Orthognathic Surgery

Description of Procedure or Service

Orthognathic surgery is a class of surgical procedures designed to realign the maxillofacial skeletal structures with each other and with the other craniofacial structures. This surgery usually involves the maxilla and/or mandible, but other bony components may be involved as well. Clinical rationale for orthognathic surgery includes the following:

- repair of congenital anomalies (cleft lip/palate and other similar anomalies)
- repair of abnormalities resulting from trauma, tumors or infections
- treatment of malocclusion that contributes significantly to temporomandibular joint syndrome symptoms
- treatment of other medical problems (difficulty swallowing, speech abnormalities, malnutrition related to inability to masticate, and intraoral trauma while chewing related to malocclusion)
- treatment of significant malocclusion without current medical complications, that cannot be effectively corrected with orthodontic treatment alone
- cosmetic enhancement of facial features
- adjunctive treatment for obstructive sleep apnea (OSA)

Because repositioning the maxilla and/or mandible also moves the teeth, orthognathic surgery is usually performed in conjunction with orthodontics (braces) so that the teeth are in proper position after surgery. The complete process usually takes place in several phases over the course of one to two years or more.

Phase 1: Treatment planning

Preoperative treatment planning includes a photographic analysis and a complete orthognathic work-up involving cephalometric and panorex radiographs, dental impressions, and models. This is done by the pediatric dentist/orthodontist in coordination with the maxillofacial surgeon. All findings are analyzed and computer-simulated surgery is performed to simulate the surgery and predict the results prior to actually performing the procedure. Additionally, the maxillofacial surgeon does pre-surgery computer analysis to simulate surgical results, thereby facilitating proper planning of the case.

Phase 2: Pre-surgical orthodontics

This phase involves alignment of the teeth into a stable relationship with the underlying jaw, which prepares the dental arches for the surgical repositioning. Phase 2 usually takes the longest (may take 9 to 18 months depending on the patient’s age, cooperation and other factors). At this phase, the abnormal bite (malocclusion) may become more noticeable. After the pre-surgical orthodontic phase of the treatment has been completed, a new set of dental records will be obtained which may include a cephalometric film, a panoramic film, new models of the teeth in the upper and lower jaws and a cone
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beam computed tomograph. This information will aid the maxillofacial surgeon in finalizing the surgical movements as well as creating a surgical splint, which will serve as a guide for proper intraoperative jaw positioning.

**Phase 3: Surgery**

Surgery is scheduled when the pre-surgical orthodontic phase is completed. Braces used to align teeth prior to surgery are left in place during the surgical procedure. They help in stabilizing the teeth and jaws after surgery. The operation may involve one or both jaws (maxilla and/or mandible).

**Phase 4: Post-surgical orthodontics**

The orthodontist will usually begin the post-surgical phase of orthodontic treatment 4-6 weeks after surgery. Orthodontic treatment is continued to achieve final alignment of the teeth and to retain them in their new position. Fixed or removable retainers may be required following removal of orthodontics.

**Related policies:**
- Cosmetic and Reconstructive Services
- Non-invasive Respiratory Assist Devices
- Orthodontics for Pediatric Patients
- Sleep Apnea: Diagnosis and Medical Management
- Surgery for Obstructive Sleep Apnea and Upper Airway Resistance Syndrome

***Note: This Medical Policy is complex and technical. For questions concerning the technical language and/or specific clinical indications for its use, please consult your physician.***

**Policy**

BCBSNC will provide coverage for Orthognathic Surgery when it is determined to be medically necessary because the medical criteria and guidelines shown below are met.

**Benefits Application**

This medical policy relates only to the services or supplies described herein. Please refer to the Member's Benefit Booklet for availability of benefits. Member's benefits may vary according to benefit design; therefore member benefit language should be reviewed before applying the terms of this medical policy.

*Braces and any other orthodontic services are considered dental in nature and are not covered as a medical benefit.* Some dental policies offer orthodontic services as part of the dental benefit.

This medical policy does NOT apply to pediatric dental services related to the Essential Health Benefits (EHB) under the Patient Protection and Affordable Care Act (PPACA) requirements. Please, see Corporate Medial Policy titled “Orthodontics for Pediatric Patients” and refer to the member benefit booklet for additional information.

**When Orthognathic Surgery is covered**

Orthognathic Surgery may be considered medically necessary for each of the following clinical indications when the guidelines listed below are met: Elements must be met **under one of the following: A, B, C, D or E.**

**A)** Correction of significant **congenital** (apparent at birth) deformity. Specific procedures covered are noted in Policy Guidelines. Also please refer to "**Note**" at the beginning of Policy Guidelines section (**"Abnormal growth of the jaws (resulting in maxillary and/or mandibular hypo- or...**
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hyperplasia) is NOT considered a congenital anomaly and in the absence of MEDICAL complications is not eligible for coverage").

