

Subject: Mandibular/Maxillary (Orthognathic) Surgery
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Description

This document addresses medically necessary, reconstructive and cosmetic procedures involving the mandible, maxilla or both, with the exception of orthognathic surgery for the treatment of temporomandibular disorders or obstructive sleep apnea. This document does not apply to temporomandibular disorders, obstructive sleep apnea or orthodontia (braces) services.

Note: Please see the following related documents for additional information:

- SURG.00129 Oral, Pharyngeal and Maxillofacial Surgical Treatment for Obstructive Sleep Apnea or Snoring
- CG-SURG-09 Temporomandibular Disorders

Medically Necessary: In this document, procedures are considered medically necessary if there is a significant functional impairment AND the procedure can be reasonably expected to improve the functional impairment.

Reconstructive: In this document, procedures are considered reconstructive when intended to address a significant variation from normal related to accidental injury, disease, trauma, treatment of a disease or congenital defect.

Note: Not all benefit contracts/certificates include benefits for reconstructive services as defined by this document. Benefit language supersedes this document.

Cosmetic: In this document, procedures are considered cosmetic when intended to change a physical appearance that would be considered within normal human anatomic variation. Cosmetic services are often described as those which are primarily intended to preserve or improve appearance.

Clinical Indications

Medically Necessary:

Mandibular/Maxillary (orthognathic) surgery is considered **medically necessary** to treat a significant functional impairment when the procedure can be reasonably expected to improve the functional impairment. Significant functional impairment includes **any one** of the following:

- A. **Dysphagia** when *all* of the following criteria (1, 2 and 3) are met:
1. Symptoms related to difficulty chewing such as: choking due to incomplete mastication, or difficulty swallowing chewed solid food, or ability to chew only soft food or reliance on liquid food; **and**
 2. Symptoms must be documented in the medical record, must be significant and must persist for at least 4 months; **and**

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3. Other causes of swallowing or choking problems have been ruled out by history, physical exam and appropriate diagnostic studies;

or

- B. **Speech abnormalities** determined by a speech pathologist or therapist to be due to a malocclusion and not helped by orthodontia or at least 6 months of speech therapy.

or

- C. **Intra-oral trauma** while chewing related to malocclusion (for example, loss of food through the lips during mastication, causing recurrent damage to the soft tissues of the mouth during mastication).

or

- D. **Masticatory dysfunction or malocclusion*** when criteria 1, 2, and 3 below are met:

1. Completion of skeletal growth with long bone x-ray or serial cephalometrics showing no change in facial bone relationships over the last 3- to 6-month period (Class II malocclusions and individuals age 18 and over do not require this documentation); **and**
2. Documentation of malocclusion with either intra-oral casts (if applicable), bilateral lateral x-rays, cephalometric radiograph with measurements, panoramic radiograph or tomograms; **and**
3. Any *one* of the following described in a, b, c or d is documented:
 - a. Anteroposterior discrepancies defined as *either* of the following:
 - i. Maxillary/Mandibular incisor relationship (established norm = 2 mm) defined as *one* of the following:
 - Horizontal overjet of 5 mm or more; **or**
 - Horizontal overjet of zero to a negative value. (*Note:* Overjet up to 5 mm may be treatable with routine orthodontic therapy); **or**
 - ii. Maxillary/Mandibular anteroposterior molar relationship discrepancy of 4 mm or more (norm 0 to 1 mm).
 - b. Vertical discrepancies defined as *any* of the following:
 - i. Presence of a vertical facial skeletal deformity which is two or more standard deviations from published norms for accepted skeletal landmarks; **or**
 - ii. Open bite (defined as *one* of the following):
 - No vertical overlap of anterior teeth; **or**
 - Unilateral or bilateral posterior open bite greater than 2 mm; **or**
 - iii. Deep overbite with impingement or irritation of buccal or lingual soft tissues of the opposing arch; **or**
 - iv. Supra-eruption of a dentoalveolar segment due to lack of occlusion.
 - c. Transverse discrepancies defined as *either* of the following:
 - i. Presence of a transverse skeletal discrepancy which is two or more standard deviations from published norms; **or**
 - ii. 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.
 - d. Asymmetries defined as the following:
 - i. Anteroposterior, transverse or lateral asymmetries greater than 3 mm with concomitant occlusal asymmetry.

*When the condition involves treatment of skeletal deformity, the deformity must be documented either by computed tomography (CT), magnetic resonance imaging (MRI), or x-ray.

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Reconstructive:

Mandibular/maxillary (orthognathic) surgery is considered **reconstructive** when intended to address a significant variation from normal related to accidental injury, disease, trauma, or treatment of a disease or congenital defect.

