# Guidelines for Medical Necessity Determination for Orthognathic Surgery

These Guidelines for Medical Necessity Determination (Guidelines) identify the clinical information that MassHealth needs to determine medical necessity for orthognathic surgery. These Guidelines are based on generally accepted standards of practice, review of the medical literature, and federal and state policies and laws applicable to Medicaid programs.

Providers should consult MassHealth regulations at [130 CMR 420.000](https://www.mass.gov/regulations/130-CMR-420000-dental-services): *Dental Services* and [130 CMR](https://www.mass.gov/regulations/130-CMR-450000-administrative-and-billing-regulations)  [450.000](https://www.mass.gov/regulations/130-CMR-450000-administrative-and-billing-regulations): *Administrative and Billing Regulations*, and [Subchapter 6 of the Dental Manual](https://www.mass.gov/lists/dental-manual-for-masshealth-providers) for information about coverage, limitations, service conditions, and prior-authorization (PA) requirements.

Providers serving members enrolled in a MassHealth-contracted accountable care partnership plan (ACPP), managed care organization (MCO), One Care organization, Senior Care Options (SCO) plan, or Program of All-inclusive Care for the Elderly (PACE) should refer to the ACPP’s, MCO’s, One Care organization’s, SCO’s, or PACE’s medical policies, respectively, for covered services.

MassHealth requires Prior Authorization (PA) for orthognathic surgery services. MassHealth reviews requests for PA on the basis of medical necessity. If MassHealth approves the request, payment is still subject to all general conditions of MassHealth, including member eligibility, other insurance, and program restrictions.

1

## Section I. General Information

MassHealth considers requests for PA for orthognathic surgery on a case-by-case basis, and evaluates each request for PA in accordance with requirements set forth in [130 CMR 420.453](https://www.mass.gov/regulations/130-CMR-420000-dental-services) and [130 CMR 450.204](https://www.mass.gov/regulations/130-CMR-450000-administrative-and-billing-regulations). MassHealth pays for orthognathic surgery that meets all criteria described in [130 CMR 420.431](https://www.mass.gov/regulations/130-CMR-420000-dental-services). MassHealth considers orthognathic surgery medically necessary and requires PA for congenital and acquired anomalies, temporomandibular joint pathology/disorders, growth disturbances, and select surgical procedures for obstructive sleep apnea.

The American Association of Oral and Maxillofacial Surgeons defines orthognathic surgery as the surgical correction of skeletal abnormalities of the mandible, maxilla, or both. The underlying

abnormality may be present at birth, may become evident as the member grows and develops, or may be the result of traumatic injuries or secondary to systemic diseases. The severity of these deformities often requires treatment beyond dental treatment alone. The primary goal of orthognathic surgery is to improve function through correction of the underlying skeletal deformity. MassHealth does not cover orthognathic surgery for cosmetic purposes.

1. Facial Skeletal Deformities and Masticatory Dysfunction

MassHealth considers orthognathic surgery to be medically necessary for correction of skeletal deformities of the maxilla or mandible with documentation showing that these skeletal deformities contribute to significant masticatory dysfunction, and where the severity of the deformities

page 1 of 11 guidelines for medical necessity determination for orthognathic surgery

MNG-ORTH SURG\_2025-02

precludes adequate treatment through dental therapeutics and orthodontics. The classification and analysis of dentofacial skeletal deformities is complex and involves discrepancies in all planes of space.

Common examples are congenital anomalies, such as cleft lip and palate; apertognathia; craniofacial microsomia; Pierre Robin sequence; or significant class II and class III skeletal discrepancies.

MassHealth considers orthognathic surgery medically necessary for acquired masticatory dysfunction related to cysts and tumors of the jaws and traumatic facial skeletal injuries.

1. Facial Skeletal Discrepancies Associated with Speech Impairments

MassHealth considers orthognathic surgery medically necessary for treatment of speech impairments accompanying severe cleft deformity or other craniofacial anomalies. Osteotomy techniques along with bone and cartilage grafts can reposition and surgically reconstruct the upper and lower jaws and facial skeletal framework.