OR

B) Restoration of function following treatment for significant accidental injury, infection or tumor.

OR

C) Treatment of malocclusion that contributes to recalcitrant temporomandibular (TMJ) syndrome symptoms. Medical necessity criteria for orthognathic surgery for TMJ syndrome symptoms include both 1 and 2:

1) Signs and/or symptoms are present for at least 4 months. At least one sign and one symptom of TMJ disorder must be present:

   (a) Symptoms must include at least one of the following:

      (i) Painful chewing clearly related to the TMJ, OR
      (ii) Frequent and significant headaches clearly related to TMJ, OR
      (iii) Significant and persistent joint and/or muscle tenderness.

   AND

   (b) Clinical signs must include at least one of the following and must be accompanied by x-rays, cephalometric diagrams and photos which support measurements:

      (i) Class III or IV internal derangement of the TMJ, OR
      (ii) Restricted range of motion, including at least one of the following:
           - interincisal opening <30 mm, OR
           - lateral excursive movement, <4mm, OR
           - protrusive excursive movement <4mm, OR
      (iii) Significant malocclusion or dental misalignment characterized by one of the following:
           - for patients with mandibular excess or maxillary deficiency a reverse overjet (ROJ) of at least 3mm, OR
           - in maxillary excess or mandibular deficiency an overjet (OJ) of at least 6mm, OR
           - open bite (OB) of at least 4mm or deep bite (DB) of at least 7mm.

   For these four conditions (ROJ, OJ, OB, DB) the measurement should be calculated without assuming the final results of the preoperative orthodontics or splinting.

   AND

2) Symptoms are unresponsive to conservative measures for 4 months, including all of the following:

   (a) elimination of aggravating factors (e.g., gum chewing, chewing hard or tough foods) AND

   (b) use of anti-inflammatory drugs unless contraindicated. Therapeutic level for at least 6 weeks, AND
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(c) Treatment with orthodontic and/or splint therapy (Note: in many cases orthodontic treatment alone cannot correct the abnormality. When it has been determined in advance by cephalometrics and clinical examination that no amount of orthodontic manipulation will achieve satisfactory results, then a failed course of orthodontic therapy will not be required for approval for surgery. Likewise, some patients [large open bite patients] cannot tolerate splints as this actually aggravates the problem.)

OR

D) Treatment of malocclusion that contributes significantly to any one of the following (1, 2, or 3) and has failed > 4 months of non-operative therapy.

1) Speech abnormality

Medical necessity criteria should include both of the following:
(a) Speech deficit is noticeable to a lay person or primary care physician and significantly impairs the patient’s ability to communicate (Disturbance or impairment of sibilant sound class is not considered a significant functional impairment); AND
(b) The speech deficit cannot be resolved by speech therapy (requires speech therapy evaluation).

OR

2) Malnutrition related to choking, difficulty swallowing or an inability to masticate that results in:
(a) significant weight loss and/or failure to thrive documented in the records over 4 months; OR
(b) low serum albumin related to malnutrition

OR

3) Significant intraoral trauma while chewing related to malocclusion. Information should be supplied which indicates the severity and duration of the trauma and the extent of the interruption to daily activities. This may include recurrent damage to the soft tissues of the mouth during mastication, lower incisors injuring the soft tissue of the palate, cheek biting, lip biting, impingement or irritation of buccal or lingual soft tissues of the opposing arch. The injury or damage to soft tissues must be documented by objective findings in the medical record and supported by photos.

OR

E) Treatment of documented obstructive sleep apnea.

Maxillofacial surgery, including mandibular-maxillary advancement (MMA), may be considered medically necessary in patients with mandibular and maxillary deformities contributing to airway dysfunction when there is:

a. Clinically significant OSA (documented by a supervised polysomnography in a sleep laboratory with appropriate monitoring by skilled personnel); AND
b. Objective documentation of hypopharyngeal obstruction by physical examination; AND
c. Failure of non-surgical treatments, including a good faith effort at treatment with CPAP or BiPAP; AND
d. Expectation that orthognathic surgery will decrease airway resistance and improve breathing.