Cosmetic and Not Medically Necessary:

Mandibular/Maxillary (orthognathic) surgery is considered **cosmetic and not medically necessary** when intended to change a physical appearance that would be considered within normal human anatomic variation.

A genioplasty (or anterior mandibular osteotomy) is considered **cosmetic and not medically necessary** when not associated with masticatory malocclusion.

Coding

The following codes for treatments and procedures applicable to this document are included below for informational purposes. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement policy. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

When services may be Medically Necessary or Reconstructive when criteria are met:

CPT

21120-21123	Genioplasty [includes codes 21120, 21121, 21122, 21123]
21125	Augmentation, mandibular body or angle; prosthetic material
21127	Augmentation, mandibular body or angle; with bone graft, onlay or interpositional (includes obtaining autograft)
21141-21147	Reconstruction midface, LeFort I [includes codes 21141, 21142, 21143, 21145, 21146, 21147]
21150-21151	Reconstruction midface, LeFort II
21154-21155	Reconstruction midface, LeFort III
21188	Reconstruction midface, osteotomies (other than LeFort type) and bone grafts (includes obtaining autografts)
21193-21196	Reconstruction of mandibular rami [includes codes 21193, 21194, 21195, 21196]
21198	Osteotomy, mandible, segmental
21199	Osteotomy, mandible, segmental; with genioglossus advancement
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)
21244	Reconstruction of mandible, extraoral, with transosteal bone plate (eg, mandibular staple bone plate)
21245-21246	Reconstruction of mandible or maxilla, subperiosteal implant

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21247 Reconstruction of mandibular condyle with bone and cartilage autografts (includes obtaining grafts)(eg, for hemifacial microsomia)

HCPCS

D7940 Osteoplasty - for orthognathic deformities
 D7941 Osteotomy - mandibular rami
 D7943 Osteotomy - mandibular rami with bone graft; includes obtaining the graft
 D7944 Osteotomy - segmented or subapical
 D7945 Osteotomy - body of mandible
 D7946-D7947 LeFort I (maxilla - total (maxilla - segmented)
 D7948-D7949 LeFort II or LeFort III (osteoplasty of facial bones for midface hypoplasia or retrusion) - without/with bone graft
 D7950 Osseous, osteoperiosteal, or cartilage graft of the mandible or maxilla - autogenous or nonautogenous, by report
 D7995 Synthetic graft - mandible or facial bones, by report
 D7996 Implant - mandible for augmentation purposes (excluding alveolar ridge), by report

ICD-10 Procedure

0NBR0ZZ Excision of maxilla, open approach
 0NBT0ZZ-0NBV0ZZ Excision of mandible, open approach [right or left; includes codes 0NBT0ZZ, 0NBV0ZZ]
 0NQR0ZZ Repair maxilla, open approach
 0NQT0ZZ-0NQV0ZZ Repair mandible, open approach [right or left; includes codes 0NQT0ZZ, 0NQV0ZZ]
 0NUR07Z-0NUR0KZ Supplement maxilla, open approach [with autologous tissue, synthetic or nonautologous tissue substitute; includes codes 0NUR07Z, 0NUR0JZ, 0NUR0KZ]
 0NUT07Z-0NUV0KZ Supplement mandible, open approach [right or left with autologous tissue, synthetic, nonautologous tissue substitute; includes codes 0NUT07Z, 0NUT0JZ, 0NUT0KZ, 0NUV07Z, 0NUV0JZ, 0NUV0KZ]
 0W0407Z-0W050ZZ Alteration of jaw, open approach [upper or lower with autologous tissue, synthetic, nonautologous tissue or no substitute; includes codes 0W0407Z, 0W040JZ, 0W040KZ, 0W040ZZ, 0W0507Z, 0W050JZ, 0W050KZ, 0W050ZZ]
 0WU407Z-0WU50KZ Supplement jaw, open approach [upper or lower with autologous tissue, synthetic or nonautologous tissue substitute; includes codes 0WU407Z, 0WU40JZ, 0WU40KZ, 0WU507Z, 0WU50JZ, 0WU50KZ]

ICD-10 Diagnosis

All diagnoses, including but not limited to the following:
 M26.00-M26.59 Dentofacial anomalies [including malocclusion]
 M26.70-M26.9 Dental alveolar anomalies, other and unspecified dentofacial anomalies
 Q18.4-Q18.5 Macrostomia, microstomia
 Q67.4 Other congenital deformities of skull, face and jaw
 R13.11-R13.19 Dysphagia

When services are Cosmetic and Not Medically Necessary:

For the procedure and diagnosis codes listed above when medically necessary or reconstructive criteria are not met.

