**MEDICAL COVERAGE POLICY**

**SERVICE:** Orthognathic Surgery for the Treatment of Maxillary and/or Mandibular Facial Deformities

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<th>Policy Number:</th>
<th>104</th>
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<td>Effective Date:</td>
<td>12/01/2017</td>
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<tr>
<td>Last Review:</td>
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<td>Next Review Date:</td>
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**Important note**

Even though this policy may indicate that a particular service or supply may be considered covered, this conclusion is not based upon the terms of your particular benefit plan. Each benefit plan contains its own specific provisions for coverage and exclusions. Not all benefits that are determined to be medically necessary will be covered benefits under the terms of your benefit plan. You need to consult the Evidence of Coverage to determine if there are any exclusions or other benefit limitations applicable to this service or supply. If there is a discrepancy between this policy and your plan of benefits, the provisions of your benefits plan will govern. However, applicable state mandates will take precedence with respect to fully insured plans and self-funded non-ERISA (e.g., government, school boards, church) plans. Unless otherwise specifically excluded, Federal mandates will apply to all plans. With respect to Senior Care members, this policy will apply unless Medicare policies extend coverage beyond this Medical Policy & Criteria Statement. Senior Care policies will only apply to benefits paid for under Medicare rules, and not to any other health benefit plan benefits. CMS’s Coverage Issues Manual can be found on the CMS website.

**SERVICE:**

**PRIOR AUTHORIZATION:** Required.

**POLICY:** Scott and White Health Plan (SWHP) may consider orthognathic surgery medically necessary for correction of the skeletal deformities of the maxilla or mandible listed below when it is documented that these skeletal deformities are 1) contributing to significant dysfunction, and where 2) the severity of the deformities precludes adequate treatment through dental therapeutics and orthodontics alone.

Required documentation includes written explanation of the member’s clinical course, including dates and nature of any previous treatment; physical evidence of a skeletal, facial, or craniofacial deformity and a detailed description of the functional impairment considered to be the direct result of the skeletal abnormality.

When not specifically excluded from coverage in a health benefit contract, orthognathic surgery may be considered medically necessary when the following criteria are met:

1. Surgery is proposed for correction of skeletal deformities when it is documented that:
   - these facial skeletal deformities are contributing to significant functional impairment, defined as persistent difficulties with mastication and swallowing as manifested by inability to incise and/or chew solid foods, choking on incompletely masticated solid foods, damage to soft tissue during mastication; malnutrition; significant weight loss; failure-to-thrive, AND
   - deformity and impairment are not correctable with non-surgical modalities (e.g., dental therapeutics, orthodontics) AND
   - Skeletal deformity falls under one of the following categories:
     a. Anteroposterior discrepancies (NOTE: These values represent two or more standard deviation from published norms):
        - Maxillary/Mandibular incisor relationship: overjet of 5 mm or more, or a 0 to a negative value (norm = 2 mm); or
        - Maxillary/Mandibular anteroposterior molar relationship discrepancy of 4 mm or more (norm = 0 to 1 mm);
     b. Vertical discrepancies
✓ Presence of a vertical facial skeletal deformity which is two or more standard deviations from published norms for accepted skeletal landmarks; or
✓ Open bite with no vertical overlap of anterior teeth or unilateral or bilateral posterior open bite greater than 2 mm; or
✓ Deep overbite with impingement of palatal soft tissue; or
✓ 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; or
✓ 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; OR

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

**Temporomandibular Joint Disorder:**

SWHP may consider orthognathic surgery medically necessary for the treatment of TMJ disorder in patients in very limited circumstances. Due to the lack of availability of peer reviewed literature demonstrating outcomes benefits for surgical management of TMJ, in order to be considered for coverage the requesting provider should provide documented evidence of:

- Severe trauma; OR
- Pathological lesions of the TMJ; OR
- History of failure to respond to non-surgical, conservative, reversible treatment modalities, usually on long-term, chronic basis;

AND

- Continuous and/or repetitive episodes of pain and mechanical signs; OR
- Significant clinical disability and/or loss in quality of life; OR
- Evidence of progression of disease by history and/or imaging studies.

Documentation provided must prove relationship between the patient’s long-term symptoms and a malocclusion and/or discrepancy in jaw alignment.

Surgical procedures that may be considered for coverage for treatment of TMJ in patients who have met the above criteria include, but are not limited to:

- Orthognathic surgery, including, but not limited to:
- LeFort I, midface reconstruction
- Mandibular reconstruction, with or without bone graft and/or internal rigid fixation; segmental osteotomy

**Speech dysfunction:**

SWHP may consider orthognathic surgery medically necessary, when not specifically excluded from coverage in a health benefit contract, in the presence of a skeletal deformity which meets the above criteria, for treatment of speech dysfunction that is directly related to the facial skeletal...
deformity as determined by a speech and language pathologist (e.g., sibilant distortions, velopharyngeal distortion), which presents a significant functional limitation of speech, and which has not responded to an intensive course of speech therapy.