1. Facial Skeletal Discrepancies Associated with Documented Sleep Apnea, Airway Defects, and Soft Tissue Discrepancies

MassHealth considers orthognathic surgery medically necessary in cases where it is documented that mandibular and maxillary deformities are contributing to airway dysfunction; where such dysfunction is not amenable to non-surgical treatments; and where it is shown that orthognathic surgery will decrease airway resistance and improve breathing.

1. Temporomandibular Joint Pathology Resulting in Disease, Disorders, and Dysfunctions

MassHealth considers orthognathic surgery for correction of temporomandibular joint (TMJ) disorders and temporomandibular disease (TMD) medically necessary for surgical intervention for internal derangement and severe pain and dysfunction that has not been resolved with non-surgical treatment. Surgery is not indicated for asymptomatic or minimally symptomatic patients. Surgery also is not indicated for preventive reasons in patients without pain and with satisfactory function.

The precise etiology of TMJ disease, disorders, dysfunctions, and TMD (intracapsular or extracapsular) has not yet been identified; these conditions are believed to be the result of either “macro” or “micro” trauma affecting the joint and/or the associated facial musculature. Specialized radiological studies, such as cephalometric x-rays, tomograms, and submental vertex radiographs, are considered medically necessary when evaluating persons with TMD for surgical considerations.

Non-surgical management must precede surgical intervention of TMJ disorders. This may include therapeutic services, such as pharmaceutical therapy, physical therapy, and mandibular orthopedic repositioning appliances.

1. Orthodontic Treatment before Orthognathic Surgery

Dental anomalies and malocclusion evaluation are covered under MassHealth’s dental program and require PA. Orthodontic treatment may be needed before orthognathic surgery to position the

teeth in a manner that will provide for an adequate occlusion following surgical repositioning of the

jaws. MassHealth covers orthodontic treatment for members under 21 years of age, subject to PA and service descriptions and limitations as described in 130 CMR 420.431.

2

## Section II. Clinical Guidelines

### Clinical Coverage

MassHealth considers orthognathic surgery medically necessary on a case-by-case basis for correction of skeletal deformities of the maxilla and/or mandible jaw when it is documented that these skeletal deformities are contributing to significant masticatory dysfunction, and where the severity of the deformities precludes adequate treatment through dental therapeutics and orthodontics.

MassHealth bases its determination of medical necessity for orthognathic surgery on clinical data including, but not limited to, imaging studies and findings, clinical exam of occlusion and skeletal discrepancies, and other important clinical information.

The criteria used are based on “Parameters of Care: AAOMS Clinical Practice Guidelines for Oral and Maxillofacial Surgery (AAOMS ParCare) Seventh Edition 2023,” set forth as follows:

* 1. Maxillary and/or Mandibular Facial Skeletal Deformities Associated with Masticatory Malocclusion

MassHealth considers orthognathic surgery medically necessary for correction of maxillary and mandibular skeletal deformities associated with masticatory malocclusion, described as follows. Accompanying documentation must demonstrate that the skeletal deformities are contributing to significant dysfunction and preclude adequate treatment through dental therapeutics and orthodontics alone.

* + 1. Anteroposterior discrepancies. The established norm is 2 millimeters (mm) and the following values referenced represent two or more standard deviations (SDs) from published norms.
       1. Maxillary/mandibular incisor relationship with horizontal overjet of + 5 mm or more, or reverse overjet of >3.5mm.
       2. Maxillary/mandibular anteroposterior molar relationship discrepancy of 4 mm or more (norm 0 - 1 mm).
    2. Vertical discrepancies
       1. Presence of a vertical facial skeletal deformity, which is two or more SDs from published norms for accepted skeletal landmarks.
       2. Open bite with no vertical overlap of anterior teeth or a unilateral or bilateral posterior open bite greater than 2 mm.
       3. Deep overbite with impingement or irritation of buccal or lingual soft tissues of the opposing arch (e.g. palatal soft tissues).
       4. Supraeruption of a dentoalveolar segment due to lack of opposing occlusion.
    3. Transverse discrepancies
       1. 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.
       2. Presence of a transverse skeletal discrepancy that is two or more SDs from published norms.
    4. Asymmetries

Anteroposterior, transverse, or lateral asymmetries greater than 3 mm with concomitant occlusal asymmetry.

