Clinical Policy Title: Pediatric rhinoplasty

Clinical Policy Number: CCP.1332

Effective Date: October 1, 2017
Initial Review Date: August 17, 2017
Most Recent Review Date: September 4, 2018
Next Review Date: September 2019

Related policies:

CCP.1184 Cosmetic, plastic, and scar revision surgery

ABOUT THIS POLICY: Prestige Health Choice has developed clinical policies to assist with making coverage determinations. Prestige Health Choice’s clinical policies are based on guidelines from established industry sources, such as the Centers for Medicare & Medicaid Services (CMS), state regulatory agencies, the American Medical Association (AMA), medical specialty professional societies, and peer-reviewed professional literature. These clinical policies along with other sources, such as plan benefits and state and federal laws and regulatory requirements, including any state- or plan-specific definition of “medically necessary,” and the specific facts of the particular situation are considered by Prestige Health Choice when making coverage determinations. In the event of conflict between this clinical policy and plan benefits and/or state or federal laws and/or regulatory requirements, the plan benefits and/or state and federal laws and/or regulatory requirements shall control. Physicians and other health care providers are solely responsible for the treatment decisions for their patients. Prestige Health Choice’s clinical policies are for informational purposes only and not intended as medical advice or to direct treatment. Prestige Health Choice’s clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, Prestige Health Choice will update its clinical policies as necessary. Prestige Health Choice’s clinical policies are not guarantees of payment.

Coverage policy

Prestige Health Choice considers the use of rhinoplasty in members ages 16 years and younger to be clinically proven and, therefore, medically necessary to either restore nasal anatomy and function or promote the normal development and outgrowth of the nose. Clinical indications for rhinoplasty in this population include, but are not limited to (Albert, 2018; Ishii, 2017):

- Correction of the form or function of the nose caused by acute (≤ three months prior) trauma or congenital defects, such as cleft lip and/or palate.
- As an integral component of medically necessary septoplasty and documentation of gross nasal obstruction on the same side as the septal deviation.
- Correction of a constant or intermittent nasal airway obstruction occurring as a result of an internal or external nasal deformity (e.g., nasal valve collapse or vestibular stenosis), trauma, or disease, and all of the following criteria:
  - Nasal airway obstruction will not respond to septoplasty or turbinectomy alone.
- Nasal airway obstruction is causing significant symptoms (e.g., chronic rhinosinusitis or difficulty breathing).
- Obstructive symptoms do not respond to at least four weeks of conservative management (e.g., nasal steroids or immunotherapy).
- Photographic evidence of an external nasal deformity and documentation of significant obstruction of one or both nares by nasal endoscopy, computed tomography scan, or other appropriate imaging modality.

**Limitations:**

Coverage determinations are subject to benefit limitations and exclusions as delineated by the state Medicaid authority. The Florida Medicaid website may be accessed at http://ahca.myflorida.com/Medicaid/.

Rhinoplasty used to solely correct appearance in the absence of a functional impairment is not medically necessary.

Rhinoplasty in situations that do not require immediate correction of a form or functional impairment should be delayed, when possible, until after pubertal growth (Albert, 2018; Ishii, 2017).

Contraindications to pediatric rhinoplasty associated with poor surgical outcomes include, but are not limited to (Ishii, 2017):

- Intranasal substance abuse (e.g., cocaine).
- Psychological or psychiatric instability (e.g., unrealistic expectations, body dysmorphic disorder).
- Comorbid medical conditions that preclude surgical clearance (e.g., obstructive sleep apnea and coagulation disorders).

Consultation with other medical specialties (e.g., behavioral health, sleep medicine, and hematology) is medically necessary to evaluate the perioperative risk of relative contraindications.

**Alternative covered services:**

None.

**Background**

Rhinoplasty, also called nose reshaping, is a surgical procedure that alters the structure or function of the external nose (American Rhinologic Society, 2015). Reasons for rhinoplasty may be functional, aesthetic, or both, and may involve adjunctive procedures to the internal nasal structures, such as the nasal septum, nasal valves, turbinates, or sinuses. In 2017, there were 30,681 nose reshaping
procedures performed in persons ages 13 to 19 years, representing the most common cosmetic surgical procedure in this age group (American Society of Plastic Surgeons, 2017).

