INSTRUCTIONS FOR USE

This Medical Management Guideline provides assistance in interpreting UnitedHealthcare benefit plans. When deciding coverage, the member specific benefit plan document must be referenced. The terms of the member specific benefit plan document [e.g., Evidence of Coverage (EOC) and Schedule of Benefits (SOB)] may differ greatly from the standard benefit plan upon which this Medical Management Guideline is based. In the event of a conflict, the member specific benefit plan document supersedes this Medical Management Guideline. All reviewers must first identify member eligibility, any federal or state regulatory requirements, and the member specific benefit plan coverage prior to use of this Medical Management Guideline. Other Policies and Guidelines may apply. UnitedHealthcare reserves the right, in its sole discretion, to modify its Policies and Guidelines as necessary. This Medical Management Guideline is provided for informational purposes. It does not constitute medical advice.

UnitedHealthcare may also use tools developed by third parties, such as the MCG™ Care Guidelines, to assist us in administering health benefits. The MCG™ Care Guidelines are intended to be used in connection with the independent professional medical judgment of a qualified health care provider and do not constitute the practice of medicine or medical advice.

Member benefit coverage and limitations may vary based on the member’s benefit plan Health Plan coverage provided by or through UnitedHealthcare of California, UnitedHealthcare Benefits Plan of California, UnitedHealthcare of Oklahoma, Inc., UnitedHealthcare of Oregon, Inc., UnitedHealthcare Benefits of Texas, Inc., or UnitedHealthcare of Washington, Inc.

BENEFIT CONSIDERATIONS

Before using this policy, please check the member specific benefit plan document and any federal or state mandates, if applicable.

Essential Health Benefits for Individual and Small Group

For plan years beginning on or after January 1, 2014, the Affordable Care Act of 2010 (ACA) requires fully insured non-grandfathered individual and small group plans (inside and outside of Exchanges) to provide coverage for ten categories of Essential Health Benefits (“EHBs”). Large group plans (both self-funded and fully insured), and small group ASO plans, are not subject to the requirement to offer coverage for EHBs. However, if such plans choose to provide coverage for benefits which are deemed EHBs, the ACA requires all dollar limits on those benefits to be removed on all Grandfathered and Non-Grandfathered plans. The determination of which benefits constitute EHBs is made on a state by state basis. As such, when using this guideline, it is important to refer to the member specific benefit plan document to determine benefit coverage.
COVERAGE RATIONALE

Functional endoscopic sinus surgery (FESS) is proven and/or medically necessary for one or more of the following:

- Patients with chronic rhinosinusitis (defined as rhinosinusitis lasting longer than 12 weeks) with both of the following:
  - Chronic rhinosinusitis of the sinus to be operated on is confirmed on computed tomography (CT) scan by one or more of the following:
    - Mucosal thickening
    - Bony remodeling
    - Bony thickening or
    - Obstruction of the ostiomeatal complex
    - Opacified sinus
  - Symptoms persist despite medical therapy with one or more of the following:
    - Nasal lavage
    - Antibiotic therapy, if bacterial infection is suspected
    - Intranasal corticosteroids
- Mucocoele documented on CT scan
- Concha bullosa documented on CT scan
- Complications of sinusitis such as abscess
- Tumor documented on CT scan (such as polyposis or malignancy)
- Recurrent acute rhinosinusitis (RARS)

DEFINITIONS

Acute Rhinosinusitis (ARS): ARS is a clinical condition characterized by inflammation of the mucosa of the nose and paranasal sinuses associated with sudden onset of symptoms of purulent nasal drainage accompanied by nasal obstruction, facial pain/pressure/fullness, or both of up to 4 weeks duration (American Academy of Otolaryngology-Head and Neck Surgery).

Chronic Rhinosinusitis (CRS): Chronic rhinosinusitis is one of the more prevalent chronic illnesses in the United States and is an inflammatory process that involves the paranasal sinuses and persists for longer than 12 weeks.

Functional Endoscopic Sinus Surgery (FESS): FESS is a minimally invasive, mucosal-sparing surgical technique utilized to treat medically refractory CRS with or without polyps or recurrent acute rhinosinusitis.

Recurrent Acute Rhinosinusitis (RARS): RARS has been defined as four episodes per year of acute rhinosinusitis with distinct symptom free intervals between episodes.

APPLICABLE CODES

The following list(s) of procedure and/or diagnosis codes is provided for reference purposes only and may not be all inclusive. Listing of a code in this guideline does not imply that the service described by the code is a covered or non-covered health service. Benefit coverage for health services is determined by the member specific benefit plan document and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment. Other Policies and Guidelines may apply.

