



Medical Coverage Policy

Effective Date..... 7/10/2021
Next Review Date..... 3/15/2022
Coverage Policy Number 0554

Diagnostic Nasal/Sinus Endoscopy, Functional Endoscopic Sinus Surgery (FESS) and Turbinectomy

Table of Contents

Overview	1
Coverage Policy.....	2
General Background.....	3
Medicare Coverage Determinations	10
Coding/Billing Information.....	10
References	28

Related Coverage Resources

- [Balloon Sinus Ostial Dilation for Chronic Sinusitis and Eustachian Tube Dilation](#)
- [Drug-Eluting Devices for Use Following Endoscopic Sinus Surgery](#)
- [Rhinoplasty, Vestibular Stenosis Repair and Septoplasty](#)

INSTRUCTIONS FOR USE

The following Coverage Policy applies to health benefit plans administered by Cigna Companies. Certain Cigna Companies and/or lines of business only provide utilization review services to clients and do not make coverage determinations. References to standard benefit plan language and coverage determinations do not apply to those clients. Coverage Policies are intended to provide guidance in interpreting certain standard benefit plans administered by Cigna Companies. Please note, the terms of a customer's particular benefit plan document [Group Service Agreement, Evidence of Coverage, Certificate of Coverage, Summary Plan Description (SPD) or similar plan document] may differ significantly from the standard benefit plans upon which these Coverage Policies are based. For example, a customer's benefit plan document may contain a specific exclusion related to a topic addressed in a Coverage Policy. In the event of a conflict, a customer's benefit plan document always supersedes the information in the Coverage Policies. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of 1) the terms of the applicable benefit plan document in effect on the date of service; 2) any applicable laws/regulations; 3) any relevant collateral source materials including Coverage Policies and; 4) the specific facts of the particular situation. Each coverage request should be reviewed on its own merits. Medical directors are expected to exercise clinical judgment and have discretion in making individual coverage determinations. Coverage Policies relate exclusively to the administration of health benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines. In certain markets, delegated vendor guidelines may be used to support medical necessity and other coverage determinations.

Overview

This Coverage Policy addresses diagnostic nasal/sinus endoscopy, functional endoscopic sinus surgery (FESS) and turbinectomy procedures. Endoscopy is the insertion of a thin tube directly into an opening in the body, or less frequently through a small incision to observe an internal organ or tissue in detail. Such procedures are considered minimally invasive. Diagnostic nasal/sinus endoscopy is used to look at the nasal and sinus passages when external assessment does not provide sufficient information. FESS is most commonly performed and medically appropriate for inflammatory and infectious sinus disease. Turbinectomy may be a medically appropriate option to clear an obstruction of the turbinate(s), when conservative medical treatment such as nasal steroids, has failed. Medically appropriate indications are informed by published peer-reviewed evidence and professional society guidelines. For indications that are considered medically appropriate for diagnostic nasal endoscopy, FESS and turbinectomy please refer to the [coding/billing information](#) section.

Coverage Policy

Diagnostic nasal/sinus endoscopy, functional endoscopic sinus surgery and turbinectomy (see CPT® code lists below) are considered medically necessary when the associated signs and symptoms or diagnoses are listed in the coding/billing information section for ANY of the following:

- diagnostic nasal/sinus endoscopy:

CPT® Code	Code Description
31231	Nasal endoscopy, diagnostic, unilateral or bilateral (separate procedure)
31233	Nasal/sinus endoscopy, diagnostic; with maxillary sinusoscopy (via inferior meatus or canine fossa puncture)
31235	Nasal/sinus endoscopy, diagnostic; with sphenoid sinusoscopy (via puncture of sphenoidal face or cannulation of ostium)

- functional endoscopic sinus surgery (FESS):

CPT® Code	Code Description
31237	Nasal/sinus endoscopy, surgical; with biopsy, polypectomy or debridement (separate procedure)
31239	Nasal/sinus endoscopy, surgical; with dacryocystorhinostomy
31240	Nasal/sinus endoscopy, surgical; with concha bullosa resection
31253	Nasal/sinus endoscopy, surgical with ethmoidectomy; total (anterior and posterior), including frontal sinus exploration, with removal of tissue from frontal sinus, when performed
31254	Nasal/sinus endoscopy, surgical with ethmoidectomy; partial (anterior)
31255	Nasal/sinus endoscopy, surgical with ethmoidectomy; total (anterior and posterior)
31256	Nasal/sinus endoscopy, surgical, with maxillary antrostomy;
31257	Nasal/sinus endoscopy, surgical with ethmoidectomy; total (anterior and posterior), including sphenoidotomy
31259	Nasal/sinus endoscopy, surgical with ethmoidectomy; total (anterior and posterior), including sphenoidotomy, with removal of tissue from the sphenoid sinus
31267	Nasal/sinus endoscopy, surgical, with maxillary antrostomy; with removal of tissue from maxillary sinus
31276	Nasal/sinus endoscopy, surgical, with frontal sinus exploration, including removal of tissue from frontal sinus, when performed
31287	Nasal/sinus endoscopy, surgical, with sphenoidotomy;
31288	Nasal/sinus endoscopy, surgical, with sphenoidotomy; with removal of tissue from the sphenoid sinus

- turbinectomy:

CPT® Code	Code Description
30801	Ablation, soft tissue of inferior turbinates, unilateral or bilateral, any method (eg, electrocautery, radiofrequency ablation, or tissue volume reduction); superficial
30802	Ablation, soft tissue of inferior turbinates, unilateral or bilateral, any method (eg, electrocautery, radiofrequency ablation, or tissue volume reduction); intramural (ie, submucosal)
30130	Excision inferior turbinate, partial or complete, any method
30140	Submucous resection inferior turbinate, partial or complete, any method

Diagnostic nasal/sinus endoscopy, functional endoscopic sinus surgery and turbinectomy procedures discussed within the scope of this Coverage Policy are considered not medically necessary for any other indication.

General Background

Diagnostic Nasal/Sinus Endoscopy

Diagnostic nasal/sinus endoscopy is an established method of assessing the nasal and sinus passages. It is a part of the rhinologic examination in the evaluation of nasal mucosa, sinonasal anatomy, and nasal pathology and is often performed in an otorhinolaryngology office. It allows for an objective, detailed examination by magnification of the nasal and sinus cavities not possible by standard examination such as anterior rhinoscopy using headlight or head mirror (Maru and Gupta, 2014). Nasal /sinus endoscopy involves the use of a fiberoptic endoscope with a tiny camera and light which is inserted into the nose to view the nasal cavity and/or sinuses. The procedure can be used alone or with the introduction of other instruments to detect various sinonasal pathologies as well as anatomical variations (Maru and Gupta, 2014). Use of an endoscopic approach has the potential to decrease surgery and healing times as well as postoperative discomfort. Medically appropriate indications are the evaluation of nasal blockage, nasal and sinus infection (rhinosinusitis), osteomyelitis, sinusitis, nasal polyps, mucocele nasal tumors, nasal bleeding, anosmia, hyposmia, parosmia, rhinorrhea, obstructive sleep apnea, choanal atresia, fracture, foreign body, barotrauma and cerebrospinal leak.

Literature Review

According to the American Rhinologic Society (2019) endoscopic evaluation and endoscopic surgery have both been recognized as accepted modalities of diagnosis and treatment of sinonasal disorders. Regarding diagnostic nasal endoscopy the Society notes that the procedure is typically performed in the office setting, although it can be performed in the hospital outpatient setting. Common indications for diagnostic nasal endoscopy include but are not limited to:

- evaluation of chronic sinonasal symptoms;
- assessment of interval response to medical or surgical therapy
- monitoring for recurrence of sinusitis and/or nasal polyps;
- evaluation and management of epistaxis;
- performance of endoscopically guided cultures;
- assessment of facial pain suggestive of nasal origin;
- evaluation of clear rhinorrhea suggestive of cerebrospinal fluid leak;
- performance of initial diagnosis and interval surveillance for sinonasal neoplasms; or
- evaluation of smell disorders.

Functional Endoscopic Sinus Surgery (FESS)

Medical therapy is generally the initial approach to treatment of sinonasal disease. If medical therapy is ineffective, a direct inspection of the patient's nasal anatomy with a nasal endoscope may be performed. Targeted medical therapy based upon the endoscopic findings can then be offered.

Functional endoscopic sinus surgery (FESS) is used to increase airflow through the nose by opening blocked sinus passages and improving drainage of mucous and other fluids from the sinuses. Areas visualized during endoscopy include the nasal cavity, inferior turbinate, inferior meatus, middle meatus, uncinate process, hiatus semilunaris, maxillary ostia, anterior ethmoidal bulla, nasofrontal recess, sphenoethmoidal recess, sphenoidal ostium, and the nasopharynx (American Academy of Otolaryngology-Head and Neck Surgery [AAO-HNS], 2015).