SWHP considers orthognathic surgery not medically necessary for correction of articulation disorders and other speech impairments that are not related to facial skeletal deformity are not significant functional limitations, and for which other reasonable conservative therapies are available.

Psychosocial or cosmetic indications:
SWHP considers orthognathic surgery cosmetic and NOT medically necessary when performed in the absence of significant functional impairment as noted above, including but not limited to: when performed for the purpose of improving or altering appearance or self-esteem, or to treat psychological or psychosocial symptoms or complaints related to the member's appearance.

Dental malocclusion:
SWHP considers orthognathic surgery a dental service and NOT medically necessary when used for altering or improving bite.

Obstructive Sleep Apnea:
SWHP may consider mandibular and/or maxillary advancement surgery, including genioglossus advancement, medically necessary for treatment of diagnosed OSA only after all non-surgical management, including weight loss, has been tried and failed in patients with a diagnosis of moderate to severe sleep apnea.
SWHP does NOT consider orthognathic surgery medically necessary for any other indication related to obstructive sleep apnea.

SWHP considers sliding genioplasty with or without other orthognathic procedures cosmetic and NOT medically necessary for any indication.
SWHP considers orthodontic therapy with or without other orthognathic procedures dental and NOT covered under a medical benefit plan.

OVERVIEW:
Orthognathic surgery is the surgical correction of abnormalities of the mandible (lower jaw), maxilla (upper jaw), or both that cannot be improved with routine dental or orthodontic therapy.

The underlying abnormality may be present at birth, may become evident as an individual grows and develops, or may be the result of traumatic injuries.

Maxillofacial deformities can be divided broadly into three major categories: dental dysplasias, skeletal dysplasias, and dentoskeletal dysplasias. Dental dysplasias are malocclusions that result from abnormal spatial relationship of the dentition and not from the skeletal position of the upper and lower jaws. These can be corrected with orthodontic treatment. In patients with skeletal dysplasia, the dentition is in good alignment, but the maxilla and/or mandible are dysplastic. Skeletal dysplasias require correcting the skeletal deformity without altering the occlusion. In dentoskeletal dysplasias, the dentition is malpositioned within each arch and related to each other. Additionally, the skeletal relationship of the
upper and lower jaws is abnormal; correction requires aligning the dentition within each arch with orthodontic treatment and restoring the maxillary-mandibular dental relationship with skeletal osteotomies and repositioning. Skeletal/facial anomalies are referenced as spatial (refers to space) planes: horizontal, vertical, transverse, or a combination. Examples of conditions for which orthognathic surgery is used are mandibular prognathism, crossbite, open bite, overbite, underbite, mandibular deformity, and maxillary deformity. Orthognathic procedures include osteotomy, osteectomy, or osteoplasty, and the insertion of material to hold bones together such as plates, screws, and wires. Orthognathic surgery is usually preceded by orthodontic therapy to attempt to correct malocclusion by conservative therapy or in preparation for surgery; orthodontic therapy may also be required in the post-operative phase.

Universal Dental Notation is the most common system for numerically identifying permanent dentition. The maxillary dentition is numbered sequentially from 1-16 starting with the right maxillary third molar as 1. The numbering system continues from 17-32 beginning with the left mandibular third molar as 17.

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, i.e., the mandibular teeth are 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; may be referred to as a deep bite deformity.

Class III (mesio-occlusion): The mesiobuccal groove of the mandibular first molar is mesial to the mesiobuccal cusp of the maxillary first molar, i.e., the lower dental arch is in front of the (mesial to) the upper dental arch. People with this type of malocclusion usually have a strong or protrusive chin commonly referred to as an underbite.

Upper and lower arch dentition
- Overjet - Horizontal distance between the incisal edges of the maxillary incisor to the mandibular incisor
- Overbite - Vertical distance between the incisal edge of the maxillary incisor and the mandibular incisor
- Crossbite - Lingual-buccal malposition of the normal relationship between the upper and lower dentition (negative overjet)
- Deep bite - Condition of excessive overbite
- Open bite - Condition of negative overbite (teeth do not meet)

Imaging Studies
Ortho-Panorex x-rays provide an overview of the stage of dental development, the mandibular anatomy, and gross pathology. Specific films such as occlusal and periapical views can be obtained to further assess the dentition, supporting bone, and interdental spaces. Cephalometric x-rays are standardized skull and/or facial views that allow for comparison over time to assess growth in an individual and for comparison of that individual against standardized population norms.