* + 1. Functional impairments
       1. Failure to thrive secondary to facial skeletal deformity.
       2. Persistent difficulty with both swallowing and mastication after metabolic and neurological causes are excluded.
  1. Osteotomy Surgery of the Jaws Secondary to Congenital Anomalies

MassHealth considers orthognathic surgery medically necessary for correction of structural abnormalities of the maxilla and mandible secondary to congenital anomalies, described as follows:

* + 1. Mid-face anomalies including the nasofrontal region, nasolacrimal apparatus, and craniofacial syndromes.
    2. Congenital micrognathia resulting in respiratory obstruction (i.e., Pierre Robin syndrome).
    3. Maxillary deficiency associated with clefts. Maxilla Osteotomy Procedures

Osteotomy of the maxilla with or without a graft covers the entire maxillary surgical procedure for the correction of a maxillary skeletal malocclusion. MassHealth covers the “LeFort Procedures” and any sectioning, advancement, retrusion, elevation, or other movement of

the maxilla and its fixation. These procedures are mutually exclusive; that is, only one of these procedures can be used for a specific surgery. These procedures include a bilateral inferior turbinectomy and/or septoplasty, if necessary.

Mandibular Osteotomy Procedures

Osteotomy of the mandible with or without graft covers the entire mandibular surgical procedure for the correction of a mandibular skeletal malocclusion. This procedure includes, but is not limited to, a bilateral sagittal or oblique osteotomy; any necessary myotomies; necessary osteotomies of the inferior border of the mandible; coronoidotomies; and any sectioning, advancement, retrusion, elevation, or other movement of the mandible and its fixation. A genioplasty procedure is included in this procedure only if it is done as a part of a larger orthognathic surgical procedure. A genioplasty procedure is a covered service only if it is done for functional reasons. These procedures are mutually exclusive; that is, only one of these procedures can be billed for a specific surgery.

* 1. Facial Skeletal Discrepancies Associated with Documented Temporomandibular Joint Pathology

MassHealth considers orthognathic surgery for the treatment of temporomandibular disease, disorders, and dysfunctions to be medically necessary only when the disorder is caused by or results in a specific medical condition. Examples of specific medical conditions include, but are not limited to, myofascial pain secondary to skeletal deformity and non-surgical treatment related to disorders and dysfunctions, such as jaw fractures and/or dislocations; rheumatoid, degenerative, or infectious arthritis; condylar atrophy; condylar hyperplasia or hypoplasia; condylar osteolysis; internal derangement; mandibular dislocation; neoplasia; and ankyloses.

In cases where such a medical condition (disorders and dysfunctions) is not present, the provider may submit additional supporting evidence to demonstrate that the requested service is medically necessary. PA requests for orthognathic surgery for the treatment of temporomandibular disease, disorders and dysfunctions must be accompanied by a comprehensive treatment plan that includes all of the following:

* + 1. Member history and documentation as to why non-surgical treatment was not an acceptable treatment option or, if already performed, did not achieve adequate results. The appropriate choice of care is specific to each patient based on the type and degree of the patient’s disorder and management, such as medication (e.g., NSAIDs), orthotic appliance and/or physical therapy.
    2. The submission of transcranial films in the open, closed, and rest position or the submission of MRI studies with pathology documented by a radiologist.
    3. A plan of care for continued treatment--for example, if follow-up care beyond the included 30 days is required, number of visits, etc.
  1. Obstructive Sleep Apnea

MassHealth considers orthognathic surgery for obstructive sleep apnea (OSA) Type I obstruction (soft palate), Type II obstruction (oropharynx/ hypopharynx, palate), and Type III obstruction (hypopharynx, base of the tongue); airway defects; and soft tissue discrepancies to be medically necessary with underlying craniofacial mandibular and/or maxillary skeletal deformities contributing to airway dysfunction.