Orthognathic surgery will not be approved as the first surgical therapy for OSA unless otolaryngology evaluation has ruled out obstruction at a higher anatomic level.
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**When Orthognathic Surgery is not covered**

The following are considered **not medically necessary** and are not covered:

1. Orthognathic surgery performed primarily for cosmetic purposes

2. Orthognathic surgery performed for malocclusion when the criteria listed above are not met.

3. Orthognathic surgery where significant risk of recurrence of symptoms or structural abnormalities exist. For treatment of mandibular excess, skeletal maturation must be documented by either:
   - (a) closure of the epiphyses at the wrist by radiography; **OR**
   - (b) no change in mandibular or facial growth on serial cephalometric radiographs over six months

4. Orthognathic surgery performed to reshape or enhance the size of the chin to restore facial harmony and chin projection (e.g., genioplasty, mentoplasty chin augmentation, chin implants, mandibular osteotomies, ostectomies). Procedures to address genial hypoplasia, hypertrophy or asymmetry, when performed either as an isolated procedure or with other procedures, are considered cosmetic in nature.

5. **Cosmetic augmentation of the mandibular angle or body is not covered.** This procedure may be performed to add prominence and balance to the face.

Refer to policy titled “Cosmetic and Reconstructive Services” for clarification if necessary.

**Braces and any other orthodontic services are considered dental in nature and are not covered as a medical benefit.** Some dental policies offer orthodontic services as part of the dental benefit.

**Policy Guidelines**

**NOTE:** *The presence of malocclusion alone does not qualify for surgical consideration without a demonstrated severe functional impairment. Although orthognathic surgery may be advisable from a dental standpoint for malocclusion or other jaw asymmetry, nevertheless it is not a covered benefit unless there is convincing documentation based on medical records over time by treating physicians, - that (1) the malocclusion is affecting the patient's PHYSICAL health (not just dental health) and (2) is not and has not been amenable to other standard and less invasive forms of treatment. Prior treatment must be appropriate for the physical condition and must be documented by medical records from the treating provider. Abnormal growth of the jaws (resulting in maxillary and/or mandibular hypo- or hyperplasia) is NOT considered a congenital anomaly and in the absence of MEDICAL complications is not eligible for coverage (see number 2 below).*

1. All orthognathic surgery for managed care products requires prior review.

2. For congenital disorders, procedures are eligible for benefits as follows:
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(a) Le Fort III and orbital osteotomy procedures (21154, 21155, 21159, 21267, 21268) are considered medically necessary to treat congenital disorders producing mid-face hypoplasia (i.e., Crouzon syndrome, Apert syndrome, Pfeiffer syndrome, cleft deformity, etc.) which have resulted in disorders of the eyes (eye muscle dysfunction, corneal exposure/corneal ulceration, globe herniation, visual acuity loss) respiratory problems (nasal airway obstruction, sleep apnea) unintelligible speech (sibilant distortions or velopharyngeal distortion) not amenable to speech therapy.

(b) Mandibular surgery intraoral vertical ramus osteotomy, bilateral sagittal split ramus osteotomy, mandibular osteotomy, 21193, 21195, 21196, 21198) may be considered medically necessary to treat congenital micrognathia resulting in respiratory obstruction (i.e., Pierre Robin syndrome) or maxillary deficiency associated with cleft deformities.

3) As indicated under “When Not Covered”, genioplasty, mentoplasty, chin augmentation, chin implants, mandibular osteotomies, ostectomy (21120, 21121, 21122, 21123 and 21198) are considered cosmetic procedures and are not covered. Also cosmetic augmentation of the mandibular angle or body (21125 and 21127) is not covered (a.k.a. “jaw augmentation”). (Refer to policy titled “Cosmetic and Reconstructive Services”.)

4) Cephalometric diagrams with standard computer generated measurements of overjet, reverse overjet and open bite must be supplied along with frontal and lateral photos of patient.

Billing/Coding/Physician Documentation Information

This policy may apply to the following codes. Inclusion of a code in this section does not guarantee that it will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at www.bcbsnc.com. They are listed in the Category Search on the Medical Policy search page.

Applicable Codes: 21085, 21120, 21121, 21122, 21123, 21125, 21127, 21141, 21142, 21143, 21145, 21146, 21147, 21150, 21151, 21154, 21155, 21159, 21160, 21188, 21193, 21194, 21195, 21196, 21198, 21199, 21206, 21267, 21268

Documentation requirements include medical records, frontal and lateral photographs, cephalometric diagrams with standard computer generated measurements and x-rays documenting the medical necessity criteria for a given indication.

BCBSNC may request medical records for determination of medical necessity. When medical records are requested, letters of support and/or explanation are often useful, but are not sufficient documentation unless all specific information needed to make a medical necessity determination is included.