Periapical films are obtained to determine if sufficient space exists for interdental osteotomies.
On occasion, hand wrist films are useful to help determine skeletal age based on the known timing of sequential closure of the epiphyseal growth plates. However, typically facial skeletal maturity is determined by comparison of serial lateral cephalometric films obtained at 6-month intervals.

Three-dimensional computerized tomography is being increasingly used for surgical evaluation and planning in academic university settings. In the future, such three-dimensional visualization of the patient's anatomic deformity is likely to replace today's conventional two-dimensional cephalometric analysis.

**Surgical Therapy**

“The LeFort 1 osteotomy is a procedure used to correct a wide range of dentofacial deformities. The complication profile of this procedure is well established and should be understood prior to execution. Recent studies have focused on the reliability of maxillary movements as it relates to long-term stability and relapse. Overall, the LeFort 1 osteotomy is a common, predictable, and safe orthognathic intervention with reliable long-term results.”

“The LeFort I osteotomy is named after the fracture pattern originally described by Rene LeFort in 1901 that extends from the nasal septum, along the tooth apices, and through the pterygomaxillary junction. The LeFort I osteotomy is commonly used for the correction of malocclusion and maxillomandibular deformities. Because it allows for movement in all three planes, it is used to treat class II and III malocclusions, as well dentofacial asymmetries. Furthermore, it is commonly used to treat midface hypoplasia and vertical maxillary excess.”

“Class III malocclusion is one of the most common reasons for performing a LeFort I osteotomy. It is associated with maxillary hypoplasia and is commonly found in patients with orofacial clefts, obstructive sleep apnea (OSA), and maxillary atrophy (Buchanan, 2013).”

The LeFort II osteotomy allows the surgeon to alter the nasomaxillary projection without altering the orbital volume and zygomatic projection. This is seen most commonly in Apert syndrome. Typically, these patients present with a “class III malocclusion, decreased Sella, Nasion, A point, a short nose, and a vertically deficient midface. The LeFort II addresses the nose and maxilla (Vu, 2015).”

Complete craniofacial dysjunction by the LeFort III osteotomy allows the surgeon to alter the orbital position and volume, zygomatic projection, position of the nasal root, frontonasal angle, and position of the maxilla and to lengthen the nose.

The bilateral sagittal split osteotomy (BSSO) is the most commonly performed jaw surgery, with or without upper jaw surgery. Indications for a bilateral sagittal split include horizontal mandibular excess, deficiency, and/or asymmetry. It is the most commonly performed procedure for mandibular advancement and can also be utilized for a mandibular setback of small to moderate magnitude (Monson, 2013). Temporomandibular disorders (TMD, or TMJD) encompass a cluster of related disorders in the masticatory system that has many common symptoms. An estimated 75% of the U.S. population has experienced one or more symptoms of TMJD; approximately 5-10% of the U.S. population will require professional treatment. TMJD usually involves more than one symptom and rarely has a single cause; most TMJD symptoms are temporary and require little or no professional intervention. The most common symptom is pain or discomfort in or around the ear, jaw joint, and/or muscles of the jaw, face, temples, and neck. Pain may arise suddenly, or progress over months to
years with intermittent frequency and intensity. Other symptoms include clicking, popping, grating (crepitus), locking, limited or deviant jaw opening, and chewing difficulties. Conservative management techniques, such as behavior modification, physical therapy, medication, jaw exercise, and orthotics have proven to be safe and effective in the majority of cases. Surgical intervention may be warranted only for a small percentage of patients with chronic and substantial dysfunction for whom noninvasive therapies have failed.

The American Academy of Orofacial Pain strongly cautions against treatments designed to permanently change the bite or to reposition the jaw with orthodontics or reconstruction. Sleep Apnea

Identification of patients with sleep apnea has led to extensive study and the development of guidelines to identify clinically significant obstructive disorders. Patients with an apneic/hypopneic index greater than 20 are eligible for medical or surgical treatment based on the increased mortality associated with this degree of obstruction. Milder forms of obstruction with an AHI between 5 (considered normal) and 20 are considered clinically significant only if associated with daytime hyper somnolence or hypertension. Upper airway resistance syndrome (UARS) is characterized by a normal AHI but the sleep fragmentation related to subtle airway resistance, is considered clinically significant if there are more than 10 episodes of electroencephalogram (EEG) arousal per hour of sleep in association with negative intrathoracic pressures.