<table>
<thead>
<tr>
<th>CPT Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>31240</td>
<td>Nasal/sinus endoscopy, surgical; with concha bullosa resection</td>
</tr>
<tr>
<td>31253</td>
<td>Nasal/sinus endoscopy, surgical with ethmoidectomy; total (anterior and posterior), including frontal sinus exploration, with removal of tissue from frontal sinus, when performed</td>
</tr>
<tr>
<td>31254</td>
<td>Nasal/sinus endoscopy, surgical with ethmoidectomy; partial (anterior)</td>
</tr>
<tr>
<td>31255</td>
<td>Nasal/sinus endoscopy, surgical with ethmoidectomy; total (anterior and posterior)</td>
</tr>
<tr>
<td>31256</td>
<td>Nasal/sinus endoscopy, surgical, with maxillary antrostomy;</td>
</tr>
<tr>
<td>31257</td>
<td>Nasal/sinus endoscopy, surgical with ethmoidectomy; total (anterior and posterior), including sphenoidotomy</td>
</tr>
<tr>
<td>31259</td>
<td>Nasal/sinus endoscopy, surgical with ethmoidectomy; total (anterior and posterior), including sphenoidotomy, with removal of tissue from the sphenoid sinus</td>
</tr>
<tr>
<td>31267</td>
<td>Nasal/sinus endoscopy, surgical, with maxillary antrostomy; with removal of tissue from maxillary sinus</td>
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Rhinosinusitis, also referred to as sinusitis, is inflammation of the mucosal membrane lining the nasal cavities and the paranasal sinuses. Rhinosinusitis lasting more than 12 weeks is classified as chronic rhinosinusitis (CRS) (Rosenfeld et al. 2015; Peters et al. 2014).

The goals of treating CRS are to eliminate underlying causes, reduce sinus inflammation, and drain nasal passages. Medical therapy is the first-line treatment for CRS. Treatments recommended may include nasal saline sprays, nasal lavage, antibiotic therapy, nasal corticosteroids, oral or injected corticosteroids, decongestants, over-the-counter pain relievers, leukotriene modifiers, and antihistamines. Patients who do not respond to medical therapy are candidates for sinus surgery (Marple et al. 2011).

Functional endoscopic sinus surgery (FESS) is a set of minimally invasive surgical techniques which allow direct visual examination and opening of the sinuses for the treatment of chronic rhinosinusitis which has not responded to medical treatment.

**CLINICAL EVIDENCE**

**Functional Endoscopic Sinus Surgery (FESS)**

Dalziel et al. (2006) performed a systematic review of safety and effectiveness of functional endoscopic sinus surgery FESS for the removal of nasal polyps. All randomized controlled trials, nonrandomized comparative studies, and case series studies that described outcomes associated with FESS for the excision of nasal polyps were included. Forty-two publications comprised of 3 randomized controlled trials, 4 nonrandomized comparative studies, and 35 case series studies were included in the review. FESS was compared with endoscopic polypectomy, Caldwell-Luc, radical nasalization, and intranasal ethmoidectomy. In general, studies were of poor quality and lacked description of important variables influencing surgical outcome. Overall complications for FESS from case series studies ranged from 0.3 to 22.4%. Major complications ranged from 0 to 1.5% and minor complications ranged from 1.1 to 20.8% (median, 7.5%). The potentially most serious complications were cerebrospinal fluid leaks, injury to the internal carotid artery, dural exposure, meningitis, bleeding requiring transfusion, periorbital/orbital fat exposure, and orbital penetration. Symptomatic improvement ranged from 78 to 88% for FESS compared with 43 to 84% for comparative procedures. From case series, symptomatic improvement ranged from 40 to 98% (median, 88%). The authors concluded that FESS may offer some advantages in safety and effectiveness over comparative techniques, but wide variation in reported results and methodological shortcomings of studies limit the certainty of these conclusions.

Higgins et al. (2011) conducted a systematic review with a pooled-data analysis to compare outcomes of endoscopic versus craniofacial resection of sinonasal malignancies. The review included 15 case series with individual data on 226 patients. The overall 5-year survival rate for the sample was 56.5%. Because of the paucity of data with endoscopic resection of high-stage malignancies, the outcome results were highly variable and no useful comparison could be made. Among low-stage malignancies (T1-2 or Kadish A-B), the endoscopic and open approaches demonstrated no statistically significant difference in outcome results. The 5-year overall survival was 87.4% in the endoscopic group versus 76.8% for open approaches; disease-specific survival was 94.7% versus 87.7%; and locoregional control rate was 89.5% versus 77.2%. The authors concluded that transnasal endoscopic resection appears to be a reasonable alternative to craniofacial resection in the management of low-stage sinonasal malignancies.

