



When Is Orthognathic Surgery Medically Necessary?

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Speaker Introductions

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Overview

- The use of orthognathic surgery to correct significant facial skeletal deformities
 - Procedures for midface, lower face, and chin deformities
- When is orthognathic surgery medically necessary?
 - Clinical presentation
 - Preoperative evaluation
- Nonsurgical alternatives
- Health plan limitations, exclusions, and coverage
- Available treatment guidelines
- The role of external independent review in determining medical necessity for orthognathic surgery

What is Orthognathic Surgery?

- A class of surgical procedures designed to realign the maxillofacial skeletal structures with each other and with the other craniofacial structures
 - Widens, lengthens, or shortens the bones in the maxilla (upper jaw) and/or mandible (lower jaw)
- Corrects significant facial deformities, which may be evident at birth or may emerge during growth and development
- Improves function by correcting the underlying skeletal deformity when dental/orthodontic treatment alone is precluded due to the severity of deformities and skeletal impairment

Jaw Deformities

- Abnormalities of jaw-to-jaw size and shape
- Excessive or deficient bone-to-bone or bone-to-soft-tissue relationships
- May be present in any of the three planes (can be a combination)
 - Horizontal
 - Vertical
 - Transverse
- May result from:
 - Acquired defects (e.g., traumatic injuries)
 - Neoplastic processes (e.g., tumors)
 - Degenerative diseases















Dysfunction Associated With Facial Skeletal Abnormalities

- Abnormal chewing patterns
- Diminished bite forces
- Restricted mandibular excursions
- Speech deficits
- Malocclusions and/or abnormal facial appearance
- Obstructive sleep apnea

Orthognathic Surgery: **The Process**

- Usually involves the maxilla and/or mandible, but other bony components may be involved
 - An osteotomy is made in the affected jaw (i.e., bone is cut) and the bones are repositioned in a more normal alignment
 - The bones are held in position with plates, screws and/or wires
 - Simultaneous osteotomies may be performed when deformities must be corrected in both jaws
- May include orthodontics before and after surgery in order to ensure proper positioning of the teeth
- Takes place in several phases over the course of 1 to 2 years, or longer

Orthognathic Surgery: **Three Basic Osteotomies**

- The midface with the Le Fort I-type osteotomy
- The lower face with the sagittal split ramal osteotomy of the mandible
- The horizontal osteotomy of the symphysis of the chin (osseous genioplasty)
- The choice of procedure depends on the specific deformity

The Le Fort I-Type Osteotomy for Midfacial Deformities

- Involves separating the maxilla and palate from the skull above the roots of the upper teeth through an incision inside the upper lip
- The maxilla is fixed in its new position with titanium screws and plates

The Sagittal Split Ramal Osteotomy for Lower Face Deformities

- The primary choice for correcting most cases of:
 - Mandibular retrognathism (lack of growth of the mandible)
 - Prognathism (protrusion of the mandible)

The Horizontal Osteotomy of the Symphysis of the Chin

- A versatile procedure that can reposition the chin in multiple planes
- Allows for correction of significant sagittal and vertical deformities of deficiency (microgenia) or excess (macrogenia) and asymmetric conditions

Determining Medical Necessity for Orthognathic Surgery: Comprehensive Evaluation and Documentation

Orthognathic Surgery: **Cosmetic vs. Medically Necessary**

- Is a significant abnormality causing considerable functional impairment?
 - Persistent inability to chew and swallow food adequately when other causes such as neurological or metabolic disease have been ruled out by physical exam and/or appropriate diagnostic testing
 - Malnutrition, significant weight loss, or failure to thrive
 - Speech and articulation disorders directly related to jaw deformity, as determined by a speech and language pathologist
 - Myofascial pain that has persisted for at least 6 months despite conservative treatment such as physical therapy
 - Airway obstruction, such as obstructive sleep apnea, when documented by sleep study when:
 - Conservative treatment (e.g., CPAP, oral appliance) has been attempted and failed despite patient compliance
 - The patient has failed prior less invasive surgical procedures or has craniofacial skeletal abnormalities that are associated with a narrowed posterior airway space and tongue-based obstruction

Clinical Presentation

- A wide range of clinical presentations is possible
- Maxillofacial deformities can be divided broadly into three major categories:
 - Dental dysplasias
 - Skeletal dysplasias
 - Dentoskeletal dysplasias

Clinical Presentation: **Dental Dysplasias**

- Limited strictly to malocclusions that result from abnormal spatial relationship of the dentition and not from the skeletal position of the upper and lower jaws
- Can be corrected with orthodontic treatment

Clinical Presentation: **Skeletal Dysplasias**

- The dentition is in good alignment, but the maxilla and/or mandible are dysplastic
- Require correcting the skeletal deformity without altering the occlusion

Clinical Presentation: **Dentoskeletal Dysplasias**

- The dentition is malpositioned within each arch and with each other, and the skeletal relationship of the upper and lower jaws is abnormal
- Require aligning the dentition within each arch with orthodontic treatment and restoring the maxillary-mandibular dental relationship with skeletal osteotomies and repositioning