Endoscopic sinus surgery targets sinus pathology and is the gold standard for treating chronic rhinosinusitis (CRS) (Homsí, 2020). Although FESS is considered a standard surgical approach for many clinical indications it is generally reserved for those individuals in whom medical therapy has failed and when imaging studies reflect

ongoing disease. Other conditions can mimic chronic sinusitis (e.g., allergic rhinitis); therefore, ruling out other etiologies for the patient's symptoms is imperative. Medically appropriate indications for FESS include chronic sinusitis and recurrent sinusitis refractory to treatment, removal of polyps and mucocoeles, excision of tumors, treatment of cerebrospinal fluid leak, barotrauma, orbital decompression, optic nerve decompression, dacryocystorhinostomy, choanal atresia repair, removal of foreign bodies and control of bleeding. Presenting symptoms may include nasal congestion, purulent drainage, postnasal drip, facial pressure, headache, nasal obstruction and hyposmia or anosmia.

Although rare, major complications can occur during sinus surgery including hemorrhage, intracranial injury, and visual disturbances. Outstanding short- and long-term results have been reported in the literature.

Literature Review

FESS has been evaluated as a surgical approach in numerous prospective and retrospective studies for a variety of indications.

Sujatha and Suja (2019) published outcomes of a randomized controlled study involving 120 participants with chronic rhinosinusitis with bronchial asthma regarding the efficacy of functional endoscopic sinus surgery on quality of life and pattern of improvement when performed as treatment for chronic rhinosinusitis. Study participants underwent functional endoscopic sinus surgery or drug therapy per standard protocol. Improvement after FESS was significant compared with control at 3, 6, 9 and 12 months as measured by the Asthma Therapy Assessment Questionnaire (ATAQ), FEV1 and quality of life based on sinonasal outcome test. Data suggest an improvement with FESS in this study group.

Nikkerdar et al. (2020) reported results of a prospective study evaluating 49 patients with treatment-resistant chronic rhinosinusitis who were candidates for FESS. Preoperative cone-beam computed tomography (CBCT) scans were obtained before patients underwent FESS. The agreement between the CBCT findings and those of FESS was determined using the kappa correlation coefficient. There was significant agreement between pathological findings on CBCT scans and those of FESS, such that the kappa correlation coefficient was 1 for mucosal thickening, 0.644 for nasal deviation, 0.750 for concha bullosa, 0.918 for nasal polyp, 0.935 for ostiomeatal complex (OMC) obstruction, and 0.552 for infundibulum thickening. The authors noted that CBCT may be used prior to FESS to detect chronic rhinosinusitis and to assess anatomical variations.

Mandal and Sharma (2019) reported results of a study investigating the role of FESS in the enhancement of quality of life QOL in 30 patients with rhinosinusitis using the Glasgow Benefit Inventory questionnaire. Improvements were noted between results before and after surgery in mean total score, mean general Subscale Score, Mean Social Support Score and Mean Physical Health score. Data suggest a statistically significant improvement in all four scores before and after surgery.

Guttemburg et al. (2019) conducted a meta-analysis to estimate the sleep quality of patients with chronic rhinosinusitis after undergoing endoscopic sinus surgery. Four studies involving 509 participants were included in the systematic review. Improved sleep quality was observed in 90% of the patients. Improvement in each of the five symptoms related to sleep quality. Data suggest there are improved outcomes in sleep quality following endoscopic sinus surgery.

Soler et al. (2018) conducted a prospective cohort trial to evaluate differences in endoscopy exam, olfactory function, and quality-of-life (QOL) status after endoscopic sinus surgery (ESS) for patients with and without bilateral middle turbinate (BMT) resection. Study participants provided pre and postoperative responses to the Smell Identification Test (SIT), Rhinosinusitis Disability Index (RSDI), Chronic Sinusitis Survey (CSS), and the Medical Outcomes Study Short Form-36 Health Survey (SF-36). Bivariate and multivariate analyses were performed. Forty-seven subjects with BMT resection were compared to 195 subjects without BMT resection with a mean follow-up of 17.4 months postoperatively. No significant differences in improvement were found in RSDI, CSS, or SF-36 scores between patients with BMT resection and those with BMT preservation ($p > 0.050$). Patients undergoing BMT resection were more likely to show improvements in mean endoscopy ($p = 0.005$) and olfaction ($p = 0.045$) compared to those with BMT preservation. Data reflect no difference in QOL scores after

baseline or after BMT resection but greater improvements in SIT scores were found, which persisted after controlling for confounding factors.

Patel et al. (2017) reported results of a systematic review (six studies) with meta-analysis (five studies) regarding management of adult individuals with CRS refractory to appropriate medical therapy who progressed to medical or surgical therapy. Outcomes assessed were disease-specific quality of life (QOL), nasal endoscopy, health-state utility, missed work days, change in cardinal symptoms of CRS, economic impact, and adverse events.

Compared to continued medical therapy, endoscopic sinus surgery (ESS) significantly improved patient-based QOL scores ($p < 0.00001$) and nasal endoscopy scores ($p < 0.00001$). Difference in missed work days depended heavily on patient choice of intervention. Unpooled analysis showed improvements in olfaction, health utility scores, and cost-effectiveness. Data suggest endoscopic sinus surgery significantly improves objective endoscopic scoring outcomes vs continued medical therapy alone. In patients with refractory CRS who have significant reductions in baseline QOL, surgery results in significant improvements. Continued medical therapy appears to maintain outcomes in patients with less severe baseline QOL. Unpooled analysis demonstrates improvement in health utility, olfaction, and cost-effectiveness following ESS compared to continued medical therapy alone, in medically refractory CRS.

Zukin et al. (2017) published a systematic review of published studies describing outcomes after endoscopic sinus surgery for paranasal sinus mucoceles presenting with visual loss. Data from case reports and series were combined to analyze the associations among preoperative visual acuity, time to surgery, and postoperative outcomes. Eighty-five studies were included that provided data on 207 patients. The average presenting visual acuity was 1.57 logMAR (logarithm of the minimum angle of resolution), and the average postoperative visual acuity was 0.21 logMAR, with visual improvement in 71.5% of cases. Preoperative visual acuity ≥ 1.52 logMAR correlated with postoperative improvement >1 logMAR ($p < .0001$). A correlation was found between a time to surgery <6 days and postoperative improvement ($p < .0001$). Data suggest improved visual acuity outcomes following endoscopic sinus surgery for paranasal sinus mucoceles.

Jiang et al. (2017) performed a systematic review to evaluate the effectiveness of the endoscopic endonasal approach in sinonasal inverted papilloma in 125 patients. The overall recurrence rate was 8%. A common site of tumor origin was recorded to be from the maxillary sinus (40.2%). There was no significant difference in recurrence among stage of papilloma. Recurrence after endoscopic endonasal approach (8.4%) and a combined endoscopic and open exposure procedure (5.6%) were not significantly different ($p > 0.05$). The recurrence rate was significantly ($p < 0.05$) higher in patients with revision (15.6%) than in patients in the primary cases (3.8%). Twenty percent of recurrences were observed up to 5 years after surgery. Data suggest a non-inferior approach with endoscopic endonasal approach compared with a combined approach.

Smith et al. (2013) reports results of a prospective study of 65 adult patients with CRS who failed initial medical therapy who were considered surgical candidates by study criteria. Each participant was prospectively enrolled into a nonrandomized, multi-institutional cohort: medically managed ($n=33$), surgically managed with endoscopic sinus surgery ($n=65$) or crossover (from medical to surgical) ($n=17$). The primary outcome measure was disease-specific quality-of-life (QOL). Bivariate and multivariate analyses compared QOL improvement between cohort groups. With 1-year follow up, surgical patients reported significantly more improvement than medically managed patients on the Rhinosinusitis Disability Index (RSDI) ($p = 0.039$) or Chronic Sinusitis Survey (CSS), ($p = 0.018$). QOL in the crossover cohort was initially stagnant or worsening followed by improvement after ESS (RSDI, $p = 0.035$; CSS, $p = 0.070$). At 1-year follow-up, higher frequency of improvement was found in the surgical cohort vs medical cohort for several outcomes (total CSS: 70.8% vs 45.5%; $p = 0.014$).

Shen et al. (2011) reported the outcomes of full-house (comprehensive) functional endoscopic sinus surgery (FESS) (FHF) (complete sphenoidectomy with Draf IIA frontal sinusotomy) in twenty-one patients with chronic sinusitis having had at least one previous sinus surgery. After a minimum 6 months of follow-up, patients were asked to complete a 5-item Patient Response Score (PRS). Objective measures collected included computed tomography (CT) Lund MacKay score (L-M score, LMS), and endoscopic findings. Patients were divided into three subgroups based on months of follow up from surgery: 6-12, 12-18, and 18-24. No statistical difference in any outcome based on length of follow up. Mean symptom outcome was reported as much improved. Both mucosal swelling and mucopus improved ($p < 0.001$ and $p < 0.001$, respectively). LMS also

improved ($p < 0.001$). Presence of nasal polyps did not affect any subjective or objective outcome. Data suggest improvements in symptoms and mucosal findings with FHF between 6 and 24 months postoperatively.