Rhinoplasty procedures vary depending on the patient’s goals, the anatomic problems, and the surgeon’s preferences (American Rhinologic Society, 2015). The procedure may be done with the patient awake or under sedation or anesthesia, as a primary or revision surgery, and either closed (i.e., incision hidden inside the nostrils) or open (i.e., incision at the base of the nose). The length of recovery may vary depending on the extent of surgery. The primary goal of rhinoplasty performed for functional reasons is improvement in nasal breathing.

Special considerations in pediatric populations:

Unlike the adult nose, the child’s nose is growing, and anatomical structures are developing, resulting in differences in size, form, and structure of supporting cartilaginous and bony framework (Kopacheva-Barsova, 2016). Nasal growth continues after puberty and, according to one systematic review, typically ends at age 16 years in females and 17 years in boys (van der Heijden, 2008). The nasal septum is the dominant growth center of the nose. The wound healing capacity of pediatric nasal cartilage is poor, which limits the effectiveness of some surgical interventions.

Surgical techniques considered safe and effective in adults may have a negative outcome on growth, function, and aesthetics in children. The goals of rhinoplasty in children are to: 1) restore the anatomy and function, and 2) promote normal development and outgrowth of the nose. Rhinoplasty is often postponed until after the pubertal growth spurt to avoid possible growth disturbances to the nose and midface region that may result in underdevelopment, progressive malformations, and associated psychological sequelae of undergoing a potentially appearance-altering procedure. However, some situations may require immediate intervention.

Searches

Prestige Health Choice searched PubMed and the databases of:
- UK National Health Services Centre for Reviews and Dissemination.
- Agency for Healthcare Research and Quality’s National Guideline Clearinghouse and other evidence-based practice centers.
- The Centers for Medicare & Medicaid Services.

We conducted searches on July 9, 2018. Search terms were: “Rhinoplasty” (MeSH) and the free text terms “pediatric rhinoplasty” and “nose reshaping.”

We included:
- **Systematic reviews**, which pool results from multiple studies to achieve larger sample sizes and greater precision of effect estimation than in smaller primary studies. Systematic
reviews use predetermined transparent methods to minimize bias, effectively treating the review as a scientific endeavor, and are thus rated highest in evidence-grading hierarchies.

- **Guidelines based on systematic reviews.**
- **Economic analyses**, such as cost-effectiveness, and benefit or utility studies (but not simple cost studies), reporting both costs and outcomes — sometimes referred to as efficiency studies — which also rank near the top of evidence hierarchies.

**Findings**

We identified one systematic review (Gupta, 2017), one evidence-based guideline (Ishii, 2017), and two individual case series for this policy (Adil, 2014; Bae, 2013). The evidence base consists of low-quality evidence from retrospective, surgical case series. Limitations in the evidence base include small numbers of patients studied and incomplete reporting of patient characteristics, complications, and long-term outcomes including psychological consequences.

The majority of patients were male who were treated for either antecedent trauma, nasal obstruction, or cleft lip nasal deformity using an open approach, frequently with concurrent septoplasty. The results suggest rhinoplasty with or without adjunctive procedures is safe in children younger than age 16. Revisions occurred in approximately 14 percent of patients. Where reported, aesthetic dissatisfaction (11.8 percent) and postoperative nasal obstruction (5.6 percent) were the most common complications. Other complications of the procedure may include (American Rhinologic Society, 2015):

- Complications of anesthesia.
- Epistaxis (nosebleed).
- Septal perforation (hole in the internal wall of the nose).
- Infection.

According to the American Academy of Otolaryngology — Head and Neck Surgery, the indications for a rhinoplasty include (Ishii, 2017):

- Obstructed breathing (functional).
- Unsatisfactory appearance.
- Nasal injury (trauma) causing unsatisfactory appearance or breathing.
- Nasal birth defect impairing form or function.
- Acquired deformity due to trauma, tumor, or infection.

Certain comorbid conditions could modify or contraindicate surgery and require careful consideration for surgical candidacy (Ishii, 2017). They are:

- Obstructive sleep apnea — Patients with obstructive sleep apnea have an elevated risk for perioperative complications, but some with severe forms may benefit from rhinoplasty to reduce nasal resistance and improve compliance with established treatments, such as continuous positive airway pressure. Surgeons should coordinate care with a sleep specialist.
- Topical vasoconstrictive intranasal drugs, including intranasal cocaine and other stimulants — Chronic use of these drugs is associated with worsened surgical outcomes.
- Disorders of the coagulation cascade — These may increase the risk of thrombosis, but routine laboratory screening is not supported for elective surgery in the absence of additional risk factors.

