

Orthognathic Surgery in Orthodontic Treatment: Indications and Outcomes

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INTRODUCTION

Orthognathic surgery, a transformative procedure in the field of orthodontics, plays a crucial role in correcting severe skeletal discrepancies that cannot be adequately addressed through orthodontic treatment alone. This commentary explores the indications for orthognathic surgery, its integration with orthodontic care and the outcomes that patients can expect from this combined approach.

Orthognathic surgery is primarily indicated for patients with significant skeletal discrepancies affecting their occlusion, facial aesthetics and overall function. These discrepancies often manifest as severe underbites (prognathism), overbites (retrognathism), open bites or asymmetries in jaw alignment. While orthodontic treatments such as braces or aligners can correct dental misalignment, they are ineffective when the underlying issue involves the position of the jaws themselves.

Candidates for orthognathic surgery typically undergo a comprehensive assessment by an orthodontist and a maxillofacial surgeon to determine the severity of their condition and the appropriate treatment plan. Advanced imaging techniques such as Cone-Beam Computed Tomography (CBCT) are often used to precisely evaluate the skeletal structures and plan the surgical correction.

DESCRIPTION

Integration with orthodontic treatment

Orthognathic surgery is rarely performed in isolation; instead, it is integrated with orthodontic treatment to achieve optimal results. Before surgery, orthodontic appliances are used to align the teeth within each dental arch and prepare the patient for the surgical correction. This pre-surgical orthodontic phase aims to establish a proper dental occlusion that will complement the new skeletal relationship post-surgery.

Post-surgery, orthodontic treatment continues to refine the occlusion and ensure that the teeth fit together correctly within the new jaw alignment. This phase, known as post-surgical

orthodontics, focuses on fine-tuning the bite and aligning the dental arches to enhance both function and aesthetics.

The collaboration between orthodontists and maxillofacial surgeons is crucial throughout the entire treatment process. Close coordination ensures that the surgical and orthodontic components complement each other, leading to optimal outcomes for the patient.

Outcomes of orthognathic surgery

The outcomes of orthognathic surgery can be transformative, addressing both functional and aesthetic concerns for patients. Functionally, correcting skeletal discrepancies can improve speech, chewing ability and overall facial balance. Patients often experience enhanced bite function and a reduction in symptoms such as Temporomandibular Joint (TMJ) disorders, which can result from misaligned jaws.

Aesthetically, orthognathic surgery can significantly enhance facial harmony and symmetry. By repositioning the jaws to achieve a balanced profile, surgeons can improve the overall appearance of the face. This improvement in facial aesthetics is not only cosmetic but also contributes to the patient's self-confidence and quality of life.

Moreover, orthognathic surgery has long-term stability when performed correctly and followed by comprehensive orthodontic care. Patients can expect their corrected jaw positions to remain stable over time, provided they adhere to post-treatment guidelines and maintain regular dental check-ups.

Challenges and considerations

Despite its benefits, orthognathic surgery presents challenges and considerations for both patients and clinicians. The decision to undergo surgery is significant, requiring careful consideration of the potential risks, recovery period and financial investment involved. Additionally, the recovery process can vary from patient to patient, with temporary post-operative changes such as swelling and discomfort.

From a clinician's perspective, precise treatment planning and interdisciplinary collaboration are essential to achieving

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Received: 26-Jun-2024, Manuscript No. AEDJ-24-32398; **Editor assigned:** 01-Jul-2024, PreQC No. AEDJ-24-32398 (PQ); **Reviewed:** 15-Jul-2024, QC No. AEDJ-24-32398; **Revised:** 17-Mar-2025, Manuscript No. AEDJ-24-32398 (R); **Published:** 24-Mar-2025, DOI: 10.35248/0976-156X.25.17.314

Citation: Govaers K (2025) Orthognathic Surgery in Orthodontic Treatment: Indications and Outcomes. Ann Essence Den. 17:314.

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successful outcomes. Communication between orthodontists and surgeons must be clear and consistent throughout treatment to ensure alignment with the treatment goals and patient expectations.

Orthognathic surgery represents a pivotal intervention in orthodontic treatment, addressing complex skeletal discrepancies that cannot be corrected through orthodontics alone. By integrating surgical correction with orthodontic alignment, clinicians can achieve comprehensive results that improve both function and aesthetics for patients.

CONCLUSION

While the decision to undergo orthognathic surgery requires careful consideration, the potential benefits in terms of

improved bite function, facial harmony and overall quality of life are substantial. With advancements in imaging technology and treatment techniques, orthodontic and maxillofacial specialists continue to refine their approaches to ensure optimal outcomes for patients undergoing this transformative procedure.

Orthognathic surgery exemplifies the synergy between orthodontics and maxillofacial surgery, offering tailored solutions to patients with significant skeletal discrepancies. By understanding the indications, integration with orthodontic treatment and expected outcomes, clinicians can better guide patients through this life-changing journey towards improved oral health and enhanced facial aesthetics.