Gill et al. (2020) published a retrospective review of 69 patients who underwent FESS to quantify pain after routine FESS and determine the most commonly used pain management regimen. Patients prospectively completed a daily pain diary and reported pain levels that were categorized into no pain (0), mild (1-3), moderate (4-7), or severe (8-10). Patients were categorized into narcotics, non-narcotics, combination, or none based on type of analgesic used. The majority of patients reported either mild (39%) or no pain (28%) during the first five post op days. Mean POD1 pain score was 3.98, which decreased with each subsequent POD. On POD1, 37% used opioids ($n = 37$), 32% used non-opioids ($n = 32$), 22% used a combination ($n = 22$), and 9% used no pain meds ($n = 9$). Mean number of narcotic pills used within the first 5 PODs was 2 pills on any given day. Use of preoperative steroids in patients with sinonasal polyposis was associated with lower POD1 pain scores ($P = .03$). The authors noted that the majority of patients experienced either mild or no pain, and this decreased with each POD.

Yaman et al. (2010) noted that the treatment of antrochoanal polyps (ACPs) is always surgical. In recent years functional endoscopic sinus surgery (FESS) has become the more preferred surgical technique and is considered safe and effective with minimal recurrence and low complication rate. Galluzzi et al. (2018) performed a systematic review evaluating the recurrence rate of antrochoanal polyps (ACP) following surgery and the recurrence of ACP after different types of surgery. Thirteen studies involving children were included in the analysis ($n=285$). Studies were prospective and retrospective. The mean rate of recurrence after ACPs surgery was 15.0 % Functional ESS (FESS) was the primary type of surgery (75%) followed by the combined approach (i.e., FESS with a trans-canine sinusoscopy or mini Caldwell-Luc (14 %)). Caldwell-Luc (CWL) alone (8 %) and simple polypectomy (SP) (2.8 %). A significant reduction of recurrences using the combined approach (0 %) compared with FESS (17.7 %) or SP (50 %) ($p < 0.05$). No significant differences were noted with CWL (9.1 %) and other surgical approaches ($p > 0.05$). ESS was considered the first choice for primary treatment, while the external approach may be a valid option in case of recurrence.

Turbinectomy

The turbinates are the primary controller of nasal airflow and thus have an important role in nasal respiratory function. The mucosa of the turbinate humidifies, filters and warms inspired air. Turbinectomy is generally performed to relieve nasal obstruction. Nasal obstruction due to enlarged inferior turbinates is a relatively common occurrence in otolaryngology, and when more conservative treatment fails (e.g., nasal steroids, allergic rhinitis treatment), turbinate surgery may be indicated). One of the most common manifestations of chronic rhinitis is nasal obstruction. Nasal obstruction occurs as a result of submucosal or mucosal hypertrophy associated with increased vascularity of the inferior turbinate. Treatment of inferior turbinate hypertrophy consists of topical intranasal corticosteroid sprays, oral antihistamines, and topical decongestants. When conservative management fails within the appropriate treatment period, surgical treatment may be indicated. Generally, the consensus for the point of surgical intervention is at 3 months, ensuing failure of medical therapy to resolve nasal obstruction as a result of the turbinate hypertrophy. If there is a concomitant rhinosinusitis, the medical treatment could be extended up to 6 months (Abdullah and Singh, 2021).

Turbinectomy is a partial or complete surgical resection of the inferior turbinate with or without the guidance of an endoscope. Surgical reduction of the inferior turbinate involves removal of the mucosa, soft erectile tissue, and turbinate bone or more commonly, a submucosal reduction of the soft tissue and turbinate bone. Besides cold micro-instruments, turbinectomy may also be performed by laser, electrocautery, and cryosurgery. Generally, turbinate reduction is a safe procedure with minimal morbidity issues. Although surgery may completely resolve the ventilator problem an over-aggressive approach may interfere with nasal physiology and complications may result. Complications of inferior turbinectomy may include nasal crusting with need for postoperative debridement, nasal packing may be needed for hemostasis and paradoxical empty nose syndrome may develop. (Medscape, 2016; Coste, 2012; Passali, 2003).

Literature Review

Powell et al. (2001) published results of a prospective, randomized, double-blind, placebo-controlled clinical pilot study estimating the treatment effect of temperature-controlled radiofrequency (TCRF) reduction of turbinate hypertrophy in 22 patients with sleep-disordered breathing (SDB) treated with nasal continuous positive airway pressure (CPAP). Patients were randomly assigned to either TCRF turbinate treatment (n = 17) or placebo control (n = 5). Changes in nasal obstruction were assessed between pre-treatment and 4 weeks post-treatment. Data suggest that TCRF turbinate treatment appears to benefit nasal obstruction and CPAP treatment for SDB. A future definitive trial is feasible to establish statistical significance of these findings.

Sapci et al. (2003) reported results of a prospective, randomized clinical trial. The study involved three groups of 45 adult volunteer patients with symptoms and signs of nasal obstruction and stuffiness related to enlarged turbinates. In group A, laser ablation was applied to the inferior turbinate on one side and partial turbinectomy to the inferior turbinate on the other side. In group B, radiofrequency tissue ablation was applied to the inferior turbinate on one side and partial turbinectomy to the inferior turbinate on the other side. In group C, patients who were not treated by any surgical techniques were the control subjects. Clinical examinations, visual analogue scales, rhinomanometry, and isotopic study of nasal mucociliary transport time were used to assess treatment outcomes. Data suggest that radiofrequency tissue ablation to the turbinate is effective in improving nasal obstruction objectively and in preserving nasal mucociliary function. With the partial turbinectomy technique, results obtained were similar to the results with the radiofrequency tissue ablation technique.

To evaluate if the middle turbinectomy has any repercussion on olfaction by using the University of Pennsylvania Smell Identification Test (UPSIT) as an assessment tool, Mariano et al. (2018) performed a prospective study of 27 patients who underwent middle turbinectomy. Participants were tested with the UPSIT pre- and post-surgery, with a minimum interval of 3 months. Twenty-five patients completed the study. There was no statistical correlation between middle turbinectomy and the UPSIT score, suggesting no clinical effect on olfaction from partial middle turbinectomy.

Passali et al. (2003) published results of a prospective study of 457 patients with symptoms of nasal obstruction. Three hundred eighty two underwent inferior turbinectomy. Inclusion criteria for surgical intervention were the presence of chronic allergic or vasomotor rhinitis leading to chronic nasal obstruction and a lack of efficacy of medical treatment. The patients were randomly assigned to one of six therapeutic groups; the groups did not differ in regard to the severity of disease before surgery. Of the 382 patients initially enrolled in the trial, 348 were followed up, for a maximum of 6 years. The authors reported that inferior turbinectomy conferred significant relief of nasal obstruction but was associated with more complications, notably, intense pain, crusting, and bleeding. Atrophic rhinitis and empty nose syndrome were recognized as late sequelae of this procedure, especially following total turbinectomy.

Leong and associates (2010) evaluated the evidence in 11 studies for inferior turbinate surgery in children suffering with chronic nasal congestion. The ages of the study participants were from 1 to 17 years at the time of surgery and were followed-up for a period of 3 months to 14 years. Surgical indication for all studies was chronic nasal congestion, resistant to a trial of medical treatment for two to three months preceding surgery. Of the 730 cases reviewed, 79.1 % had turbinate surgery as the standalone procedure. Although all studies generally supported the effectiveness of turbinate reduction surgery for inferior turbinate hypertrophy, the outcome measures used were varied and did not allow comparison across studies. The authors noted there is currently little evidence to support turbinate reduction surgery in children. The role of surgery, if any, has not been properly examined. Furthermore, the long-term effects on nasal airflow dynamics, nasal physiology and long-term complications remain to be studied.

U.S. Food and Drug Administration (FDA)

Nasal/sinus endoscopy, functional endoscopic sinus surgery (FESS) and turbinectomy are diagnostic or surgical procedures and are not subject to FDA review.

Professional Societies/Organizations

American Academy of Allergy and Immunology (AAAI, 2006): On behalf of the AAAI, Slavin et al. published these indications for surgical intervention:

- When nasal polyps obstruct sinus drainage and persist despite appropriate medical treatment.
- When there is recurrent or persistent infectious sinusitis despite adequate trials of medical management: adequate medical management minimally involves multiple courses of antibiotics chosen to cover the spectrum of pathogens anticipated to be causing the disease.
- For biopsy of the nasal mucosa to rule out granulomatous disease, neoplasms, ciliary dyskinesia, or fungal infections.
- When maxillary antral puncture is required
- When anatomic defects exist that obstruct the sinus outflow tract, particularly including the ostiomeatal complex (and adenoidal tissues in children), and are thought to be contributing to recurrent or chronic infectious sinusitis.
- for sinusitis with threatened complications (eg, threat of brain abscess, meningitis, cavernous sinus thrombosis, or Pott's tumor).