Body dysmorphic disorder is a psychiatric disorder in which affected individuals express excessive preoccupation with nonexistent or minimal flaws or defects in their appearance. Unlike persons who are dissatisfied with their appearance, persons with body dysmorphic disorder often: 1) have a poor quality of life, with social isolation; 2) have unreasonable expectations for postoperative changes; and 3) are underdiagnosed (Panayi, 2015). As rhinoplasty is the most common surgical procedure received by persons with this disorder, careful psychosocial assessment is an integral part of the preoperative workup. Body dysmorphic disorder is a contraindication to elective rhinoplasty, as symptoms may worsen post-operatively (Ishii, 2017).

Policy updates:

In 2018, we added two analyses of the National Surgical Quality Improvement Program Pediatric data sets (Garg, 2018; Jubbal, 2017) and one international consensus report from the International Federation of Oto-Rhino-Laryngological Societies World Congress (Albert, 2018). The results confirm previous findings in this policy. No policy changes are warranted.

Policy ID changed from CP# 11.03.06 to CCP.1332.

Summary of clinical evidence:

<table>
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<tr>
<th>Citation</th>
<th>Content, Methods, Recommendations</th>
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| Albert (2018) for the International Federation of Oto-Rhino-Laryngological Societies World Congress International consensus on functional and aesthetic rhinoplasty (only age limit data reported) | **Key points:**  
- Age limits to achieve a rhinoplasty depend on the context and indications.  
- General recommendations are to delay surgery until the end of puberty and the nasal growth (e.g., 15 – 16 years of age for females and 17 – 18 years for males), but consider surgery at a younger age if a genuine functional problem or a major malformation due to a congenital anomaly or trauma is present.  
- For cleft lip, nasal procedure can be combined during the initial surgery as early as 3 months of age.  
- Psychological and informed consent considerations for the older child are essential.  
- In the cases of septorhinoplasty in the younger patients, function over cosmetic considerations, procedure should be as conservative as possible. |
| Garg (2018) Comparison of outpatient and inpatient pediatric | **Key points:**  
- Retrospective comparison of inpatient versus outpatient clinical characteristics and complications among 938 patients ≤ age 17 who underwent rhinoplasty as the primary
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| Rhinoplasty: results from National Surgical Quality Improvement Program-Pediatric data, 2012 – 2014 | Surgical procedure using both univariate and multivariate logistic regression analyses; 199 (21.2%) were managed as inpatients.  
  - Variables significantly associated with increased odds of inpatient management were: young patient age, presence of a congenital malformation, neurologic or nutritional disease, lengthy procedure time, management by a plastic surgeon compared with an otolaryngologist, and certain procedure types including cleft septorhinoplasty, secondary rhinoplasty with intermediate or major revision, and rib cartilage grafting.  
  - Complications among both cohorts were rare, with the most common being readmission among 15 patients (1.6%). |
| Jubbal (2017)                                                          | **Key points:**                                                                                   |
| Comparing plastic surgery and otolaryngology management in cleft care: an analysis of 4,999 cases |  
  - Retrospective analysis of the American College of Surgeons' National Surgical Quality Improvement Program Pediatric data from 2012 to 2014 of patients who underwent undergoing primary repair of cleft lip, cleft palate, and associated rhinoplasty. Two cohorts based on primary specialty, plastic surgeons, and otolaryngologists, were compared in relation to patient characteristics, 30-day postoperative outcomes, procedure type, and intraoperative variables.  
  - Significant variation exists in the treatment of cleft lip and palate based on specialty service with regard to procedure timing and type, but no significant differences in short-term rates of mortality, wound occurrence, reoperation, readmission, and surgical or medical complications. |
| Ishii (2017) for the American Academy of Otolaryngology — Head and Neck Surgery Guideline: improving nasal form and function after rhinoplasty | **Key points:**                                                                                   |
|                                                                       |  
  - Preoperatively assess and document in surgical candidate ≥ 15 years:  
    - Motivations and expectations for surgery (Grade C, based on observational studies with a preponderance of benefit over harm).  
    - Comorbid conditions that could modify or contraindicate surgery, including obstructive sleep apnea; psychopathology (e.g., body dysmorphic disorder); bleeding disorders; or chronic use of topical vasoconstrictive intranasal drugs (Grade C).  
    - Nasal airway obstruction (Grade C).  
  - Document patients’ satisfaction with their nasal appearance and with their nasal function at a minimum of 12 months after rhinoplasty (Grade C). |
| Gupta (2017)                                                           | **Key points:**                                                                                   |
| Pediatric rhinoplasty                                                  |  
  - Systematic review of seven observational studies (253 total patients).  
  - Overall quality: low due to non-standardized outcome measures, minimal long-term follow-up data, and lack of discussion regarding psychological sequelae.  
  - Patient characteristics: age range from 7 months to 19 years; 67% males; 41.7% reported antecedent trauma.  
  - Surgical indications included "functional aesthetic" (24.5%) followed by cleft lip nasal deformity (15.8%).  
  - Procedure characteristics: 79.1% open approaches; 71.1% concomitant septal intervention. Grafting materials: septal cartilage (52.8%) and conchal cartilage (16.5%).  
  - Heterogeneous surgical outcomes. Complication rates were reported in five of seven studies (57 patients [39.6%]): aesthetic dissatisfaction (11.8%) and postoperative nasal |
obstruction (5.6%) were most common; revision rate 13.5%.