Surgical intervention studies for OSA procedures are limited, with insufficient evidence to determine their relative effectiveness. MassHealth covers correction of OSA when all of the following criteria are met:

* + 1. A pre-surgical physical evaluation was performed supporting the need for orthognathic surgery.
    2. There is clinical evidence that the member did not respond to or cannot tolerate nasal continuous positive airway pressure (NCPAP).
    3. A sleep test was performed with documented results confirming a diagnosis of OSA and the need for surgical treatment.
    4. For members with OSA type I obstruction (soft palate), there is clinical documentation that uvulopalatopharyngoplasty (UPPP) treatment was unsuccessful.
    5. Imaging such as cone-beam CT, fiber optic pharyngoscopy, or cephalometric radiographs with tracing confirm clinically significant OSA type II obstruction (oropharynx/ hypopharynx, palate) and/or type III obstruction (hypopharynx, base of the tongue).

VI. Other

MassHealth considers orthognathic surgery for correction of articulation disorders and other impairments in the production of speech medically necessary with evidence from clinical studies in the peer-reviewed published medical literature demonstrating effectiveness. Prior to surgery, speech evaluation should be obtained to demonstrate the nature of the problem and to determine if improvement can be expected.

### Noncoverage

MassHealth does not consider orthognathic surgery to be medically necessary under certain circumstances. Examples of such circumstances include, but are not limited to, the following:

1. Criteria for orthognathic surgeries as described in Section II.A are not met.
2. Orthognathic surgery performed primarily for cosmetic purposes to reshape or enhance unaesthetic facial features, regardless of whether such features are associated with psychological disorders. Mentoplasty or genial osteotomies/ostectomies (chin surgeries) are always considered cosmetic when performed as an isolated procedure to address genial hypoplasia, hypertrophy, or asymmetry, and is also considered cosmetic when performed with other surgical procedures.
3. Orthognathic surgical correction of distortions within the sibilant sound class or for other distortions of speech quality (i.e., hyper-nasal or hypo-nasal speech) without evidence of functional impairment.

3

## Section III. Submitting Clinical Documentation

MassHealth requires PA requests for orthognathic surgery to be submitted to the PA Unit for review. A written explanation of the member’s clinical course, including dates of service and nature of any previous treatment; physical evidence of a skeletal, facial, or craniofacial deformity; pre-orthodontic imaging; and a detailed description of the functional impairment considered to be the direct result of the skeletal abnormality must be submitted in order to obtain PA. Documentation of medical necessity must include all of the following:

1. Comprehensive dental evaluation; clinical imaging showing dental malocclusion such as lateral and anterior-posterior cephalometric radiographs and tracings; tomograms; submental vertex radiographs; and diagnostic quality photographs.
2. Treating physician/oral surgeon progress notes and other evaluations with dates of service, social history, present/past medical and physical examination(s), diagnosis, summary of medical and surgical history, and prior management of the functional impairment.
   1. Detailed narrative of the anatomic deformity.
   2. The primary diagnosis name, CPT code, ICD code, and date of diagnosis.
   3. Secondary diagnosis name(s) and ICD codes pertinent to comorbid conditions.
   4. Any other clinical information that MassHealth may request.
3. Clinical information must be submitted by an oral and maxillofacial surgeon.

Providers must electronically submit PA requests and all supporting documentation using the Provider Online Service Center (POSC), unless the provider has a currently approved electronic claims waiver. Please see [All Provider Bulletin 369](https://www.mass.gov/doc/all-provider-bulletin-369-electronic-submission-of-prior-authorization-requests-corrected/download) for further waiver information. Questions about POSC access should be directed to MassHealth at (800) 841-2900, TDD/TTY: 711.

For PA requests that are not submitted using the POSC, providers with currently approved waivers must include the MassHealth Prior Authorization Request (PA-1 Form) and all supporting documentation. The PA-1 Form can be found at [mass.gov/prior-authorization-for-mashealth-](https://www.mass.gov/prior-authorization-for-masshealth-providers) [providers](https://www.mass.gov/prior-authorization-for-masshealth-providers). Select “Request prior authorization for nonpharmacy services” and then select “By mail” for a link to the PA-1 Form.

