

# INTRACORP MEDICAL NECESSITY GUIDELINES

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Subject: **Orthognathic Surgery**  
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**Orthognathic surgery is generally considered to be not medically necessary when performed solely for cosmetic purposes.**

**Orthognathic surgery is considered medically necessary when the following criteria are met:**

**Presence of BOTH of the following:**

- **ANY** of the facial skeletal deformities listed below in section 1
- **ANY** of the functional deficits listed below in section 2

## **1. Facial Skeletal Deformities**

- anteroposterior discrepancies:
  - maxillary/mandibular incisor relationship: overjet of 5 mm or more, or a 0 to negative value (norm = 2 mm)
  - maxillary/mandibular anteroposterior molar relationship discrepancy of 4 mm or more (norm = 0-1 mm)
- vertical discrepancies:
  - presence of a vertical facial skeletal deformity which is two or more standard deviations from published norms for accepted skeletal landmarks
  - open bite:
    - no vertical overlap of anterior teeth
    - unilateral or bilateral posterior open bite greater than 2 mm
  - deep overbite with impingement of palatal soft tissue
  - supraeruption of a dentoalveolar segment resulting from lack of occlusion when dentition in segment is intact
- transverse discrepancies:
  - presence of a transverse skeletal discrepancy which is two or more standard deviations from published norms
  - total bilateral maxillary palatal cusp to mandibular fossa discrepancy of 4 mm or greater, or a unilateral discrepancy of 3 mm or greater, given normal axial inclination of the posterior teeth
- asymmetries:
  - anteroposterior, transverse or lateral asymmetries greater than 3 mm, with concomitant occlusal asymmetry

## **2. Functional Deficits**

- persistent inability to masticate and swallow food adequately when other causes such as neurological or metabolic diseases have been ruled out by physical exam and/or appropriate diagnostic testing
- malnutrition, significant weight loss, or failure to thrive secondary to facial skeletal deformity
- speech dysfunction directly related to jaw deformity, as determined by a speech and language pathologist
- myofascial pain secondary to facial skeletal deformity that has persisted for at least six months, despite conservative treatment, such as physical therapy and splints
- airway obstruction, such as obstructive sleep apnea, when documented by sleep study and when:
  - conservative treatment such as continuous positive airway pressure (CPAP) or oral appliance attempted
  - conservative treatment unsuccessful despite patient compliance

**Surgical procedures such as rhinoplasty, genioplasty or rhytidectomy performed in conjunction with orthognathic surgery are considered not medically necessary when performed for the sole purpose of improving patient appearance and profile.**

**Orthodontic treatment provided as an adjunct to orthognathic surgery is considered dental in nature rather than medical or surgical.**

**The following clinical documentation is should be provided support medical necessity for orthognathic surgery:**

- medical history and physical examination with reference to symptoms related to the orthognathic deformity
- description of specific anatomic deformity present
- lateral and anterior-posterior cephalometric radiographs
- cephalometric tracings
- copy of medical records from treating physician documenting evaluation, diagnosis and previous management of the functional medical impairment(s)

**Photographs and/or molds may also be requested depending on the individual circumstances of the case.**

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## **General Background**

The word "orthognathic" derives from the Greek words meaning "straighten" and "jaw." Orthognathic surgery is a subset of craniofacial surgery involving the surgical correction of abnormalities of the mandible, maxilla or both. These dentofacial skeletal malformations may be congenital, resulting from genetic and/or environmental influences that impact fetal growth between the 20<sup>th</sup> and 50<sup>th</sup> day of gestation. Congenital anomalies may result from conditions such as Apert syndrome, Crouzon syndrome, Treacher Collins syndrome, or Pierre Robin syndrome, but it is likely that most arise from multiple minor genetic factors combined with small, cumulative environmental influences. These dentofacial anomalies may be evident at birth or emerge during growth and development. Jaw deformities may also result from acquired defects, neoplastic processes and degenerative diseases.

### **Jaw Deformities**

Jaw deformities include abnormalities of jaw-to-jaw size and shape and may include excessive or deficient bone-to-bone or bone-to-soft tissue relationships. Deformities may be present in any of the three planes: horizontal, vertical or transverse, or a combination of these.

In a position paper issued in 1988, the American Association of Oral and Maxillofacial Surgeons (AAOMS) classified dentofacial deformities as mid-face or mandibular, as follows:

- skeletal deformities of the mid-face
  - maxillary hyperplasia
  - maxillary hypoplasia
  - cleft deformities
  - other mid-face deformities, including nasal, zygomatic, orbital, ethmoidal, frontal or other cranial bones
- skeletal deformities of the mandible
  - mandibular hyperplasia
  - mandibular hypoplasia
  - mandibular asymmetry
  - condylar abnormalities, including hypoplasia, hyperplasia, neoplasia, ankylosis, post-traumatic conditions, and agenesis

The relationship between facial skeletal abnormalities and malocclusions is generally accepted. A strong correlation has been established between the state of a patient's occlusion and chewing efficiency, bite forces, and restricted mandibular excursions. Other signs of dysfunction related to facial skeletal abnormalities, such as obstructive sleep apnea, may also be present. Orthognathic surgery may be performed to improve function by correcting the underlying skeletal deformity when dental/orthodontic treatment alone is precluded due to the severity of deformities and related impairment.