American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS):

The AAO-HNS Clinical Indicators for Endoscopic Sinus Surgery in Adults (2015) reflects the following indications as appropriate for endoscopic sinus surgery in adults:

- allergic fungal rhino-sinusitis
- chronic rhino-sinusitis without nasal polyps with persistent symptoms and objective evidence of disease by endoscopic and/or computerized tomography (CT) imaging that is refractory to optimal medical treatment
- chronic rhino-sinusitis with nasal polyps with persistent symptoms and objective evidence of disease by endoscopic and/or CT imaging that is refractory to medical treatment
- complications of sinusitis, including extension to adjacent structures (i.e., orbit, skull base)
- mucocele
- recurrent acute rhinosinusitis
- sinonasal polyposis with nasal airway obstruction or suboptimal asthma control
- unilateral para-nasal sinus opacification, symptomatic or asymptomatic, consistent with chronic rhino-sinusitis with or without nasal polyps, fungus ball, benign neoplasm (i.e., inverted papilloma).

Regarding Adult Sinusitis (2015) the Clinical Practice guideline notes the following:

- Statement 7B: The clinician should confirm a clinical diagnosis of chronic rhinosinusitis (CRS) with objective documentation of sinonasal inflammation, which may be accomplished using anterior rhinoscopy, nasal endoscopy or computed tomography. (Strong recommendation based on cross-sectional studies with a preponderance of benefit over harm.)
- Statement 10: CRS with polyps: The clinician should confirm the presence or absence of nasal polyps in a patient with CRS (Recommendation based on observational studies with preponderance of benefit over harm.)
- Nasal endoscopy is direct visualization

Regarding CRS a Clinical Consensus Statement (2014) notes:

- While performing nasal endoscopy and obtaining site-specific cultures may be routine in the cooperative adult population, their role in the evaluation of children has not been clearly established
- Nasal endoscopy (flexible or rigid) is appropriate in evaluating a child with CRS to document purulent drainage, mucosal edema, nasal polyps, and/or adenoid pathology (hyperplasia, infection).
- Endoscopic sinus surgery (ESS) is an effective procedure for treating pediatric chronic rhinosinusitis (PCRS) that is best performed after medical therapy, adenoidectomy, or both have failed.

Regarding endoscopic surgery in children, Clinical Indicators (2012) note:

Endoscopic surgery in children note:

- History must include specific symptoms and findings obtained by the otolaryngologist. A historical diagnosis labeled "sinusitis" by the patient or unsubstantiated symptoms alone is not sufficient documentation to establish this as a chronic illness).

- Failure of medical management for chronic rhinosinusitis or recurrent acute rhinosinusitis, possibly in addition to other disorders such as one or more of the following:
 - Allergy
 - Day care exposure
 - Gastro-esophageal reflux contributing to rhinosinusitis
 - Adenoiditis and/or obstructive adenoid hypertrophy
 - Cystic fibrosis
- Immune deficiency disorders
- Ciliary dysfunction/dyskinesia
- Progressively worsening asthma with opaque sinus(es)
- Nasal polyposis with airway obstruction and/or sinusitis
- Suspected neoplasm (eg, juvenile nasopharyngeal angiofibroma) (need to get tissue for diagnosis)
- Adenoidectomy should be strongly considered a minimum of three months prior to performing pediatric sinus surgery for any of the above indications
- Intracranial complications
- Cavernous sinus thrombosis
- Mucocoeles and mucopyocoeles
- Subperiosteal or orbital abscess/periorbital cellulitis
- Traumatic injury to optic canal (decompression)
- Dacryocystitis from rhinosinusitis
- Allergic or invasive fungal rhinosinusitis
- Meningocephaloceles
- Cerebrospinal fluid leaks
- Tumors of the nasal cavity, paranasal sinuses, orbit or skull base
- Recurrent acute rhinosinusitis (RARS)

Regarding Inferior Turbinate Surgery, the Clinical Indicators (2010) note the following are required by history:

- chronic nasal obstruction due in part to inferior turbinate hypertrophy
- failure of directed medical management with continued nasal symptoms (medications, allergy treatment, and duration of therapy)
- failure of medical treatment of rhinitis medicamentosa
- symptoms of obstructive sleep apnea.

Regarding Ethmoidectomy, Clinical Indicators (2015) note one or more of the following are required by history:

- failure of optimal medical management (describe) for acute or chronic ethmoid sinusitis
- multiple or recurrent nasal polyps causing obstruction
- Impaired sense of smell.
- CSF leak/encephalocele (31290 should include the ethmoidectomy)
- orbital thyroid disease
- trauma resulting in ethmoid scarring or orbital/optic nerve injury

Regarding Endoscopic Debridement, Clinical Indicators (2014) note one or more are required after failure of mechanical therapy:

- postoperative care of endoscopic sinus surgery
- postoperative hemorrhage
- postoperative exudate or discharge
- complications of endoscopic sinus/skull base surgery
- fungal sinusitis

American College of Radiology ACR Appropriateness Criteria (2017): The College notes a possible surgical indication for Variant 2: Possible surgical candidate. Recurrent acute rhinosinusitis, chronic rhinosinusitis, sinonasal polyposis, or noninvasive fungal sinusitis.

Use Outside of the US
 No relevant information.

Medicare Coverage Determinations

	Contractor	Policy Name/Number	Revision Effective Date
NCD	N/A		
LCD	N/A		

Note: Please review the current Medicare Policy for the most up-to-date information.

Coding/Billing Information

- Note:** 1) This list of codes may not be all-inclusive.
 2) Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement.

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT®* Codes	Description
31231	Nasal endoscopy, diagnostic, unilateral or bilateral (separate procedure)

ICD-10-CM Diagnosis Codes	Description
B49	Unspecified mycosis
C11.0- C11.9	Malignant neoplasm of nasopharynx
C30.0	Malignant neoplasm of nasal cavity
C31.0- C31.9	Malignant neoplasm of accessory sinuses
C41.0	Malignant neoplasm of bones of skull and face
C43.31	Malignant melanoma of nose
C4A.31	Merkel cell carcinoma of nose
C69.51- C69.52	Malignant neoplasm of lacrimal gland and duct
C69.61- C69.62	Malignant neoplasm of orbit
C78.39	Secondary malignant neoplasm of other respiratory organs
C7A.1	Malignant poorly differentiated neuroendocrine tumors
C80.1	Malignant (primary) neoplasm, unspecified
D14.0	Benign neoplasm of middle ear, nasal cavity and accessory sinuses
D16.4	Benign neoplasm of bones of skull and face
D35.2	Benign neoplasm of pituitary gland
D38.5	Neoplasm of uncertain behavior of other respiratory organs
D44.4	Neoplasm of uncertain behavior of craniopharyngeal duct
G47.33	Obstructive sleep apnea (adult) (pediatric)
G52.0	Disorders of olfactory nerve
G96.00	Cerebrospinal fluid leak, unspecified
G96.01	Cranial cerebrospinal fluid leak, spontaneous
G96.08	Other cranial cerebrospinal fluid leak

H04.011- H04.013	Acute dacryoadenitis
H04.111- H04.113	Dacryops
H04.201- H04.203	Unspecified epiphora
H04.211- H04.213	Epiphora due to excess lacrimation
H04.221- H04.223	Epiphora due to insufficient drainage
H04.301- H04.303	Unspecified dacryocystitis
H04.311- H04.313	Phlegmonous dacryocystitis
H04.321- H04.323	Acute dacryocystitis
H04.411- H04.413	Chronic dacryocystitis
H04.421- H04.423	Chronic lacrimal canaliculitis
H04.511- H04.513	Dacryolith
H04.521- H04.523	Eversion of lacrimal punctum
H04.531- H04.533	Neonatal obstruction of nasolacrimal duct
H04.541- H04.543	Stenosis of lacrimal canaliculi
H04.551- H04.559	Acquired stenosis of nasolacrimal duct
H04.561- H04.563	Stenosis of lacrimal punctum
H04.571- H04.573	Stenosis of lacrimal sac
H04.811- H04.813	Other disorders of lacrimal system
H04.9	Disorder of lacrimal system, unspecified
H05.011- H05.013	Cellulitis of orbit
H05.021- H05.023	Osteomyelitis of orbit
H05.331- H05.333	Deformity of orbit due to trauma or surgery
J01.00- J01.91	Acute sinusitis
J30.0- J30.2	Vasomotor and allergic rhinitis
J30.89	Other allergic rhinitis
J30.9	Allergic rhinitis, unspecified
J31.0	Chronic rhinitis
J32.0- J32.9	Chronic sinusitis
J33.0- J33.9	Nasal polyp