4

## Section IV. Oral and Maxillofacial Surgery Service CPT Codes that require PA (CMR 130 420.453 and 420.455)

These service codes may be used only by dental providers who are specialists in oral surgery, in accordance with [130 CMR 420.405](https://www.mass.gov/regulations/130-CMR-420000-dental-services) (A)(7).

CPT Codes and Descriptions

|  |  |
| --- | --- |
| **Code** | **Description** |
| 21137 | Reduction forehead, Contouring only |
| 21138 | Reduction forehead; Contouring and application of prosthetic material or bone graft (includes obtaining autograft) |
| 21139 | Reduction forehead; Contouring and setback of anterior frontal sinus wall |
| 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 (e.g., 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 |

|  |  |
| --- | --- |
| **Code** | **Description** |
| 21159 | Reconstruction midface forehead advance; LeFort III (extra and intracranial) with forehead advancement (e.g., mono bloc), requiring bone grafts (includes obtaining autografts); without LeFort I |
| 21160 | Reconstruction midface forehead advance; with/LeFort I |
| 21172 | Reconstruction superior-lateral orbit rim & lower forehead, advancement or alteration, with or without grafts (includes obtaining autografts) |
| 21175 | Reconstruction, bifrontal, superior-lateral orbital rims and lower forehead, advancement or alteration (e.g., plagiocephaly, trignonocephaly, brachycephaly), with or without grafts (includes obtainingautografts) |
| 21188 | Reconstruction midface, osteotomies (other than LeFort type) and bone grafts (includes obtaining autografts) |
| 21193 | Reconstruction of mandibular rami, horizontal vertical, “C,” or “L” osteotomy; without bone graft |
| 21194 | Reconstruction of mandibular 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 | Reconstruction of mandibular rami and/or body, osteotomy, mandible,  segmental |
| 21199 | Osteotomy, mandible, segmental |
| 21206 | Osteotomy, maxilla, segmental (e.g., 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 (include obtaining graft) |
| 21215 | Graft, bone; mandible (includes obtaining graft) |
| 21230 | Graft, rib cartilage autogenous to face, chin, nose, or ear (includes obtaining graft) |
| 21235 | Graft; ear cartilage autogenous to nose or ear (includes obtaining graft) |
| 21240 | Arthroplasty temporomandibular joint (TMJ) with or without autograft (includes obtaining autograft) |

|  |  |
| --- | --- |
| **Code** | **Description** |
| 21242 | Arthroplasty temporomandibular joint TMJ with allograft |
| 21243 | Arthroplasty temporomandibular joint TMJ with prosthetic joint replacement |
| 21244 | Reconstruction of mandible, extra oral, with transosteal bone plate (e.g., mandibular staple bone plate) |
| 21247 | Reconstruction of mandible condyle with bone and cartilage autografts (includes obtaining grafts) (e.g., for hemifacial macrosomia) |
| 21255 | Reconstruction of zygomatic arch and glenoid fossa with bone and cartilage (includes obtaining autografts) |
| 21299 | Unlisted craniofacial and maxillofacial procedure |
| 29800 | Arthroscopy, temporomandibular joint TMJ, diagnostic, with or without synovial biopsy (separate procedure) |
| 29804 | Arthroscopy temporomandibular joint TMJ |
| 40840 | Vestibuloplasty; anterior unilateral |
| 40842 | Vestibuloplasty; posterior unilateral |
| 40843 | Vestibuloplasty; posterior bilateral |
| 40844 | Vestibuloplasty; entire arch |
| 40845 | Vestibuloplasty; complex (including ridge extension, muscle repositioning) |
| 41820 | Gingivectomy, excision gingiva each quadrant |
| 42280 | Maxillary impression for palatal prosthesis |
| 42281 | Insertion of pin-retained palatal prosthesis |