Because of the serious disturbances in their normal sleep patterns, people with sleep apnea often feel very sleepy during the day, and their concentration and performance suffer. The consequences of sleep apnea range from annoying to life threatening, including symptoms of depression, irritability, sexual dysfunction, learning/memory difficulties and falling asleep while at work, on the phone, or while driving. Untreated sleep apnea increases the risk of motor vehicle accidents. It has been estimated that at least 50 percent of persons with sleep apnea have hypertension, a higher risk of heart attack and stroke.

The major issue regarding the surgical treatment of OSA is the development of patient selection criteria that identify patients with clinically significant obstructive disorders. The original rationale for the diagnosis and treatment of OSA was based on epidemiologic studies that suggested an increased mortality in patients with an apneic index greater than 20. However, considering that an AHI of 5 is considered normal, there is obviously a great range of severity of OSA, ranging from those with only snoring as a complication to those with associated severe excessive daytime sleepiness, hypertension, or cardiac arrhythmias. If OSA is considered mild to moderate and snoring is the only manifestation, intervention would be considered not medically necessary. For example, pronounced snoring may be considered predominantly a social annoyance to the patient’s bed partner with no impact on the patient him/herself.

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Mandibular and/or maxillary advancement

Jaw realignment is an aggressive, multi-step procedure requiring a three to six month interval between each step. According to the medical literature, jaw realignment surgery is generally reserved for those patients who fail other treatment approaches for OSA. An NIH Statement and American Sleep Disorders Association Guidelines state that jaw realignment surgery is a promising treatment for obstructive sleep apnea. A systematic review of the evidence prepared for the American Sleep Disorders Association (ASDA) concluded that inferior sagittal mandibular osteotomy and genioglossal advancement with or without hyoid myotomy and suspension appears to be the most promising of procedures directed at enlarging the retrolingual region. The ASDA assessment stated that most of the experience with genioglossal advancement with or without hyoid suspension has been in conjunction with or following uvulopalatopharyngoplasty (UPPP). Jaw fixation is necessary for two to three weeks following surgery, and a soft diet is necessary for a total of six weeks. Patients undergoing jaw realignment surgery must usually also undergo orthodontic therapy to correct changes in occlusion associated with the surgery.

Maxillomandibular Osteotomy and Advancement (MMO): MMO is a surgical technique that modifies the airway space by advancing the maxilla, the mandible, and therefore the tongue. MMO is used to correct retrolingual or hypopharyngeal obstruction. Some surgeons believe that the MMO procedure should precede the UPPP because of a higher success rate for correcting retrolingual or hypopharyngeal obstruction. MMO may also be employed as the sole procedure for OSA patients with mandibular skeletal deformities associated with a narrowed posterior airway space and tongue base obstruction.

The AASM practice parameters for the surgical treatment of OSA state that a stepwise approach to surgical management is acceptable if the patient is advised of the likelihood of success of each procedure and that multiple operations may be necessary. In selected patients for whom UPPP and other surgical procedures have failed, MMO may be successful in effectively treating the OSA. MMO is not generally considered as initial therapy, however.

MANDATES: TEXAS: Reconstructive Surgery For Craniofacial Abnormalities In A Child TIC 1367.153; Temporomandibular Joint Disorder TIC 1360.004

CODES:
Orthognathic Surgery
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Important note:
CODES: Due to the wide range of applicable diagnosis codes and potential changes to codes, an inclusive list may not be presented, but the following codes may apply. Inclusion of a code in this section does not guarantee that it will be reimbursed, and patient must meet the criteria set forth in the policy language.

| CPT Codes: | 21085, 21125, 21127, 21141, 21142, 21143, 21145, 21146, 21147, 21150, 21151, 21154, 21155, 21159, 21160, 21188, 21193, 21194, 21195, 21196, 21198, 21199, 21206, 21208, 21209, 21210, 21215, 21110 |
| HCPCS codes: | 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 | D7946 LeFort 1 (maxilla-total) | D7947 LeFort 1 (maxilla-segmented) | D7948 LeFort II or LeFort III (osteoplasty of facial bones for midface hypoplasia or retrusion)-without bone graft | D7949 LeFort II or LeFort III -with bone graft | D7950 Osseous, osteoperiosteal, or cartilage graft of the mandible or facial bones – 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 |

CMS: No NCDs or LCDs related to this coverage

POLICY HISTORY:

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<td>10/24/2013</td>
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<td>Clarified policy language</td>
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REFERENCES:
The following scientific references were utilized in the formulation of this medical policy. SWHP will continue to review clinical evidence related to this policy and may modify it at a later date based upon the evolution of the published clinical evidence. Should additional scientific studies become available and they are not included in the list, please forward the reference(s) to SWHP so the information can be reviewed by the Medical Coverage Policy Committee (MCPC) and the Quality Improvement Committee (QIC) to determine if a modification of the policy is in order.
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