J34.0- J34.9	Other and unspecified disorders of nose and nasal sinuses
J39.8	Other specified diseases of upper respiratory tract
J39.9	Disease of upper respiratory tract, unspecified
J95.860	Postprocedural hematoma of a respiratory system organ or structure following a respiratory system procedure
J95.861	Postprocedural hematoma of a respiratory system organ or structure following other procedure
L03.211	Cellulitis of face
L03.213	Periorbital cellulitis
L98.0	Pyogenic granuloma
M31.2	Lethal midline granuloma
M95.0	Acquired deformity of nose
Q01.0	Frontal encephalocele
Q01.1	Nasofrontal encephalocele
Q01.8	Encephalocele of other sites
Q10.4- Q10.6	Congenital malformation of eyelid, lacrimal apparatus and orbit
Q30.0	Choanal atresia
Q30.3	Congenital perforated nasal septum
Q30.8	Other congenital malformations of nose
Q30.9	Congenital malformation of nose, unspecified
Q35.3	Cleft soft palate
Q35.9	Cleft palate, unspecified
Q37.5	Cleft hard and soft palate with unilateral cleft lip
Q37.9	Unspecified cleft palate with unilateral cleft lip
R04.0	Epistaxis
R06.83	Snoring
R06.89	Other abnormalities of breathing
R09.81- R09.82	Other specified symptoms and signs involving the circulatory and respiratory systems
R43.0	Anosmia
R43.1	Parosmia
R43.8	Other disturbances of smell and taste
R43.9	Unspecified disturbances of smell and taste
R48.1	Agnosia
R49.21	Hypernasality
R49.22	Hyponasality
S02.2XXA- S02.2XXS	Fracture of nasal bones
S02.80XA- S02.80XS	Fractures of other specified skull and facial bones
S02.81XA- S02.81XS	Fracture of other specified skull and facial bones, right side
S02.82XA- S02.82XS	Fracture of other specified skull and facial bones, left side
S02.92XA- S02.92XS	Unspecified fracture of facial bones
S09.92XA- S09.92XS	Unspecified injury of nose
T17.0XXA- T17.0XXS	Foreign body in nasal sinus
T17.1XXA- T17.1XXS	Foreign body in nostril

T70.1XXA- T71.1XXS	Sinus barotrauma
T78.40XA- T78.40XS	Allergy, unspecified
Z01.811	Encounter for preprocedural respiratory examination
Z48.810	Encounter for surgical aftercare following surgery on the sense organs
Z48.813	Encounter for surgical aftercare following surgery on the respiratory system
Z79.51	Long term (current) use of inhaled steroids
Z85.22	Personal history of malignant neoplasm of nasal cavities, middle ear, and accessory sinuses
Z87.09	Personal history of other diseases of the respiratory system
Z87.730	Personal history of (corrected) cleft lip and palate

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT® Codes	Description
31233	Nasal/sinus endoscopy, diagnostic; with maxillary sinusoscopy (via inferior meatus or canine fossa puncture)

ICD-10-CM Diagnosis Codes	Description
C30.0	Malignant neoplasm of nasal cavity
C31.0	Malignant neoplasm of maxillary sinus
H04.551- H04.553	Acquired stenosis of nasolacrimal duct
J01.01	Acute recurrent maxillary sinusitis
J01.40- J01.41	Acute pansinusitis
J01.80- J01.81	Other acute sinusitis
J30.0- J30.2	Vasomotor and allergic rhinitis
J30.89	Other allergic rhinitis
J31.0	Chronic rhinitis
J32.0	Chronic maxillary sinusitis
J32.4	Chronic pansinusitis
J32.8	Other chronic sinusitis
J33.0- J33.9	Nasal polyp
J34.1	Cyst and mucocele of nose and nasal sinus
J34.89	Other specified disorders of nose and nasal sinuses
L03.211	Cellulitis of face
R09.82	Postnasal drip
T17.0XXA- T17.0XXS	Foreign body in nasal sinus

ICD-10-CM Diagnosis Codes	Description
T70.1XXA- T70.1XXS	Sinus barotrauma

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT® Codes	Description
31235	Nasal/sinus endoscopy, diagnostic; with sphenoid sinusoscopy (via puncture of sphenoidal face or cannulation of ostium)

ICD-10-CM Diagnosis Codes	Description
B49	Unspecified mycosis
C30.0	Malignant neoplasm of nasal cavity
C31.3	Malignant neoplasm of sphenoid sinus
D35.2	Benign neoplasm of pituitary gland
G96.00	Cerebrospinal fluid leak, unspecified
G96.01	Cranial cerebrospinal fluid leak, spontaneous
G96.08	Other cranial cerebrospinal fluid leak
J01.31	Acute recurrent sphenoidal sinusitis
J01.40- J01.41	Acute pansinusitis
J01.80- J01.81	Other acute sinusitis
J30.1	Allergic rhinitis due to pollen
J30.2	Other seasonal allergic rhinitis
J30.89	Other allergic rhinitis
J31.0	Chronic rhinitis
J32.3	Chronic sphenoidal sinusitis
J32.4	Chronic pansinusitis
J32.8	Other chronic sinusitis
J33.0- J33.9	Nasal polyp
J34.1	Cyst and mucocele of nose and nasal sinus
M31.2	Lethal midline granuloma
T70.1XXA- T70.1XXS	Sinus barotrauma

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT®*	Description
31237	Nasal/sinus endoscopy, surgical; with biopsy, polypectomy or debridement (separate procedure)

ICD-10-CM Diagnosis Codes	Description
B49	Unspecified mycosis
C11.8	Malignant neoplasm of overlapping sites of nasopharynx
C11.9	Malignant neoplasm of nasopharynx, unspecified
C30.0	Malignant neoplasm of nasal cavity
C31.0	Malignant neoplasm of maxillary sinus
C31.9	Malignant neoplasm of accessory sinus, unspecified
C7A.1	Malignant poorly differentiated neuroendocrine tumors
C80.1	Malignant (primary) neoplasm, unspecified
D14.0	Benign neoplasm of middle ear, nasal cavity and accessory sinuses
D44.4	Neoplasm of uncertain behavior of craniopharyngeal duct
J01.00- J01.81	Acute sinusitis
J31.0	Chronic rhinitis
J32.0- J32.8	Chronic sinusitis
J33.0- J33.8	Nasal polyp
J34.0	Abscess, furuncle and carbuncle of nose
J34.1	Cyst and mucocele of nose and nasal sinus
J34.81	Nasal mucositis (ulcerative)
J34.89	Other specified disorders of nose and nasal sinuses
J95.860	Postprocedural hematoma of a respiratory system organ or structure following a respiratory system procedure
J95.861	Postprocedural hematoma of a respiratory system organ or structure following other procedure
L98.0	Pyogenic granuloma
R04.0	Epistaxis
R09.81	Nasal congestion
S02.2XXA- S02.2XXS	Fracture of nasal bones
T17.0XXA- T17.0XXS	Foreign body in nasal sinus
T17.1XXA- T17.1XXS	Foreign body in nostril
Z48.810	Encounter for surgical aftercare following surgery on the sense organs
Z85.22	Personal history of malignant neoplasm of nasal cavities, middle ear, and accessory sinuses

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT®*	Description
31239	Nasal/sinus endoscopy, surgical; with dacryocystorhinostomy

ICD-10-CM Diagnosis Codes	Description
C30.0	Malignant neoplasm of nasal cavity
H04.011- H04.013	Acute dacryoadenitis, right lacrimal gland
H04.111- H04.113	Dacryops
H04.201- H04.203	Unspecified epiphora
H04.211- H04.213	Epiphora due to excess lacrimation
H04.221- H04.223	Epiphora due to insufficient drainage
H04.301- H04.303	Unspecified dacryocystitis
H04.311- H04.313	Phlegmonous dacryocystitis
H04.321- H04.323	Acute dacryocystitis
H04.411- H04.413	Chronic dacryocystitis
H04.421- H04.423	Chronic lacrimal canaliculitis
H04.511- H04.513	Dacryolith
H04.521- H04.523	Eversion of lacrimal punctum
H04.531- H04.533	Neonatal obstruction of nasolacrimal duct
H04.541- H04.543	Stenosis of lacrimal canaliculi
H04.551- H04.553	Acquired stenosis of nasolacrimal duct
H04.561- H04.563	Stenosis of lacrimal punctum
H04.571- H04.573	Stenosis of lacrimal sac
H04.811- H04.813	Granuloma of lacrimal passage
J31.0	Chronic rhinitis
J32.2	Chronic ethmoidal sinusitis
Q10.4	Absence and agenesis of lacrimal apparatus
Q10.5	Congenital stenosis and stricture of lacrimal duct

Q10.6	Other congenital malformations of lacrimal apparatus
-------	--

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT®* Codes	Description
31240	Nasal/sinus endoscopy, surgical; with concha bullosa resection

ICD-10-CM Diagnosis Codes	Description
J01.21	Acute recurrent ethmoidal sinusitis
J30.0	Vasomotor rhinitis
J30.1	Allergic rhinitis due to pollen
J30.89	Other allergic rhinitis
J30.9	Allergic rhinitis, unspecified
J31.0	Chronic rhinitis
J32.2	Chronic ethmoidal sinusitis
J32.4	Chronic pansinusitis
J33.0	Polyp of nasal cavity
J33.9	Nasal polyp, unspecified
J34.89	Other specified disorders of nose and nasal sinuses
Q30.8	Other congenital malformations of nose
Q30.9	Congenital malformation of nose, unspecified
R09.81	Nasal congestion

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT®* Codes	Description
31253	Nasal/sinus endoscopy, surgical with ethmoidectomy; total (anterior and posterior), including frontal sinus exploration, with removal of tissue from frontal sinus, when performed