Components of Comprehensive Preoperative Evaluation: **Clinical Exam**

- Photographs are essential for documentation and to allow for photometric analysis
- Soft tissue landmarks can be used to obtain angular and linear measurement that can help define the problem quantitatively

Components of Comprehensive Preoperative Evaluation: **Skeletal Evaluation**

- Typically includes radiographic evaluation with:
 - Ortho-Panorex x-rays
 - Provide an overview of the stage of dental development, the mandibular anatomy, and gross pathology
 - Cephalometric x-rays
 - Provide for standardized skull and/or facial views that allow for comparison over time to assess growth in an individual and for comparison of that individual against standardized population norms

Components of Comprehensive Preoperative Evaluation: **Dental Evaluation**

- Assessment of dental models includes:
 - Space analysis and arch length
 - Transverse width discrepancies
 - Position of individual teeth within their own arches
 - The relationship of the maxillary dentition to the mandibular dentition

Nonsurgical Approaches

- Consider conservative first-line treatment approaches (e.g., orthodontics, speech therapy) in order to avoid potentially unnecessary surgery
 - A patient with a malocclusion contributing to a speech abnormality should undergo speech therapy
 - A patient with obstructive sleep apnea should use a CPAP device
- A patient should be re-evaluated for surgery only if the abnormality or functional impairment remains unresolved following conservative measures
- Health plans often have specific documentation requirements for the trial of nonoperative therapies

Health Plan Limitations and Exclusions

- Many health plans have specific language that impacts coverage of orthognathic surgery
- Many plans do not cover orthognathic surgery when performed solely for the purpose of improving or altering appearance or self-esteem or to treat psychological symptomatology or psychosocial complaints related to one's appearance
- Some plans do not cover the surgery when significant risk of recurrence of symptoms or structural abnormalities exist
- Orthognathic surgery is specifically excluded under some plans

Health Plan Coverage

- Reconstruction may be considered medically necessary to relieve severe physical pain caused by an abnormal body structure, or to treat a functional impairment caused by an abnormal body structure
- Medical necessity must be supported by thorough clinical documentation
 - Medical history and physical exam
 - Description of the specific anatomic deformity
 - Radiographs, cephalometric tracings, photographs
 - Previous management of functional medical impairments
 - Details of any failed nonsurgical/conservative therapies
 - Dental molds (may be required)

The American Association of Oral and Maxillofacial Surgeons (AAOMS) Criteria for Orthognathic Surgery

- Widely adopted as a tool to assist in determining whether orthognathic surgery is medically indicated
- Include specific clinical measurements for significant facial skeletal deformities
- Provide guidance regarding surgery cases where there are specific documented signs of dysfunction

AAOMS Recommendations for Cases With Specific Documented Signs of Dysfunction

Condition	AAOMS Recommendation
Facial skeletal discrepancies associated with documented sleep apnea, airway defects, and soft tissue discrepancies	Before surgery, such patients should be properly evaluated to determine the cause and site of their disorder with appropriate nonsurgical treatment attempted when indicated
Facial skeletal discrepancies associated with documented temporomandibular joint (TMJ) pathology	Prior to performing an orthognathic procedure on such patients, nonsurgical therapies should be attempted, including those procedures and treatments that mimic the effects of occlusal alteration
Facial skeletal discrepancies associated with documented psychological disorders	Prior to surgical treatment designed primarily to improve psychological conditions, appropriate consultation should be obtained and nonsurgical therapy attempted when reasonable
Facial skeletal discrepancies associated with documented speech impairments	Prior to surgery, speech evaluation should be obtained to demonstrate the nature of the problem and to determine if improvement can be expected

Determining Medical Necessity for Orthognathic Surgery: **The Role of Independent Medical Review**

- An independent medical review:
 - Looks at whether or not a specific procedure was medically necessary
 - Facilitates effective treatment of significant facial skeletal deformities, which can improve jaw function and reduce pain, as well as produce a more aesthetic facial skeletal appearance, potentially resulting in improved quality of life
- Independent review organizations (IROs) provide specialty match
 - Especially important for orthognathic surgery since the process is complicated by the fact that the surgery produces both cosmetic and functional effects
 - Board-certified physician specialists who work with IROs keep up-to-date with the latest medical literature, the latest standard of care, and continually evolving technical advances

Conclusions

- Orthognathic surgery
 - Performed to widen, lengthen, or shorten the bones in the upper or lower jaw
 - Corrects significant facial skeletal deformities, which may be congenital, developmental, or acquired
 - Often considered a cosmetic procedure, but many health plans have guidelines that will cover it when medically necessary
 - Timely intervention for individuals requiring surgery is critical in order to avoid more costly medical and dental problems later on

Conclusions (cont'd)

- Independent medical reviews
 - Provide unbiased evaluation of medical need for orthognathic surgery
 - Facilitate effective treatment of significant facial deformities, which can result in both functional and cosmetic benefits
- Independent review organizations
 - Provide ready access to specialists, which healthcare plans may lack internally
 - Allow for timely determination of whether the requested treatment falls under medical necessity guidelines and the latest standard of care

Questions and Answers

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