In a systematic review, Vlastarakos et al. (2013) evaluated the quality of evidence in the use of FESS for the treatment of chronic rhinosinusitis in children, regarding the respective changes in the quality-of-their-life (QoL) and the outcome that follows the operation. Fifteen studies were systematically analyzed. Four represented Level II, five Level III, and six Level IV evidence. The total number of treated patients was 1301. Thirteen research groups reported that pediatric FESS is an effective treatment for chronic rhinosinusitis; the respective positive outcome ranged between 71 and 100% of operated children. Five studies concluded that this treatment modality is associated with significant improvement in the children’s postoperative QoL. Systemic diseases and environmental factors may have unfavorable prognostic effects; cystic fibrosis is associated with at least 50% recurrence rate. The rate of major complications following pediatric FESS is 0.6%, and the respective rate of minor complications 2%. The authors concluded that surgical management with FESS in children with chronic rhinosinusitis is effective when optimal
medical treatment proves unsuccessful (grade B strength of recommendation), and is associated with improvement in the children's QoL (grade B strength of recommendation). FESS also improves the sinusitis-associated symptoms and QoL in children with cystic fibrosis (grade C strength of recommendation). According to the authors, most complications of pediatric FESS reported in the literature are minor, and associated with difficulties in the postoperative assessment and care of pediatric patients.

Regab et al. (2004) conducted a prospective, randomized, controlled trial evaluating and comparing the medical and surgical treatment of polypoid and nonpolypoid chronic rhinosinusitis (CRS). Ninety patients with CRS were equally randomized either to medical or surgical therapy. All patients underwent pre- and posttreatment assessments before starting the treatment, after 6 months, and after 1 year. Both the medical and surgical treatment of CRS significantly improved almost all the subjective and objective parameters of CRS, with no significant difference being found between the medical and surgical groups, except for the total nasal volume in CRS and CRS without polyposis groups, in which the surgical treatment demonstrated greater changes. The authors concluded that CRS should be initially targeted with maximal medical therapy (e.g., a 3 month course of a macrolide antibiotic, douche, and topical steroid), with surgical treatment being reserved for cases refractory to medical therapy. The authors indicated that the presence of nasal polyps is not a poor prognostic factor for the efficacy of CRS therapy, either surgical or medical.

Wood et al. (2017) performed a prospective study to prospectively assess treatment outcomes of chronic rhinosinusitis patients undergoing functional endoscopic sinus surgery (FESS) and post-operative medical treatment over a prolonged follow-up period. The study included 200 non-consecutive patients in the tertiary referral practice of a single surgeon. Symptoms were scored by patients pre-operatively and over a minimum follow-up period of 12 months. The median pre-operative symptom score was 16 (out of a maximum of 25). Symptom scores reduced to a median of 7 after 12 months of follow up. The median symptom score improved for all symptoms and across all patient subgroups. The authors concluded that extensive functional endoscopic sinus surgery offers significant and durable symptom improvement in patients with chronic rhinosinusitis refractory to medical treatment and prolonged medical therapy is recommended after FESS.

Venkatachalam and Jain (2002) conducted a comparative evaluation study that included 50 patients with signs and symptoms of chronic sinusitis who were refractory to medical treatment. The patients were divided at random into two groups of 25 patients each. Group A (study group) patients were treated with functional endoscopic sinus surgery (FESS) and group B (control group) patients were treated by conventional surgery. The age of the patients varied from 16 - 55 years (mean 29.1). Out of 25 patients in the study group, 19(76%) had complete relief of symptoms, 4(16%) had partial relief of symptoms and 2(8%) had no relief of symptoms in the follow-up period of 15-33 months (mean 19.2 months). Out of 25 patients in the control group, 15(60%) had complete relief of symptoms, 4(16%) had partial relief of symptoms and 6(24%) had no relief of symptoms in the follow-up period of 15-33 months (mean 19.2 months). The authors concluded that the results of this series showed that FESS had the combined advantages of precise, atraumatic removal of the disease with minimal morbidity and at the same time retaining the physiological function of the nose and paranasal sinuses.

A number of nonrandomized, uncontrolled studies reported that FESS may be safe and effective for treating sinusitis (Damm et al. 2002; Khalid et al. 2004; Toros et al. 2007), mucocele (Scangas et al. 2013), and tumors (Pagella et al. 2012) including polyposis (Humayun et al. 2013; Djukic et al. 2015; Ehnhage et al. 2009).