## Select References

1. [The American Association of Oral and Maxillofacial Surgeons (AAOMS). Indications for](https://aaoms.org/wp-content/uploads/2025/01/ortho_indications.pdf)  [Orthognathic Surgery. January 2025](https://aaoms.org/wp-content/uploads/2025/01/ortho_indications.pdf).
2. Parameters of Care: AAOMS Clinical Practice Guidelines for Oral and Maxillofacial Surgery (AAOMS ParCare), Seventh Edition 2023
3. The American Academy of Orofacial Pain. Orofacial Pain: Guidelines for Assessment, Diagnosis and Management. Fifth Edition. 2013.
4. [Surgical Procedures for the Treatment of Obstructive Sleep Apnea. August 2024.](https://www.point32health.org/provider/wp-content/uploads/sites/2/2024/01/surgical-procedures-for-OSA-mng.pdf)
5. Balk EM, Moorthy D, Obadan NO, et al. [Diagnosis and treatment of obstructive sleep apnea in](https://www.ncbi.nlm.nih.gov/pubmed/21977519)  [adults. Comparative Effectiveness Review No. 32. (Prepared by Tufts Evidence-based Practice](https://www.ncbi.nlm.nih.gov/pubmed/21977519)  [Center under Contract No. 290-2007-10055- AHRQ Publication No. 11-EHC052-EF](https://www.ncbi.nlm.nih.gov/pubmed/21977519). Rockville, MD: Agency for Healthcare Research and Quality. July 2011.
6. Aurora RN, Casey KR, et al. [Practice parameters for the surgical modifications of the upper airway](https://www.ncbi.nlm.nih.gov/pubmed/21061864)  [for obstructive sleep apnea in adults](https://www.ncbi.nlm.nih.gov/pubmed/21061864). Sleep. 2010 Oct; 33(10):1408-13.
7. Costa F, Robiony M, Toro C, et al. [Condylar positioning devices for orthognathic surgery](https://www.ncbi.nlm.nih.gov/pubmed/18417381): A [literature review](https://www.ncbi.nlm.nih.gov/pubmed/18417381). Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2008; 106(2):179-190.
8. Tulloch JF, Proffit WR, Phillips C. [Outcomes in a 2-phase randomized clinical trial of early Class I](https://www.ncbi.nlm.nih.gov/pubmed/15179390)I [treatment](https://www.ncbi.nlm.nih.gov/pubmed/15179390). Am J Orthod Dentofacial Orthop. 2004;125(6):657-667
9. Mihalik CA, Profitt WR, Phillips C. [Long-term follow-up of Class 11 adults treated with](https://www.ncbi.nlm.nih.gov/pubmed/12637899)  [orthodontic camouflage: a comparison with orthognathic surgery outcomes](https://www.ncbi.nlm.nih.gov/pubmed/12637899). Am J Orthod Dentofacial Orthop. 2003; 123(3): 266-278
10. American Association of Oral and Maxillofacial Surgeons (AAOMS). Clinical condition statements: temporomandibular disorders. 2017. Available at [www.aaoms.org/practice](http://www.aaoms.org/practice-resources/aaoms-advocacy-and-position-statements/clinical-resources)- [resources/aaoms](http://www.aaoms.org/practice-resources/aaoms-advocacy-and-position-statements/clinical-resources)- [advocacy-and-position-statements/clinical-resources](http://www.aaoms.org/practice-resources/aaoms-advocacy-and-position-statements/clinical-resources).
11. de Souza RF, Lovato da Silva CH, Nasser M, et al. Interventions for the management of temporomandibular joint osteoarthritis. Cochrane Database Syst Rev. 2012; (4):CD007261. Available at [onlinelibrary.wiley.com/doi/10.1002/14651858.CD007261.pub2/abstract](http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD007261.pub2/abstract).
12. Lindenmeyer A, Sutcliffe P, Eghtessad M, et al. [Oral and maxillofacial surgery and chronic painful](https://www.ncbi.nlm.nih.gov/pubmed/20822845)  [temporomandibular disorders -- a systematic review](https://www.ncbi.nlm.nih.gov/pubmed/20822845). J Oral Maxillofac Surg. 2010; 68(11):2755- 2764.