• Rhinoplasty is safe, but revision rates appear greater than those in adults.

References

Professional society guidelines/other:


Peer-reviewed references:


**Centers for Medicare & Medicaid Services National Coverage Determinations:**

No National Coverage Determinations identified as of the writing of this policy.

**Local Coverage Determinations:**

No Local Coverage Determinations identified as of the writing of this policy.

**Commonly submitted codes**

Below are the most commonly submitted codes for the service(s)/item(s) subject to this policy. This is not an exhaustive list of codes. Providers are expected to consult the appropriate coding manuals and bill accordingly.

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<thead>
<tr>
<th>CPT Code</th>
<th>Description</th>
<th>Comments</th>
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<tr>
<td>30435</td>
<td>Rhinoplasty, secondary; intermediate revision (bony work with osteotomies)</td>
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<tr>
<td>30450</td>
<td>Rhinoplasty, secondary; major revision (nasal tip work and osteotomies)</td>
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<tr>
<td>30460</td>
<td>Rhinoplasty for nasal deformity secondary to congenital cleft lip and/or palate, including columellar lengthening; tip only</td>
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<tr>
<td>30462</td>
<td>Rhinoplasty for nasal deformity secondary to congenital cleft lip and/or palate, including columellar lengthening; tip, septum, osteotomies</td>
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<tr>
<td>30420</td>
<td>Rhinoplasty, primary; including major septal repair</td>
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<tr>
<td>30400</td>
<td>Rhinoplasty, primary; lateral and alar cartilages and/or elevation of nasal tip</td>
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<tr>
<td>30410</td>
<td>Rhinoplasty, primary; complete, external parts including bony pyramid, lateral and alar cartilages, and/or elevation of nasal tip</td>
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<thead>
<tr>
<th>ICD-10 Code</th>
<th>Description</th>
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<tr>
<td>J32.0 - J32.9</td>
<td>Chronic sinusitis [due to deviated septum not relieved by appropriate medical and antibiotic therapy]</td>
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<tr>
<td>J34.2</td>
<td>Deviated nasal septum [causing continuous nasal airway obstruction resulting in</td>
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<td>ICD-10 Code</td>
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<tr>
<td>J34.0 - J34.9</td>
<td>Other and unspecified disorders of nose and nasal sinuses [significant nasal obstruction] [after four or more weeks of conservative management when criteria are met]</td>
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<tr>
<td>M95.0</td>
<td>Acquired deformity of nose [that prevents access to other intranasal areas when such access is required to perform medically necessary surgical procedures] [not covered for nasal valve collapse]</td>
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<tr>
<td>Q30.1 - Q30.8</td>
<td>Other congenital anomalies of nose [deformity of septum]</td>
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<tr>
<td>Q35.1 - Q35.9</td>
<td>Cleft palate</td>
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<tr>
<td>Q37.0 - Q37.9</td>
<td>Cleft palate with cleft lip</td>
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<tr>
<td>Q67.0 - Q67.4</td>
<td>Congenital musculoskeletal deformities of skull, face, and jaw [congenital deviated septum]</td>
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<tr>
<td>R04.0</td>
<td>Epistaxis [related to septal deformity]</td>
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<th>HCPCS Level II Code</th>
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