**Professional Societies**

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

In a 2015 Clinical Practice Guideline (update) for Adult Sinusitis, the AAO-HNS indicates that clinicians should recommend saline nasal irrigation, topical intranasal corticosteroids, or both for symptom relief of chronic rhinosinusitis (CRS). Surgical management of CRS is not discussed “because of insufficient evidence (e.g., randomized controlled trials) for evidence-based recommendations” (Rosenfeld et al. 2015).

The AAO-HNS clinical indicators for endoscopic sinus surgery for adults state that the indications for endoscopic sinus surgery include a history of one of more of the following (AAO-HNS, 2015):

- Chronic rhinosinusitis with or without nasal polyps with persistent symptoms and objective evidence of disease by endoscopic and/or CT imaging that is refractory to medical treatment
- Allergic fungal rhinosinusitis
- Unilateral paranasal sinus opacification, symptomatic or asymptomatic, consistent with chronic rhinosinusitis with or without nasal polyps, fungus ball, or benign neoplasm (i.e., inverted papilloma)
- Complications of sinusitis, including extension to adjacent structures such as orbit or skull base
- Sinonasal polyposis with nasal airway obstruction or suboptimal asthma control
- Mucocele
- Recurrent acute rhinosinusitis
American Academy of Allergy Asthma and Immunology (AAAA), the American College of Allergy Asthma and Immunology (ACAAI), and the Joint Council of Allergy Asthma and Immunology (JCAAI)

In a practice parameter for the diagnosis and management of rhinosinusitis, the AAAA, ACAAI, and JCAAI recommends that although medical therapy is the mainstay of disease management, FESS should be considered when medical therapy fails. According to the AAAA, ACAAI, and JCAAI, indications for surgical intervention include the following (Peters et al. 2014):

- When nasal polyps obstruct sinus drainage and persist despite appropriate medical treatment
- When there is recurrent or persistent infectious rhinosinusitis despite adequate trials of medical management that at least includes topical nasal steroids and nasal irrigations;
- For biopsy of sinonasal tissue to rule out granulomatous disease, neoplasm, ciliary dyskinesia, or fungal infections
- When maxillary antral puncture is required (as for culture-directed therapy)
- When anatomic defects obstruct the sinus outflow tract, particularly the ostiomeatal complex (and adenoidal tissues in children)
- For rhinosinusitis with threatened complications (such as threat of brain abscess, meningitis, cavernous sinus thrombosis, or frontal bone osteomyelitis)

Regarding medical management for chronic rhinosinusitis, the AAAA, ACAAI, and JCAAI indicate that the role of antibiotics in chronic rhinosinusitis CRS is controversial. For CRS associated with suspected bacterial infection, a longer duration of therapy beyond the usual 10 to 14 days is suggested; the choice of appropriate antibiotic therapy may need to consider the possible presence of anaerobic pathogens. Because CRS is an inflammatory disease, intranasal corticosteroids (INSs) are indicated for treatment. Other adjunctive therapy, such as intranasal antihistamines, decongestants, saline irrigation, mucolytics, and expectorants, might provide symptomatic benefit in select cases (Peters et al. 2014).

The American College of Radiology (ACR)

The ACR Appropriateness Criteria for Sinonasal Disease states:

- Most cases of uncomplicated acute and subacute rhinosinusitis are diagnosed clinically and should not require any imaging procedure.
- Computed tomography (CT) of the sinuses without contrast is the imaging method of choice in patients with recurrent acute sinusitis or chronic sinusitis, or to define sinus anatomy prior to surgery.
- Immunocompromised patients are at high risk for invasive fungal sinusitis.
- In patients with suspected sinonasal mass or suspected orbital and/or intracranial complication of sinusitis, MRI and CT are complementary studies. (ACR, 2013, reaffirmed 2017)

U.S. FOOD AND DRUG ADMINISTRATION (FDA)

Functional endoscopic sinus surgery (FESS) is a procedure and, therefore, not subject to FDA regulation. However, any medical devices, drugs, biologics, or tests used as a part of this procedure may be subject to FDA regulation.

REFERENCES


GUIDELINE HISTORY/REVISION INFORMATION

<table>
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<th>Date</th>
<th>Action/Description</th>
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| 04/01/2018 | • Revised coverage rationale; replaced language indicating "functional endoscopic sinus surgery (FESS) is medically necessary for [the listed indications]" with "functional endoscopic sinus surgery (FESS) is proven and/or medically necessary for [the listed indications]"
• Updated list of applicable CPT codes; added 31253, 31257, and 31259
• Archived previous version MMG150.D |