Clinical UM Guideline

Subject:	Adenoidectomy		
Guideline #:	CG-SURG-36	**Publish Date:**	04/07/2021
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Description

This document addresses the use of adenoidectomy, a surgical procedure to remove the adenoids, which are also known as pharyngeal tonsils or nasopharyngeal tonsils. Adenoidectomy is a common surgical procedure used to treat an array of conditions.

Note: This document only applies to adenoidectomy alone. Please see the following document if tonsillectomy is proposed in addition to adenoidectomy:

- CG-SURG-30 Tonsillectomy for Children with or without Adenoidectomy

Clinical Indications

Medically Necessary:

Adenoidectomy is considered **medically necessary** for individuals *under the age of 18 years old* when any of the following conditions are met:

1. Chronic (greater than or equal to 12 weeks in duration) adenoiditis with rhinorrhea, despite a minimum of 3 weeks of appropriate antibiotic treatment; **or**
2. Chronic (greater than or equal to 12 weeks in duration) rhinosinusitis, despite a minimum of 3 weeks of appropriate antibiotic treatment and one or more of the following:
   a. CT findings suggestive of obstruction or infection (for example, but not limited to, air fluid levels, air bubbles, significant mucosal thickening, pansinusitus, or diffuse opacification); **or**
   b. Nasal endoscopy findings suggestive of significant disease; **or**
   c. Physical exam findings suggestive of chronic/recurrent disease (for example mucopurulence, erythema, edema, inflammation); **or**
3. Four or greater episodes of recurrent adenoiditis with purulent rhinorrhea in the prior 12 months in a child less than 12 years of age. At least one episode should be documented by intranasal examination or diagnostic imaging; **or**
4. Chronic otitis media with effusion (OME) in children 4 years of age or older with a history of prior failed tube tympanostomy and no evidence of nasal obstruction, recurrent sinusitis, or chronic sinusitis, when done in conjunction with either a) myringotomy or b) tube tympanostomy; **or**
5. Adenoid hypertrophy documented by imaging (for example, lateral neck x-ray), nasopharyngoscopy or endoscopy with symptomatic airway obstruction as demonstrated by any of the following:
   a. In children less than 3 years of age, sleep-disordered breathing (SDB) with documentation of symptoms for more than 3 months in duration and the child's parent or caregiver reports regular episodes of nocturnal choking, gasping, apnea, or breath holding; **or**

b. In children 3 to 17 years of age, SDB with documentation of abnormalities of respiratory pattern or the adequacy of ventilation during sleep, including but not limited to snoring, mouth breathing, and pauses in breathing*; **or**
c. A condition related to SDB (including but not limited to growth retardation, poor school performance, enuresis, and behavioral problems) that is likely to improve after adenoidectomy; **or**
d. Obstructive sleep apnea as diagnosed by polysomnogram with an Apnea-Hypopnea Index (AHI) greater than 1.0.

***Note:** Documentation of SDB can be made based on physical and history only, and does not require polysomnography. A history of snoring alone is not sufficient to make a diagnosis of SDB.

Adenoidectomy is *also* considered **medically necessary** for individuals *of any age* for suspected adenoid tumor based on imaging (for example, CT), nasopharyngoscopy or endoscopy.

Not Medically Necessary:

Adenoidectomy is considered **not medically necessary** for all other indications and when criteria above are not met, including, but not limited to, use in children less than 4 years of age with acute or recurrent otitis media.

Coding

The following codes for treatments and procedures applicable to this guideline are included below for informational purposes. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement policy. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

When services may be Medically Necessary when criteria are met:

CPT

42830	Adenoidectomy, primary; younger than age 12
42831	Adenoidectomy, primary; age 12 or over
42835	Adenoidectomy, secondary; younger than age 12
42836	Adenoidectomy, secondary; age 12 or over

ICD-10 Procedure

0CTQ0ZZ	Resection of adenoids, open approach
0CTQXZZ	Resection of adenoids, external approach

ICD-10 Diagnosis

All diagnoses

When services are Not Medically Necessary:
For the procedure codes listed above when criteria are not met or for situations designated in the Clinical Indications section as not medically necessary.

Discussion/General Information

The adenoid, also known as a pharyngeal tonsil or nasopharyngeal tonsil, is a mass of lymphatic tissue situated at the back of the nasal cavity, in the roof of the nasopharynx, where the nose blends into the throat. It is a part of the lymphatic system, which plays a function in combating infections in the body. Additionally, the adenoids may also act as reservoirs for bacterial infections, contributing to recurrent infections of the sinuses, throat (pharyngitis), or middle ear.

Adenoids may enlarge when actively involved in fighting an infection. Chronic enlargement, referred to as adenoid hypertrophy, can result from persistent infection and in an increase of the adenoids to the size of a ping pong ball. This enlargement may prevent airflow through the nasal passages, or obstruct airflow such that breathing through the nose requires excessive effort. This may contribute to obstructive sleep apnea (OSA).

Adenoidectomy has been widely accepted and proven to be an effective treatment for children with medically-refractory chronic adenoiditis with rhinorrhea or chronic rhinosinusitis, otitis media with effusion, and obstructive adenoid hypertrophy resulting in obstructive sleep apnea (Burns, 2017; Lieberthal, 2013; Marcus, 2012).