### **Dental Occlusion/Malocclusion**

The classification of dental occlusions is based on Edward Angle's early observations that the key to occlusion is the relationship of the mandibular first molar to the maxillary first molar. Angle's occlusal classifications are as follows (Patel, 2004; Wood, Jurkiewicz, 1999):

- **Class I (neutro-occlusion):** The mesiobuccal cusp of the maxillary first molar articulates within the mesiobuccal groove of the mandibular first molar.
- **Class II (disto-occlusion):** The mandibular first molar articulates distal to the mesiobuccal cusp of the maxillary first molar. This may be due to a deficiency of the lower jaw or excess of the upper jaw, and is therefore categorized into two divisions. In Division I, the mandibular arch is behind the upper jaw with protrusion of the upper front teeth, while in Division II the mandibular teeth are behind the upper teeth, with a retrusion of the maxillary front teeth.
- **Class III (mesio-occlusion):** The mesiobuccal groove of the mandibular first molar is mesial to the mesiobuccal cusp of the maxillary first molar. This occlusion usually produces a strong protruding chin, due to either horizontal mandibular excess or horizontal maxillary deficiency.

The terms Class I, II, and III also are used to define the maxillary and mandibular canine relation. The above classification relates only to maxillary/mandibular dentition. Although it is often assumed that a similar skeletal relationship of Class I, II, and III follows, this is not always the case. A Class I molar relationship is possible with a Class II skeletal relationship by dental extractions and orthodontic alignment regardless of skeletal status (Patel, 2004).

### **Surgical Procedures**

In orthognathic surgery, an osteotomy is made in the affected jaw, and the bones are repositioned in a more normal alignment. The bones are held in position with plates, screws and wires. Intermaxillary fixation, a procedure in which arch bars are placed on both jaws, may also be needed to provide added stability. Simultaneous osteotomies may be performed when deformities must be corrected in both jaws. Although sometimes performed for cosmetic purposes, orthognathic surgery is generally considered to be medically necessary when performed to treat a significant abnormality that is causing significant functional impairment.

Patients with bone or soft tissue deficiency of the face may require distraction osteogenesis. In this procedure, a distraction device is applied and bone osteotomies are performed. The device is left in place until bone healing is complete, allowing the facial bone and adjacent soft tissue to elongate. Grafts from the ribs, hip or skull may be performed for patients with deficient bone tissue; alloplastic bone replacement may also be required. Orthognathic surgery is generally performed under general anesthesia on an inpatient basis.

### **AAOMS Clinical Indications for Orthognathic Surgery**

The AAOMS Criteria for Orthognathic Surgery has become widely adopted as a tool to assist in determining whether orthognathic surgery is medically indicated. As listed below, these maxillary and/or mandibular facial skeletal deformities associated with masticatory malocclusion relate verifiable clinical measurements to significant facial skeletal deformities:

- anteroposterior discrepancies:
  - maxillary/mandibular incisor relationship: overjet of 5 mm or more\*, or a 0 to negative value\* (norm = 2 mm)
  - maxillary/mandibular anteroposterior molar relationship discrepancy of 4 mm or more\* (norm = 0-1 mm)
- \*These values represent two or more standard deviation from published norms.
- vertical discrepancies:

- presence of a vertical facial skeletal deformity which is two or more standard deviations from published norms for accepted skeletal landmarks
- open bite:
  - no vertical overlap of anterior teeth
  - unilateral or bilateral posterior open bite greater than 2 mm
- deep overbite with impingement or irritation of buccal or lingual soft tissues of the opposing arch
- supraeruption of a dentoalveolar segment resulting from lack of occlusion
- transverse discrepancies:
  - presence of a transverse skeletal discrepancy which is two or more standard deviations from published norms
  - total bilateral maxillary palatal cusp to mandibular fossa discrepancy of 4 mm or greater, or a unilateral discrepancy of 3 mm or greater, given normal axial inclination of the posterior teeth
- asymmetries:
  - anteroposterior, transverse or lateral asymmetries greater than 3 mm, with concomitant occlusal asymmetry

Surgery may be indicated when at least one of the following functional deficits is present in addition to significant malocclusion, as described above:

- persistent inability to masticate and swallow food adequately when other causes such as neurological or metabolic diseases 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 six months, despite conservative treatment, such as physical therapy
- airway obstruction, such as obstructive sleep apnea, when documented by sleep study when:
  - conservative treatment such as CPAP or oral appliance attempted
  - conservative treatment unsuccessful despite patient compliance

Skeletal anomalies resulting from acute trauma, tumor or systemic disease should be evaluated by the same criteria listed above. Additional procedures, such as rhinoplasty, genioplasty or rhytidectomy, are frequently performed in conjunction with orthognathic surgery. When performed solely to improve patient appearance and profile, these procedures are considered cosmetic and are not covered.