Scientific Background and Reference Sources


Clark G, Sanders B, Bertolami C: Advances in Diagnostic and Surgical Arthroscopy of the Temporomandibular Joint. W B Saunders Co. 1993
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De-Clercq-CA; Abeloos-JS; Mommaerts-MY; Neyt-LF, Temporomandibular joint symptoms in an orthognathic surgery population. J-Craniomaxillofac-Surg 1995 Jun; 23(3);195-9


Medline Search, Orthognathic surgery, 1/93-12/95

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Song HC, Throckmorton GS, Ellis E, Sinn DP, Functional and morphologic alterations after anterior or inferior repositioning of the maxilla J Oral Maxillofac Surg, 55°41, 1997


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Proffit WR and Ackerman JL; Diagnosis and treatment planning, in Graber TM and Vanarsdall RL, Jr., (eds), Orthodontics: Current Principals and Treatment, St. Louis, Mosby, 1994


Medical Policy Advisory Group 12/2/1999


Senior Medical Director Review  8/2010


Medical Director Review  10/2014
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Medical Director Review 10/2015

Specialty Matched Consultant Advisory Panel 10/2015

Policy Implementation/Update Information

North Carolina legislative act d 58-3-121, passed in 1995, prohibits discrimination against coverage of bones or joints of the jaw, face, or head for all health benefit plans that are delivered, issued for delivery, or renewed on and after Jan 1, 1996.

5/97 Revised: TMJD section: Removed request for Dental models to be sent with medical records for review. Sleep apnea added to index.

10/97 Revised: Policy section; changed definition of congenital from apparent within the first six months of life to industry standard definition from Dorland’s Medical Dictionary.

1/98 Revised: Statement added regarding orthodontia and braces as non-covered under the medical benefits.

7/99 Oral Surgery Consultant Advisory Panel review: revised criteria

9/99 Reformatted, Medical term Definitions added.

12/99 Reaffirmed, Medical Policy Advisory Group

3/01 Code ranges revised to include entire number for purpose of search capability.

4/01 System changes.

5/01 Specialty matched Consultant Advisory Panel review (5/2001). No change in criteria. Policy referenced in description changed to Sleep Apnea and Breathing Related Sleep isorders.

12/01 "use of inflammatory drugs" changed to "use of anti-inflammatory drugs" in section nttitled "When Orthognathic Surgery for Malocclusion is covered".

6/02 Added codes 21127 and 21199 to the Billing/Coding section of the policy. Policy reformatted for clarity.

4/03 Under "when covered” C.1 Restricted range of motion…lateral excursive movement 4 mm., added "<" to correct the criteria for lateral excursive movement to <4 mm.

10/03 Specialty Matched Consultant Advisory Panel review 5/30/03. Policy name changed to "Orthognathic Surgery", Revised "Benefits Application" and "Billing/Coding" sections. Added 21085 and S8262 to "Billing/Coding" section. "When Covered" section reformatted for clarity. Added #4 to "When not Covered” section - ‘Genioplasty, mentoplasty and chin augmentation are surgical procedures that enhance (i.e., build up) a small chin or reduce a prominent chin to restore facial harmony and chin projection. These procedures are considered cosmetic.” "Review for BCBSNC reauthorization” form added to end of policy. Sources added.

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6/16/05  Under "When Covered" section, C.1.b.iii, last entry changed to "Open bite of at least 4mm and or deep bite of at least 7 mm".

6/18/07  "Description" section revised to include information regarding the various phases involved. Added information to "Benefits Application" section re: orthodontic treatment prior to orthognathic surgery-the surgery must be prior approved before pre-surgical orthodontic treatment. Under "When Covered" section, several items clarified:  A. Added "Also please refer to "Note" at the beginning of Policy Guidelines section ("Abnormal growth of the jaws (resulting in maxillary and/or mandibular hypo- or hyperplasia) is NOT considered a congenital anomaly and in the absence of MEDICAL complications is not eligible for coverage."), and definition of congenital in Medical Term Definitions section."; C.1.b.iii.added to the end "...and must be accompanied by x-rays, cephalometric diagrams and photos which support measurements:"; C.1.b.iii. now reads "Significant malocclusion or dental misalignment characterized by one of the following:"; C.1.b.iii.second bullet-removed information n (parentheses); C.1.b.iii. added fourth bullet, "For these four conditions (ROJ, OJ, OB, DB) the measurement should be calculated without assuming the final results of the preoperative orthodontics or splinting."; C.2.c. Following the first sentence, added "When it has been determined in advance [by cephalometrics and clinical examination] that no amount of orthodontic manipulation will achieve satisfactory results, then a failed course of orthodontic therapy will not be required for approval for surgery." and removed sentence starting with "While orthodontic treatment will be required..."; D. Treatment of malocclusion., added to end "and has failed >4 months of non-operative therapy"; D.1."Difficulty swallowing,...") section removed; D.2. Speech abnormality renumbered D.1 and under D.1.a. added "(Disturbance or impairment of sibilant sound class is not considered a significant functional impairment)"; D.3. "Malnutrition related to an inability to masticate", renumbered D.2 and now reads "Malnutrition related to choking, difficulty swallowing or an inability to masticate that results in:"; D.2.a. revised to "significant weight loss documented in the records over 4 months"; D.4. renumbered D.3 and added at the end: "This may include recurrent damage to the soft tissues of the mouth during mastication, lower incisors injuring the soft tissue of the palate, cheek biting, lip biting, impingement or irritation of buccal or lingual soft tissues of the opposing arch. The injury or damage to soft tissues must be documented by objective findings in the medical record and supported by photos." Under "Policy Guidelines' added #3. "Cephalometric diagrams with standard computer generated measurements of overjet, reverse overjet and open bite must be supplied along with frontal and lateral photos of patient." Under "Billing/Coding", documentation requirements revised "Documentation requirements include medical records, frontal and lateral photographs, cephalometric diagrams with standard computer generated measurements and x-rays documenting the medical necessity criteria for a given indication." Reference source added. (pmo)

