical orthodontic phase is as important as the presurgical orthodontic phase. A good final result depends not only on the initial diagnosis, but also on the exact planning and execution of the orthognathic surgery. Postoperative orthodontic therapy is used to finalize and perfect the dental occlusion relative to the new skeletal relationships. In the postsurgical phase, it is important to restore neuromuscular function through progressive reprogramming of muscular and dental-periodontal proprioception that is adequate for the new spatial situation of the maxillary and mandibular skeletal bases. Finally, the orthodontic and prosthodontic treatment permits correct occlusion, which will be stabilized by a good spatial jaw relationship, correct neuromuscular function, and the prevention of parafunction. Aesthetics, function, stability, and treatment time have to be considered for the decision-making process. The therapeutic treatment of these serious anomalies must be neither orthodontic nor surgical alone. Orthognathic surgery is important when it is considered as part of the therapeutic method.

Orthognathic surgery to reposition the maxilla, mandible, or chin is the mainstay treatment for

---

### Need help with the assignment?

Our professionals are ready to assist with any writing!

**GET HELP**

---

patients who are too old for growth modification and for dentofacial conditions that are too severe for either surgical or orthodontic camouflage.

Surgical procedures are also carried out to correct cases of skeletal class III. In an article<sup>3</sup>, a case of 25 year old female patient is discussed who underwent BSSO. The results were stable even after 8 years. Rigid bicortical screw fixation was done. Also being 25 years old, there was no late mandibular growth. Thus they concluded that mandibular set back surgery should be avoided at younger age. Proffit<sup>4</sup> has compared postsurgical stability after mandibular set back using three techniques. He concluded that rigid fixation after surgery is necessary or BSSO with wire synthesis can also be done.

With the advent of rigid internal fixation across the osteotomy site, uncontrolled skeletal relapse is unlikely to occur. Skeletal remodeling at the site of osteotomy and the mandibular condylar heads may continue up to 6 to 12 month's postoperatively<sup>7</sup>.

There are few orthognathic surgeries which are extremely stable and few others which are prone to relapse. Profit compared the different surgical procedures and concluded the most and least stable procedure<sup>5</sup>. The hierarchy of stability was analysed and it was concluded that superior repositioning of maxilla was the most stable procedure; with transverse expansion of maxilla being the least stable. The combination of moving the maxilla upward and the mandible forward is significantly more stable when rigid internal fixation is used in the mandible.

In an updated article, hierarchy of stability with rigid fixation was analysed. Two procedures not previously placed in the hierarchy now are included: correction of asymmetry is stable with rigid fixation and repositioning of the chin also is very stable. Surgical movements in patients treated for Class II/long face problems tend to be more stable than those treated for Class III problems. Since the dentition adapts to the skeletal change, long term dental changes were fewer.

Orthognathic surgery relies on a close collaboration between the surgeon and the orthodontist across all stages of treatment, from preoperative planning to finalization of occlusion.

---

## Need help with the assignment?

Our professionals are ready to assist with any writing!

[GET HELP](#)