13. Luther F, Layton S, McDonald F. [Orthodontics for treating temporomandibular joint (TMJ)](https://www.ncbi.nlm.nih.gov/pubmed/20614447)  [disorders](https://www.ncbi.nlm.nih.gov/pubmed/20614447). Cochrane Database Syst Rev. 2010; (7):CD006541.
14. Hassan T, Naini FB, Gill DS. [The effects of orthognathic surgery on speech: A review](https://www.sciencedirect.com/science/article/pii/S0278239107006131). J Oral Maxillofac Surg. 2007; 65(12):2536-2543.
15. Abrahamsson C, Ekberg E, Henrikson T, Bondemark L. [Alterations of temporomandibular](https://www.ncbi.nlm.nih.gov/pubmed/17605481)  [disorders before and after orthognathic surgery: A systematic review](https://www.ncbi.nlm.nih.gov/pubmed/17605481). Angle Orthod. 2007; 77(4):729-734.
16. American Society of Temporomandibular Joint Surgeons. Guidelines for Diagnosis and Management of Disorders Involving the Temporomandibular Joint and Related Musculoskeletal Structures. Revised 2001 Apr. Accessed at <https://pubmed.ncbi.nlm.nih.gov/12555934/>.
17. Park J, Keller EE, Reid JI. [Surgical management of advanced degenerative arthritis of](https://www.ncbi.nlm.nih.gov/pubmed/15015165)  [temporomandibular joint with metal fossa-eminence hemi joint replacement prosthesis: An 8-yea](https://www.ncbi.nlm.nih.gov/pubmed/15015165)r [retrospective pilot study](https://www.ncbi.nlm.nih.gov/pubmed/15015165). J Oral Maxillofac Surg. 2004; 62:320-328.
18. Conti PC et al. [The treatment of painful temporomandibular joint clicking with oral splints](https://www.ncbi.nlm.nih.gov/pubmed/16873326): [a](https://www.ncbi.nlm.nih.gov/pubmed/16873326)  [randomized clinical trial](https://www.ncbi.nlm.nih.gov/pubmed/16873326). J Am Dent Assoc. 2006 Aug; 137(8):1108-14.
19. Frey DR et al. [Effects of surgical mandibular advancement and rotation on signs and symptoms](https://www.ncbi.nlm.nih.gov/pubmed/18405810)  [of](https://www.ncbi.nlm.nih.gov/pubmed/18405810) [temporomandibular disorder: a 2-year follow-up study](https://www.ncbi.nlm.nih.gov/pubmed/18405810). Am J Orthod Dentofacial Orthop. 2008 Apr; 133(4):490.e1-8.
20. Guarda-Nardini L et al. [A one-year case series of arthrocentesis with hyaluronic acid injections for](https://www.ncbi.nlm.nih.gov/pubmed/17419078)  [temporomandibular joint osteoarthritis](https://www.ncbi.nlm.nih.gov/pubmed/17419078). Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2007 Jun; 103(6):e14-22.
21. Lowe, A.A., et al. [Cephalometric and computed tomographic predictors of obstructive sleep apnea](https://www.ncbi.nlm.nih.gov/pubmed/7771363)s [severity](https://www.ncbi.nlm.nih.gov/pubmed/7771363). American Journal of Orthodontics and Dental Facial Orthopedics. 107 (106) 589-595
22. National Institute of Dental and Craniofacial Research (NIDCR). TMJ disorders. Updated September 2017. Available at [www.nidcr.nih.gov/oralhealth/Topics/TMJ/TMJDisorders.htm](https://www.nidcr.nih.gov/oralhealth/Topics/TMJ/TMJDisorders.htm)

These Guidelines are based on review of the medical literature and current practice in oral and maxillofacial surgery. MassHealth reserves the right to review and update the contents of these Guidelines and cited references as new clinical evidence and medical technology emerge.

This document was prepared for medical professionals to assist them in submitting documentation supporting the medical necessity of the proposed treatment, products, or services. Some language used in this communication may be unfamiliar to other readers; in this case, those readers should contact their healthcare provider for guidance or explanation.

Policy Revision Effective Date: February 10, 2025

Approved by: Original signed by Clara Filice

Clara Filice, MD, MPH, MHS

Acting Chief Medical Officer, MassHealth

Policy Effective Date: October 4, 2022