9/28/10:  Under “When covered section” changed wording from Orthognathic surgery “is covered” to “may be medically necessary” for elements A-E. Added new element E and new coverage criteria under element E to include treatment of documented obstructive sleep apnea (OSA). Under the “When not covered section” added to bullet #4: Orthognathic surgery performed to reshape or enhance the size of the chin to restore facial harmony and chin projection, chin implants, mandibular osteotomies, ostectomist to address genial hypoplasia, hypertrophy or asymmetry when performed either as an isolated procedure or with other procedures is considered cosmetic in nature. Added bullet #5: Cosmetic augmentation of the mandibular angle or body is not covered. This procedure may be performed to add prominence and balance to the face. Under “policy guidelines” added new information to bullet #3: as indicated under “when not covered”, genioplasty, mentoplasty chin augmentation, chin implants, mandibular osteotomies, ostectomies (21120, 21121, 21122, 21123, and 21198) are considered cosmetic procedures and are not covered. Also in the non-covered section, added cosmetic augmentation of the mandibular angle or body (21125 and 21127) is not
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11/8/11 Specialty Matched Consultant Advisory panel review 10/26/2011. No changes to policy statement. Under Benefits Application removed statement under Orthodontic treatment prior to orthognathic surgery: “Orthognathic surgery requires prior review before pre-surgical orthodontic treatment. The interim occlusion that is achieved by orthodontic treatment may be dysfunctional prior to the completion of the orthognathic surgical phase of the treatment plan. Therefore, all requests for orthognathic surgery must be reviewed/precertified by BCBSNC prior to the initiation of pre-surgical orthodontic care. Failure to precertify the orthognathic surgical request prior to orthodontic care may result in the denial of benefits.” Under When Covered section: added statement “and/or failure to thrive to D.2.a.” (lpr)

10/30/12 Specialty Matched Consultant Advisory panel review 10/17/2012. No change to policy statement. (lpr)

11/12/13 Specialty Matched Consultant Advisory panel review 10/21/2013. No change to policy statement. (lpr)


7/1/15 Billing/Coding section updated to delete code S8262. (td)

12/30/15 Description section updated to change peodontist to pediatric dentist. When Covered section C) 1) b) iii) revised to state maxillary excess or mandibular deficiency. References updated. Specialty Matched Consultant Advisory Panel review 10/29/2015. Medical Director Review 10/2015. (td)

11/22/16 In Description section, changed “pre-surgical model” to “computer-simulated surgery” in Phase I Treatment Planning. Added “cone beam computed tomograph” to Phase II Pre-Surgical Orthodontics. Specialty Matched Consultant Advisory Panel review 10/26/2016. No change to policy statement. (an)

11/10/17 Specialty Matched Consultant Advisory Panel review 10/25/2017. No change to policy statement or criteria. (an)

7/27/18 Code 21188 added to Billing/Coding section. (an)

11/9/18 Specialty Matched Consultant Advisory Panel review 10/24/2018. No change to policy statement. (an)

Medical policy is not an authorization, certification, explanation of benefits or a contract. Benefits and eligibility are determined before medical guidelines and payment guidelines are applied. Benefits are determined by the group contract and subscriber certificate that is in effect at the time services are rendered. This document is solely provided for informational purposes only and is based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. Medical practices and knowledge are constantly changing and BCBSNC reserves the right to review and revise its medical policies periodically.