ICD-10-CM Diagnosis Codes	Description
C30.0	Malignant neoplasm of nasal cavity
C31.1	Malignant neoplasm of ethmoidal sinus
C31.2	Malignant neoplasm of frontal sinus
C31.8	Malignant neoplasm of overlapping sites of accessory sinuses

G96.00	Cerebrospinal fluid leak, unspecified
G96.01	Cranial cerebrospinal fluid leak, spontaneous
G96.08	Other cranial cerebrospinal fluid leak
H05.011- H05.013	Cellulitis of orbit
J01.10- J01.11	Acute frontal sinusitis
J01.20- J01.21	Acute ethmoidal sinusitis
J01.40- J01.41	Acute pansinusitis
J01.80- J01.81	Other acute sinusitis
J30.1	Allergic rhinitis due to pollen
J30.89	Other allergic rhinitis
J30.9	Allergic rhinitis, unspecified
J32.1	Chronic frontal sinusitis
J32.2	Chronic ethmoidal sinusitis
J32.4	Chronic pansinusitis
J32.8	Other chronic sinusitis
J32.9	Chronic sinusitis, unspecified
J33.0- J33.9	Nasal polyp
J34.1	Cyst and mucocele of nose and nasal sinus
J34.89	Other specified disorders of nose and nasal sinuses
Q01.0	Frontal encephalocele
Q01.8	Encephalocele of other sites
R04.0	Epistaxis
R09.81	Nasal congestion
R43.0	Anosmia
R43.8	Other disturbances of smell and taste
T17.0XXA- T17.0XXS	Foreign body in nasal sinus

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT®* Codes	Description
31254	Nasal/sinus endoscopy, surgical with ethmoidectomy; partial (anterior)

ICD-10-CM Diagnosis Codes	Description
C30.0	Malignant neoplasm of nasal cavity
C31.1	Malignant neoplasm of ethmoidal sinus
C31.8	Malignant neoplasm of overlapping sites of accessory sinuses

H04.201- H04.203	Unspecified epiphora
H04.221- H04.223	Epiphora due to insufficient drainage
H04.301- H04.303	Unspecified dacryocystitis of lacrimal passage
H04.321- H04.323	Acute dacryocystitis of lacrimal passage
H04.411- H04.413	Chronic dacryocystitis of lacrimal passage
H05.011- H05.013	Cellulitis of orbit
H05.021- H05.023	Osteomyelitis of orbit
J01.20- J01.21	Acute ethmoidal sinusitis
J01.40- J01.41	Acute pansinusitis
J01.80- J01.81	Other acute sinusitis
J30.1	Allergic rhinitis due to pollen
J30.89	Other allergic rhinitis
J30.9	Allergic rhinitis, unspecified
J31.0	Chronic rhinitis
J32.2	Chronic ethmoidal sinusitis
J32.4	Chronic pansinusitis
J32.8	Other chronic sinusitis
J33.0- J33.9	Nasal polyp
R04.0	Epistaxis
R09.81	Nasal congestion
R09.82	Postnasal drip
R43.0	Anosmia
R43.8	Other disturbances of smell and taste
T17.0XXA- T17.0XXS	Foreign body in nasal sinus
T70.1XXA- T70.1XXS	Sinus barotrauma

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT®* Codes	Description
31255	Nasal/sinus endoscopy, surgical; with concha bullosa resection

ICD-10-CM Diagnosis Codes	Description
C30.0	Malignant neoplasm of nasal cavity
C31.1	Malignant neoplasm of ethmoidal sinus
C31.8	Malignant neoplasm of overlapping sites of accessory sinuses
H04.221- H04.223	Epiphora due to insufficient drainage
H04.411- H04.413	Chronic dacryocystitis of right lacrimal passage
H05.011- H05.013	Cellulitis of orbit
J01.20- J01.21	Acute ethmoidal sinusitis
J01.40- J01.41	Acute pansinusitis
J01.80- J01.81	Other acute sinusitis
J30.1	Allergic rhinitis due to pollen
J30.89	Other allergic rhinitis
J30.9	Allergic rhinitis, unspecified
J31.0	Chronic rhinitis
J32.2	Chronic ethmoidal sinusitis
J32.4	Chronic pansinusitis
J32.8	Other chronic sinusitis
J33.0- J33.9	Nasal polyp
R04.0	Epistaxis
R09.81	Nasal congestion
R43.0	Anosmia
R43.8	Other disturbances of smell and taste
S02.2XXA- S02.2XXS	Fracture of nasal bones

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT®* Codes	Description
31256	Nasal/sinus endoscopy, surgical, with maxillary antrostomy

ICD-10-CM Diagnosis Codes	Description
C30.0	Malignant neoplasm of nasal cavity
C31.0	Malignant neoplasm of maxillary sinus
C31.8	Malignant neoplasm of overlapping sites of accessory sinuses

H05.011- H05.013	Cellulitis of orbit
J01.00- J01.01	Acute maxillary sinusitis
J01.40- J01.41	Acute pansinusitis
J01.80- J01.81	Other acute sinusitis
J01.90- J01.91	Acute sinusitis, unspecified
J30.0- J30.2	Vasomotor and allergic rhinitis
J30.89	Other allergic rhinitis
J30.9	Allergic rhinitis, unspecified
J31.0	Chronic rhinitis
J32.0	Chronic maxillary sinusitis
J32.4	Chronic pansinusitis
J32.8	Other chronic sinusitis
J32.9	Chronic sinusitis, unspecified
J33.1- J33.9	Nasal polyp
J34.1	Cyst and mucocele of nose and nasal sinus
J34.89	Other specified disorders of nose and nasal sinuses
J34.9	Unspecified disorder of nose and nasal sinuses
L03.213	Periorbital cellulitis
R09.82	Postnasal drip
S02.81XA- S02.82XS	Fracture of other specified skull and facial bones
T17.0XXA- T17.0XXS	Foreign body in nasal sinus
T70.1XXA- T70-1XXS	Sinus barotrauma

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT®* Codes	Description
31257	Nasal/sinus endoscopy, surgical with ethmoidectomy; total (anterior and posterior), including sphenoidotomy

ICD-10-CM Diagnosis Codes	Description
C30.0	Malignant neoplasm of nasal cavity
C31.1	Malignant neoplasm of ethmoidal sinus
C31.3	Malignant neoplasm of sphenoid sinus
C31.8	Malignant neoplasm of overlapping sites of accessory sinuses

C31.9	Malignant neoplasm of accessory sinus, unspecified
D44.4	Neoplasm of uncertain behavior of craniopharyngeal duct
H04.201- H04.203	Unspecified epiphora
H04.221- H04.223	Epiphora due to insufficient drainage
H04.551- H04.553	Acquired stenosis of nasolacrimal duct
J01.20- J01.21	Acute ethmoidal sinusitis
J01.30- J01.31	Acute sphenoidal sinusitis
J01.40- J01.41	Acute pansinusitis
J01.80- J01.81	Other acute sinusitis
J30.0	Vasomotor rhinitis
J30.1	Allergic rhinitis due to pollen
J30.89	Other allergic rhinitis
J30.9	Allergic rhinitis, unspecified
J31.0	Chronic rhinitis
J32.2	Chronic ethmoidal sinusitis
J32.3	Chronic sphenoidal sinusitis
J32.4	Chronic pansinusitis
J32.8	Other chronic sinusitis
J32.9	Chronic sinusitis, unspecified
J33.0- J33.9	Nasal polyp
J34.1	Cyst and mucocele of nose and nasal sinus
J34.89	Other specified disorders of nose and nasal sinuses
J34.9	Unspecified disorder of nose and nasal sinuses
L03.213	Periorbital cellulitis
R04.0	Epistaxis
R09.81	Nasal congestion
R43.0	Anosmia
R43.8	Other disturbances of smell and taste

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT®* Codes	Description
31259	Nasal/sinus endoscopy, surgical with ethmoidectomy; total (anterior and posterior), including sphenoidotomy, with removal of tissue from the sphenoid sinus

ICD-10-CM Diagnosis Codes	Description

C30.0	Malignant neoplasm of nasal cavity
C31.1	Malignant neoplasm of ethmoidal sinus
C31.3	Malignant neoplasm of sphenoid sinus
C31.8	Malignant neoplasm of overlapping sites of accessory sinuses
C31.9	Malignant neoplasm of accessory sinus, unspecified
H05.011- H05.013	Cellulitis of orbit
H05.021- H05.023	Osteomyelitis of orbit
J01.21	Acute recurrent ethmoidal sinusitis
J01.31	Acute recurrent sphenoidal sinusitis
J01.41	Acute recurrent pansinusitis
J01.81	Other acute recurrent sinusitis
J30.2	Other seasonal allergic rhinitis
J30.89	Other allergic rhinitis
J30.9	Allergic rhinitis, unspecified
J31.0	Chronic rhinitis
J32.2	Chronic ethmoidal sinusitis
J32.3	Chronic sphenoidal sinusitis
J32.4	Chronic pansinusitis
J32.8	Other chronic sinusitis
J33.0	Polyp of nasal cavity
J33.1	Polypoid sinus degeneration
J33.8	Other polyp of sinus
J33.9	Nasal polyp, unspecified
J34.1	Cyst and mucocele of nose and nasal sinus
J34.89	Other specified disorders of nose and nasal sinuses
R09.81	Nasal congestion
R43.0	Anosmia
R43.8	Other disturbances of smell and taste