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Discussion/General Information

Orthognathic surgery is the surgical correction of skeletal anomalies or malformations involving the mandible (lower jaw) or the maxilla (upper jaw). These malformations may be present at birth or they may become evident as the individual grows and develops. Orthognathic surgery can be performed to correct malocclusion, which cannot be improved with routine orthodontic therapy and where the functional impairments are directly caused by the malocclusion. The overall goal of treatment is to improve function through correction of the underlying skeletal deformity.

Maxillary advancement is a type of orthognathic surgery that may be necessary to improve the facial contour and normalize dental occlusion when there is a relative deficiency of the midface region. This is done by surgically moving the maxilla with sophisticated bone mobilization techniques and fixing it securely into place.

Depending on the soft tissue profile of the face or the severity of an occlusal discrepancy, problems with the lower face may require surgery of the mandible. This can be performed in conjunction with or separate from maxillary surgery. The mandible can be advanced, set back, tilted or augmented with bone grafts. A combination of these procedures may be necessary. Following any significant surgical movement of the mandible, fixation may be accomplished with mini-plates and screws or with a combination of interosseous wires and intermaxillary fixation (IMF). Rigid fixation (screws and plates) has the advantage of needing limited or no IMF. However, if interosseous wiring is used, IMF is maintained for approximately 6 weeks.

There is convincing evidence of the relationship between facial skeletal abnormalities and malocclusions, including Class II, Class III, asymmetry and open bite deformities. A strong correlation has been demonstrated between the state of the individual's occlusion and his or her chewing efficiency, bite forces, and restricted mandibular excursions. Orthognathic surgery has resulted in significant improvement in skeletal deformities that contribute to chewing, breathing and swallowing dysfunction and where the severity of the deformity cannot be corrected through dental therapeutics or orthodontics. Studies have shown that individuals with skeletal malocclusions suffer from a variety of functional impairments, including diminished bite forces, restricted mandibular excursions, and abnormal chewing patterns. The evidence in the peer-reviewed literature to support this conclusion includes non-randomized controlled trials and case series studies.

Clinical practice guidance has been published by the American Association of Oral and Maxillofacial Surgeons on criteria for orthognathic surgery (2020). The guidance states the following:

Orthognathic surgery may be indicated and considered medically appropriate in the following circumstances:

- A. Anteroposterior discrepancies: established norm=2mm
 1. Maxillary/mandibular incisor relationship
 - a. Horizontal overjet of +5mm or more
 - b. Horizontal overjet of zero to a negative value
 2. Maxillary/mandibular anteroposterior molar relationship discrepancy of 4mm or more (norm 0 to 1mm)

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3. These values represent two or more standard deviation from published norms
- B. Vertical discrepancies
 1. Presence of a vertical facial skeletal deformity, which is two or more standard deviations from published norms for accepted skeletal landmarks
 2. Open bite
 - a. No vertical overlap of anterior teeth
 - b. Unilateral or bilateral posterior open bite greater than 2mm
 3. Deep overbite with impingement or irritation of buccal or lingual soft tissues of the opposing arch
 4. Supraeruption of a dentoalveolar segment due to lack of occlusion
- C. Transverse discrepancies
 1. Presence of a transverse skeletal discrepancy, which is two or more standard deviations from published norms
 2. Total bilateral maxillary palatal cusp to mandibular fossa discrepancy of 4mm or greater or a unilateral discrepancy of 3mm or greater, given normal axial inclination of the posterior teeth
- D. Asymmetries
 1. Anteroposterior, transverse or lateral asymmetries greater than 3mm with concomitant occlusal asymmetry

These indications relate verifiable clinical measurements to significant facial deformities, maxillary and/or mandibular facial skeletal deformities associated with masticatory malocclusion. In addition to the above conditions, orthognathic surgery may be indicated in cases where there are specific documented signs of dysfunction.

According to Franchi (1998), amongst a sample of 100 North Americans, the cephalometric mean of the sella–nasion–A point angle (SNA) and sella–nasion–B point angle (SNB) using Steiner’s analysis were found to be 82.98 and 80.37 with a SD of 3.46 and 3.21, respectively. It is important to note that the mean values for cephalometric measurements vary significantly between different ethnic groups (Celebi, 2013; Connor, 1985; Flynn, 1989).

Definitions

Anomaly: Deviation from normal.

Anteroposterior: From front to back.

Asymmetry: The lack of balance or symmetry.

Cephalometric: A scientific measurement of the head.

Cephalometrics: The interpretation of lateral skull x-rays taken under standardized conditions. Two of the more popular methods of analysis used in orthodontology are the Steiner analysis and the McNamara analysis.