Orthodontic treatment is frequently provided as an adjunct to orthognathic surgery, either prior to or following the procedure. Orthodontic treatment repositions the teeth, rather than the bones of the jaw, and is therefore considered dental in nature rather than medical. Orthognathic surgery is generally performed only after skeletal maturity is achieved.

### Summary

The American Association of Oral and Maxillofacial Surgeons (AAOMS) Criteria for Orthognathic Surgery has been widely adopted as a tool to assist in determining whether orthognathic surgery is medically indicated. Facial skeletal abnormalities and malocclusion may result in functional deficits, including impaired chewing efficiency and bite forces, restricted mandibular excursions, sleep apnea and speech dysfunction. Facial skeletal deformities may also be associated with myofacial pain and airway obstruction. Orthognathic surgery may be indicated for selected patients when dental and/or orthodontic treatment is precluded due to the severity of the deformity and related impairment.

## Coding/Billing Information

**Note: This list of codes may not be all-inclusive.**

**When medically necessary:**

<b>CPT®* Codes</b>	<b>Description</b>
21110	Application of interdental fixation device for conditions other than fracture or dislocation, includes removal
21125	Augmentation, mandibular body or angle; prosthetic material
21127	Augmentation, mandibular body or angle; prosthetic; with bone graft, onlay or interpositional (includes obtaining autograft)
21141	Reconstruction midface, LeFort I; single piece, segment movement in any direction (eg, for Long Face Syndrome), without bone graft
21142	Reconstruction midface, LeFort I; two pieces, segment movement in any direction, without bone graft
21143	Reconstruction midface, LeFort I; three or more pieces, segment movement in any direction, without bone graft
21145	Reconstruction midface, LeFort I; single piece, segment in any direction, requiring bone grafts (includes obtaining autografts)
21146	Reconstruction midface, LeFort I; two pieces, segment movement in any direction, requiring bone grafts (includes obtaining autografts) (e.g., ungrafted unilateral alveolar cleft)
21147	Reconstruction midface, LeFort I; three or more pieces, segment movement in any direction, requiring bone grafts (includes obtaining autografts) (e.g., ungrafted bilateral alveolar cleft or multiple osteotomies)
21150	Reconstruction midface, LeFort II; anterior intrusion (eg, Treacher-Collins Syndrome)
21151	Reconstruction midface, LeFort II; any direction, requiring bone grafts (includes obtaining autografts)
21154	Reconstruction midface, LeFort III; (extracranial), any type, requiring bone grafts (includes obtaining autografts); without LeFort I
21155	Reconstruction midface, LeFort III; (extracranial), any type, requiring bone grafts (includes obtaining autografts); with LeFort I
21193	Reconstruction of mandible rami; horizontal, vertical, C, or L osteotomy; without bone graft
21194	Reconstruction of mandible rami; horizontal, vertical, C, or L osteotomy; with bone graft (includes obtaining graft)
21195	Reconstruction of mandibular rami and/or body, sagittal split; without internal rigid fixation
21196	Reconstruction of mandibular rami and/or body, sagittal split; with internal rigid fixation
21198	Osteotomy, mandible, segmental
21206	Osteotomy, maxilla, segmental (eg, Wassmund or Schuchard)
21208	Osteoplasty, facial bones; augmentation (autograft, allograft, or prosthetic implant)
21209	Osteoplasty, facial bones; reduction
21210	Graft, bone; nasal, maxillary or malar areas (includes obtaining graft)
21215	Graft, bone; mandible (includes obtaining graft)
21247	Reconstruction of mandibular condyle with bone and cartilage autografts (includes obtaining grafts) (eg, for hemifacial microsomia)

<b>HCPCS Codes</b>	<b>Description</b>
	No codes

<b>ICD-9-CM Diagnosis Codes</b>	<b>Description</b>
519.9	Unspecified disease of respiratory system
524.00-	Major anomalies of jaw size

524.09	
524.10- 524.19	Anomalies of relationship of jaw to cranial base
524.20- 524.29	Anomalies of dental arch relationship
524.4	Malocclusion, unspecified
524.50- 524.59	Dentofacial functional abnormalities
526.89	Other specified diseases of the jaws
744.9	Unspecified anomalies of face and neck
748.1	Other anomalies of nose
754.0	Certain congenital musculoskeletal deformities of skull, face, and jaw
V41.6	Problems with swallowing and mastication

**\*Current Procedural Terminology (CPT®) ©2004 American Medical Association: Chicago, IL.**

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