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT® Codes	Description
31267	Nasal/sinus endoscopy, surgical, with maxillary antrostomy; with removal of tissue from maxillary sinus

ICD-10-CM Diagnosis Codes	Description
C30.0	Malignant neoplasm of nasal cavity
C31.0	Malignant neoplasm of maxillary sinus
C31.8	Malignant neoplasm of overlapping sites of accessory sinuses
C78.39	Secondary malignant neoplasm of other respiratory organs
H05.011- H05.013	Cellulitis of orbit

ICD-10-CM Diagnosis Codes	Description
H05.021- H05.023	Osteomyelitis of orbit
J01.00	Acute maxillary sinusitis, unspecified
J01.01	Acute recurrent maxillary sinusitis
J01.40- J01.41	Acute pansinusitis
J01.80- J01.81	Other acute sinusitis
J30.1	Allergic rhinitis due to pollen
J30.89	Other allergic rhinitis
J31.0	Chronic rhinitis
J32.0	Chronic maxillary sinusitis
J32.4	Chronic pansinusitis
J32.8	Other chronic sinusitis
J33.0- J33.9	Nasal polyp
J34.1	Cyst and mucocele of nose and nasal sinus
J34.89	Other specified disorders of nose and nasal sinuses
R09.82	Postnasal drip

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT®* Codes	Description
31276	Nasal/sinus endoscopy, surgical, with frontal sinus exploration, including removal of tissue from frontal sinus, when performed

ICD-10-CM Diagnosis Codes	Description
C30.0	Malignant neoplasm of nasal cavity
C31.2	Malignant neoplasm of frontal sinus
C31.8	Malignant neoplasm of overlapping sites of accessory sinuses
C31.9	Malignant neoplasm of accessory sinus, unspecified
G96.00	Cerebrospinal fluid leak, unspecified
G96.01	Cranial cerebrospinal fluid leak, spontaneous
G96.08	Other cranial cerebrospinal fluid leak
H05.011- H05.013	Cellulitis of orbit
H05.021- H05.023	Osteomyelitis of orbit
J01.10- J01.11	Acute frontal sinusitis

J01.40- J01.41	Acute pansinusitis
J01.80- J01.81	Other acute sinusitis
J30.1	Allergic rhinitis due to pollen
J30.2	Other seasonal allergic rhinitis
J30.89	Other allergic rhinitis
J31.0	Chronic rhinitis
J32.1	Chronic frontal sinusitis
J32.4	Chronic pansinusitis
J32.8	Other chronic sinusitis
J33.0	Polyp of nasal cavity
J33.1	Polypoid sinus degeneration
J33.8	Other polyp of sinus
J33.9	Nasal polyp, unspecified
J34.1	Cyst and mucocele of nose and nasal sinus
J34.89	Other specified disorders of nose and nasal sinuses
R09.82	Postnasal drip
T70.1XXA- T70.1XXS	Sinus barotrauma

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT®* Codes	Description
31287	Nasal/sinus endoscopy, surgical, with sphenoidotomy

ICD-10-CM Diagnosis Codes	Description
C31.3	Malignant neoplasm of sphenoid sinus
C31.8	Malignant neoplasm of overlapping sites of accessory sinuses
G96.00	Cerebrospinal fluid leak, unspecified
G96.01	Cranial cerebrospinal fluid leak, spontaneous
G96.08	Other cranial cerebrospinal fluid leak
J01.30- J01.31	Acute sphenoidal sinusitis
J01.40- J01.41	Acute pansinusitis
J01.80- J01.81	Other acute sinusitis
J30.89	Other allergic rhinitis
J31.0	Chronic rhinitis
J32.3	Chronic sphenoidal sinusitis
J32.4	Chronic pansinusitis
J33.8	Other polyp of sinus
J33.9	Nasal polyp, unspecified

J34.1	Cyst and mucocele of nose and nasal sinus
-------	---

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT® Codes	Description
31288	Nasal/sinus endoscopy, surgical, with sphenoidotomy; with removal of tissue from the sphenoid sinus

ICD-10-CM Diagnosis Codes	Description
C31.3	Malignant neoplasm of sphenoid sinus
C31.8	Malignant neoplasm of overlapping sites of accessory sinuses
J01.30- J01.31	Acute sphenoidal sinusitis
J01.40- J01.41	Acute pansinusitis
J01.80- J01.81	Other acute sinusitis
J31.0	Chronic rhinitis
J32.3	Chronic sphenoidal sinusitis
J32.4	Chronic pansinusitis
J33.1	Polypoid sinus degeneration
J33.8	Other polyp of sinus
J33.9	Nasal polyp, unspecified
J34.1	Cyst and mucocele of nose and nasal sinus
J34.89	Other specified disorders of nose and nasal sinuses
J34.9	Unspecified disorder of nose and nasal sinuses

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT® Codes	Description
30801	Ablation, soft tissue of inferior turbinates, unilateral or bilateral, any method (eg, electrocautery, radiofrequency ablation, or tissue volume reduction); superficial

ICD-10-CM Diagnosis Codes	Description
J30.0	Vasomotor rhinitis
J30.1	Allergic rhinitis due to pollen
J30.89	Other allergic rhinitis
J31.0	Chronic rhinitis
J33.0	Polyp of nasal cavity
J33.9	Nasal polyp, unspecified
J34.3	Hypertrophy of nasal turbinates
R09.81	Nasal congestion
R09.82	Postnasal drip

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT® Codes	Description
30802	Ablation, soft tissue of inferior turbinates, unilateral or bilateral, any method (eg, electrocautery, radiofrequency ablation, or tissue volume reduction); intramural (ie, submucosal)

ICD-10-CM Diagnosis Codes	Description
J30.0	Vasomotor rhinitis
J30.1	Allergic rhinitis due to pollen
J30.89	Other allergic rhinitis
J31.0	Chronic rhinitis
J33.8	Other polyp of sinus
J33.9	Nasal polyp, unspecified
J34.0	Abscess, furuncle and carbuncle of nose
J34.3	Hypertrophy of nasal turbinates
R09.81	Nasal congestion
R09.82	Postnasal drip

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT® Codes	Description
30130	Excision inferior turbinate, partial or complete, any method

ICD-10-CM Diagnosis Codes	Description
C30.0	Malignant neoplasm of nasal cavity
J30.0	Vasomotor rhinitis
J30.1	Allergic rhinitis due to pollen
J30.89	Other allergic rhinitis
J31.0	Chronic rhinitis
J33.0	Polyp of nasal cavity
J33.9	Nasal polyp, unspecified
J34.3	Hypertrophy of nasal turbinates
R09.81	Nasal congestion

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT® Codes	Description
30140	Submucous resection inferior turbinate, partial or complete, any method

ICD-10-CM Diagnosis Codes	Description
C30.0	Malignant neoplasm of nasal cavity
C31.8	Malignant neoplasm of overlapping sites of accessory sinuses
D14.0	Benign neoplasm of middle ear, nasal cavity and accessory sinuses
J31.0	Chronic rhinitis
J33.0	Polyp of nasal cavity
J33.9	Nasal polyp, unspecified
J34.0	Abscess, furuncle and carbuncle of nose
J34.3	Hypertrophy of nasal turbinates
R09.81	Nasal congestion
R09.82	Postnasal drip

Considered Not Medically Necessary:

ICD-10-CM Diagnosis Codes	Description
	All other diagnosis codes

*Current Procedural Terminology (CPT®) ©2020 American Medical Association: Chicago, IL.

References

1. Abdullah B, Singh S. Surgical Interventions for Inferior Turbinate Hypertrophy: A Comprehensive Review of Current Techniques and Technologies. Int J Environ Res Public Health. 2021 Mar 26;18(7):3441.