Class I occlusion: Exists with the teeth in a normal relationship when the mesial-buccal cusp of the maxillary first permanent molar coincides with the buccal groove of the mandibular first molar.

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Class II malocclusion: Occurs when the mandibular teeth are distal or behind the normal relationship with the maxillary teeth. This can be due to a deficiency of the lower jaw or an excess of the upper jaw, and therefore, presents two types: (1) Division I is when the mandibular arch is behind the upper jaw with a consequential protrusion of the upper front teeth. (2) Division II exists when the mandibular teeth are behind the upper teeth, with a retrusion of the maxillary front teeth. Both of these malocclusions have a tendency toward a deep bite because of the uncontrolled migration of the lower front teeth upwards. Commonly referred to as an overbite.

Class III malocclusion: Occurs when the lower dental arch is in front of (mesial to) the upper dental arch. People with this type of occlusion usually have a strong or protrusive chin, which can be due to either horizontal mandibular excess or horizontal maxillary deficiency. Commonly referred to as an under bite.

Dentoalveolar: Relating to a tooth and the part of the alveolar bone that immediately surrounds it.

Dysphagia: Difficulty swallowing.

Genioplasty: Plastic surgery of the chin.

Malformation: An abnormal shape or structure.

Malocclusion: Imperfect contact with the mandibular and maxillary teeth.

Mandible: The horseshoe-shaped bone forming the lower jaw.

Mastication: Biting and grinding food in the mouth so it becomes soft enough to swallow.

Maxilla: A paired bone that forms the skeletal base of the upper face, roof of the mouth, sides of the nasal cavity and floor of the orbit (contains the eye); the upper jaw.

McNamara analysis: One of the most popular methods of cephalometric analyses. It combines the anterior reference plane with a description of the length of the individual's jaw and the relationship between them.

Occlusion: Bringing the opposing surfaces of the teeth of the two jaws (mandible and maxilla) into contact with each other.

Orthodontics: The division of dentistry dealing with the prevention and correction of abnormally positioned or aligned teeth.

Panoramic radiograph: Radiograph of the maxilla and mandible extending from the left to right glenoid fossa. An x-ray image of a curved body surface, such as the upper and lower jaws, on a single film.

Radiograph: X-ray.

Skeletal discrepancies: An orthodontic term used to describe the nature of a malocclusion as being a malrelationship of the bony base rather than merely of the teeth; often assessed via cephalometrics.

Steiner analysis: One of the most commonly used cephalometric analysis methods. Utilizes the SNA angle to assess the anteroposterior position of the maxilla in regard to the cranial base. Steiner's Analysis follows the belief that the

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most important measurements in his analysis were the ANB angle, which is formed by the difference between SNA and SNB angles.

Supraeruption: The occurrence of a tooth continuing to grow out of the gum if the opposing tooth in the opposite jaw is missing.

Tomogram: An image of a tissue section produced by tomography.

Tomography: Imaging by sections or sectioning, through the use of any kind of penetrating wave.

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Government Agency, Medical Society, and Other Authoritative Publications:

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History

Status	Date	Action
Reviewed	05/12/2022	Medical Policy & Technology Assessment Committee (MPTAC) review. Updated References section.
Revised	05/13/2021	MPTAC review. Removed term “physical” from the term “physical functional impairment” in the Clinical Indications section. Updated Discussion and References sections. Reformatted Coding section, added examples of diagnosis codes.
	04/07/2021	Revised MN definition text in Description section.
Reviewed	05/14/2020	MPTAC review. Updated References section.
Reviewed	06/06/2019	MPTAC review. Updated References section.
New	07/26/2018	MPTAC review. Initial document development. Moved content of SURG.00049 Mandibular/Maxillary (Orthognathic) Surgery to new clinical utilization management guideline document with the same title.

This Clinical UM Guideline is intended to provide assistance in interpreting Healthy Blue’s standard Medicaid benefit plan. When evaluating insurance coverage for the provision of medical care, federal, state and/or contractual requirements must be referenced, since these may limit or differ from the standard benefit plan. In the event of a conflict, the federal, state and/or contractual requirements for the applicable benefit plan coverage will govern. Healthy Blue reserves the right to modify its Policies and Guidelines as necessary and in accordance with legal and contractual requirements. This Clinical UM Guideline is provided for informational purposes. It does not constitute medical advice. Healthy Blue may also use tools and criteria developed by third parties, to assist us in administering health benefits. Healthy Blue’s Policies and Guidelines are intended to be used in accordance with the independent professional medical judgment of a qualified health care provider and do not constitute the practice of medicine or medical advice.