2. American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS). Clinical Practice Guideline (Update): Adult Sinusitis. Apr, 2015. Accessed Mar 9, 2021. Available at URL address: <http://www.entnet.org/content/clinical-practice-guidelines>
3. American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS). Clinical Indicators: Endoscopic Sinus Surgery, Adults. © 2012 American Academy of Otolaryngology-Head and Neck Surgery. Accessed Mar 9, 2021. Available at URL address: <http://www.entnet.org/content/clinical-practice-guidelines>
4. American College of Radiology (ACR). [Website] ACR Appropriateness Criteria. Sinonasal Disease. 2012. Revised 2017. Accessed Apr 10, 2021. Available at URL address: <https://acsearch.acr.org/docs/69502/Narrative/>.
5. American Rhinologic Society. Diagnostic Nasal Endoscopy: CPT 31231. Update Sep 13, 2019. Accessed April 5, 2021. Available at URL address: https://www.american-rhinologic.org/index.php?option=com_content&view=article&id=34:nasal-endoscopy---cpt-31231&catid=26:position-statements&Itemid=197
6. Costa ML Psaltis AJ, Nayak JV, Hwang PH. Medical therapy vs surgery for recurrent acute rhinosinusitis. *Int Forum Allergy Rhinol*. 2015 Aug;5(8):667-73.
7. Coste A, Dessi P, Serrano E. Empty nose syndrome. *Eur Ann Otorhinolaryngol Head Neck Dis*. 2012 Apr;129(2):93-7.
8. Dass K, Peters AT. Diagnosis and Management of Rhinosinusitis: Highlights from the 2015 Practice Parameter. *Curr Allergy Asthma Rep*. 2016 Apr;16(4):29.
9. Fraser L, Kelly G. An evidence-based approach to the management of the adult with nasal obstruction. *Clin Otolaryngol*. 2009 Apr;34(2):151-5.
10. Gill KS, Chitguppi C, Haggerty M, Khoury T, Fastenberg J, Nyquist G, Toskala E, Rosen M, Rabinowitz M. Assessment of narcotic use in management of post-op pain after functional endoscopic sinus surgery. *Laryngoscope Investig Otolaryngol*. 2021 Jan 9;6(1):42-48.
11. Guttemberg MDA, Mata FAFD, Nakanishi M, de Andrade KRC, Pereira MG. Sleep quality assessment in chronic rhinosinusitis patients submitted to endoscopic sinus surgery: a meta-analysis. *Braz J Otorhinolaryngol*. 2019 Nov-Dec;85(6):780-787.
12. Homsy MT, Gaffey MM. Sinus Endoscopic Surgery. 2020 Sep 22. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan. Accessed Apr 5, 2021. Available at URL address: <https://www.ncbi.nlm.nih.gov/books/NBK563202/>
13. Jiang XD, Dong QZ, Li SL, Huang TQ, Zhang NK. Endoscopic surgery of a sinonasal inverted papilloma: Surgical strategy, follow-up, and recurrence rate. *Am J Rhinol Allergy*. 2017 Jan 1;31(1):51-55.
14. K Maru Y, Gupta Y. Nasal Endoscopy Versus Other Diagnostic Tools in Sinonasal Diseases. *Indian J Otolaryngol Head Neck Surg*. 2016 Jun;68(2):202-6.
15. Lawson W, Patel ZM. The evolution of management for inverted papilloma: an analysis of 200 cases. *Otolaryngol Head Neck Surg*. 2009 Mar;140(3):330-5.
16. Leong SC, Kubba H, White PS. A review of outcomes following inferior turbinate reduction surgery in children for chronic nasal obstruction. *Int J Pediatr Otorhinolaryngol*. 2010 Jan;74(1):1-6.

17. Mandal S, Sharma A. Effect on Quality Of Life of Patients Before and After Functional Endoscopic Sinus Surgery. *Indian J Otolaryngol Head Neck Surg.* 2019 Nov;71(Suppl 3):2065-2071. doi: 10.1007/s12070-018-1471-8. Epub 2018 Aug 23.
18. Mariano FC, Hamerschmidt R, Soares CMC, Moreira AT. The Middle Turbinate Resection and Its Repercussion in Olfaction with the University of Pennsylvania Smell Identification Test (UPSIT). *Int Arch Otorhinolaryngol.* 2018 Jul;22(3):280-283.
19. Medscape. Nasal endoscopy. Updated Accessed Mar 9, 2021. Available at URL address: <https://emedicine.medscape.com/article/1890999-overview>
20. Medscape. Turbinectomy. Updated Mar 1, 2016. Accessed Apr 5, 2021. Available at URL address: <https://emedicine.medscape.com/article/2051775-overview>
21. Ni JS, Kompelli AR, Nguyen SA, Schlosser RJ, Clemmens C, Soler ZM. The Sinus and Nasal Quality of Life Survey (SN-5) in the Management of Pediatric Chronic Rhinosinusitis: A systematic review and meta-analysis. *Int J Pediatr Otorhinolaryngol.* 2018 Aug;111:162-169.
22. Nikkerdar N, Eivazi N, Lotfi M, Golshah A. Agreement between cone-beam computed tomography and functional endoscopic sinus surgery for detection of pathologies and anatomical variations of the paranasal sinuses in chronic rhinosinusitis patients: A prospective study. *Imaging Sci Dent.* 2020 Dec;50(4):299-307.
23. Passàli D, Passàli FM, Damiani V, Passàli GC, Bellussi L. Treatment of inferior turbinate hypertrophy: a randomized clinical trial. *Ann Otol Rhinol Laryngol.* 2003 Aug;112(8):683-8.
24. Patel ZM, Thamboo A, Rudmik L, Nayak JV, Smith TL, Hwang PH. Surgical therapy vs continued medical therapy for medically refractory chronic rhinosinusitis: a systematic review and meta-analysis. *Int Forum Allergy Rhinol.* 2017 Feb;7(2):119-127.
25. Peters AT, Spector S, Hsu J, Hamilos DL, Baroody FM, Chandra RK, et al. Diagnosis and management of rhinosinusitis: a practice parameter update. *Ann Allergy Asthma Immunol.* 2014 Oct;113(4):347-85.
26. Powell NB, Zonato AI, Weaver EM, Li K, Troell R, Riley RW, Guilleminault C. Radiofrequency treatment of turbinate hypertrophy in subjects using continuous positive airway pressure: a randomized, double-blind, placebo-controlled clinical pilot trial. *Laryngoscope.* 2001 Oct;111(10):1783-90. doi: 10.1097/00005537-200110000-00023.
27. Rosenfeld RM, Piccirillo JF, Chandrasekhar SS, Brook I, Ashok Kumar K, Kramper M, Orlandi RR, Palmer JN, Patel ZM, Peters A, Walsh SA, Corrigan MD. Clinical practice guideline (update): adult sinusitis. *Otolaryngol Head Neck Surg.* 2015 Apr;152(2 Suppl):S1-S39.
28. Sapçi T, Sahin B, Karavus A, Akbulut UG. Comparison of the effects of radiofrequency tissue ablation, CO2 laser ablation, and partial turbinectomy applications on nasal mucociliary functions. *Laryngoscope.* 2003 Mar;113(3):514-9.
29. Scadding GK, Durham SR, Mirakian R, Jones NS, Drake-Lee AB, Ryan D, Dixon TA, Huber PA, Nasser SM; British Society for Allergy and Clinical Immunology. BSACI guidelines for the management of rhinosinusitis and nasal polyposis. *Clin Exp Allergy.* 2008 Feb;38(2):260-75.
30. Shen PH, Weitzel EK, Lai JT, Wormald PJ, Lin CH. Retrospective study of full-house functional endoscopic sinus surgery for revision endoscopic sinus surgery. *Int Forum Allergy Rhinol.* 2011 Nov-Dec;1(6):498-503. doi: 10.1002/alr.20081. Epub 2011 Aug 18.
31. Slavin RG, Spector SL, Bernstein IL, Kaliner MA, Kennedy DW, Virant FS, Wald ER, Khan DA, Blessing-Moore J, Lang DM, Nicklas RA, Oppenheimer JJ, Portnoy JM, Schuller DE, Tilles SA, Borish L, Nathan

RA, Smart BA, Vandewalker ML; American Academy of Allergy, Asthma and Immunology; American College of Allergy, Asthma and Immunology; Joint Council of Allergy, Asthma and Immunology. The diagnosis and management of sinusitis: a practice parameter update. *J Allergy Clin Immunol*. 2005 Dec;116(6 Suppl):S13-47.

32. Smith TL, Kern R, Palmer JN, Schlosser R, Chandra RK, Chiu AG, Conley D, Mace JC, Fu RF, Stankiewicz J. Medical therapy vs surgery for chronic rhinosinusitis: a prospective, multi-institutional study with 1-year follow-up. *Int Forum Allergy Rhinol*. 2013 Jan;3(1):4-9. doi: 10.1002/alr.21065. Epub 2012 Jun 26.
33. Soler ZM, Hwang PH, Mace J, Smith TL. Outcomes after middle turbinate resection: revisiting a controversial topic. *Laryngoscope*. 2010 Apr;120(4):832-7.
34. Sujatha S, Suja V. Evaluation of Quality of Life and Pattern of Improvement of Bronchial Asthma in Chronic Rhinosinusitis Patients Treated by Functional Endoscopic Sinus Surgery. *Indian J Otolaryngol Head Neck Surg*. 2019 Nov;71(Suppl 3):2176-2181.
35. Zukin LM, Hink EM, Liao S, Getz AE, Kingdom TT, Ramakrishnan VR. Endoscopic Management of Paranasal Sinus Mucoceles: Meta-analysis of Visual Outcomes. *Otolaryngol Head Neck Surg*. 2017 Nov;157(5):760-766.

"Cigna Companies" refers to operating subsidiaries of Cigna Corporation. All products and services are provided exclusively by or through such operating subsidiaries, including Cigna Health and Life Insurance Company, Connecticut General Life Insurance Company, Cigna Behavioral Health, Inc., Cigna Health Management, Inc., QualCare, Inc., and HMO or service company subsidiaries of Cigna Health Corporation. The Cigna name, logo, and other Cigna marks are owned by Cigna Intellectual Property, Inc. © 2021 Cigna.