The use of adenoidectomy for the treatment of otitis media (OM), either acute (AOM) or with effusion (OME), has been a focus of investigation for many years. One area of concern is the use of this procedure, with or without the use of tympanostomy tubes, in the treatment of OM in children under 4 years of age. Several large, well-designed randomized controlled trials (RCTs) have published a mix between no benefit and only small benefits reported. Of the studies reporting no benefit, the use of tympanostomy tubes was included in the study protocol (Casselbrant, 2009; Hammaren, 2005; Koivunen, 2004; Mattila, 2003). The studies that did report some benefit, tympanostomy tubes were used in two (Kujala, 2012; MRC, 2012), but not in a third (Paradise, 1999).

The American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS) updated their guideline for treatment of otitis media with effusion in 2016 (Rosenfeld, 2016). This update specifically recommends against the use of adenoidectomy for the treatment of OME in children younger than 4 years of age "unless there is distinct indication (eg, nasal obstruction, chronic adenoiditis) exists other than OME". AAO-HNS had previously recognized some indications for adenoidectomy to treat OME in younger children. The change is based on recent systematic review data (Boonacker, 2014; Mikals, 2014) showing no difference in the rate of repeat tympanostomy tube insertion between children younger than 4 years old treated with primary adenoidectomy compared to tympanostomy tube insertion alone as the primary procedure.

The AAO-HNS guideline also changed their position on the use of adenoidectomy only as a second line treatment after failure of an initial trial of tympanostomy tubes. The updated recommendation suggests that adenoidectomy should be considered a first-line therapy along with, or as an option to tympanostomy tube insertion. As with the previously mentioned change, this recommendation is based on recent systematic review data (Boonacker, 2014; Mikals, 2014; Wallace, 2014). However, the data supporting this change are weak. Most notably, the Boonacker study does not address adenoidectomy as a primary procedure. The only support for primary adenoidectomy comes from the Mikals study which states:

> When studies were limited to level 1b quality data, only 5 studies met inclusion criteria. In these studies, the pooled estimate of the rate of repeat T Tubes for children undergoing a primary

adenoidectomy was 20.4% (95% confidence interval [CI], 9.2% to 31.6%) vs 34.1% (95% CI, 13.2% to 54.9%) for children undergoing primary T Tube only.

These results are not provided with p-value data, and with such significant overlap of confidence intervals, the value of primary adenoidectomy is questionable.

The American Academy of Pediatrics (AAP) guideline for the diagnosis and management of acute otitis media (Lieberthal, 2013) states: "Adenoidectomy alone should not be used for prevention of AOM but may have benefit when performed with placement of tympanostomy tubes or in children with previous tympanostomy tube placement in OME." Note that this statement is equivocal, in that they say it "may" be of benefit for AOM. However, the available data from RCTs does not support this statement at this time.

Thus, at this time the evidence is not supportive of the use of adenoidectomy with or without tympanostomy tubes, in children under the age of 4 years of age who have chronic OM with effusion or recurrent acute otitis media.

The use of adenoidectomy is widely accepted to be an effective treatment for suspected adenoid tumor. While there is little clinical trial evidence to support this procedure, the removal of malignant tissue is the standard of care in most head and neck cancers (NCCN, 2020).

Sleep disordered breathing (SDB) is a frequent indication for adenoidectomy in children and is characterized by disturbances in breathing pattern or efficacy during sleep. Unfortunately, there is no widely accepted standard for the diagnosis of SDB. However, common definitions of SDB may involve snoring, mouth breathing, and pauses in breathing (apnea). Daytime symptoms associated with SDB may include excessive sleepiness, inattention, poor concentration, aggression, depression, hyperactivity, and wetting the bed. A wide array of obstructive disorders may result in SDB, ranging in severity from simple snoring to obstructive sleep apnea. The most common cause of SDB in children is tonsillar hypertrophy, which is an abnormal enlargement of the tonsils, including the adenoids. This may be due to chronic infection or excess tissue growth. Physicians may diagnose SDB based on an individual's medical history, physical examination, audio/video taping, pulse oximetry, or limited or full-night polysomnogram, also known as a sleep test. History and physical examination are the most common initial methods for diagnosis. Treatment may involve antibiotics to address underlying infection, but if such treatment fails or is not indicated, tonsillectomy may be warranted.

In children less than 3 years of age, behavioral issues related to SDB may be more difficult to identify (for example, they may not yet be continent and, as such, enuresis would not necessarily be a sign of SDB). In addition, access to diagnostic polysomnography may be difficult and the results may be less reliable. Based on additional clinical input from specialists in the field, it would be appropriate to consider adenoidectomy when a parent or caregiver reports regular episodes of nocturnal choking, gasping, apnea, or breath holding which have persisted for several months in the setting of documented adenoid hypertrophy.

Obstructive sleep apnea (OSA) is a major subset of SDB. Individuals with OSA suffer from redundant soft tissue in the pharynx, including the adenoids and tonsils, which blocks the upper airway leading to periodic cessation of breathing. Individuals with OSA must change sleep position or increase their respiratory effort to overcome the blockage, disrupting sleeping patterns. Symptoms of OSA may include nocturnal gasping, cyanosis, excessive daytime sleepiness, pulmonary hypertension, and snoring, to name just a few. The diagnosis of OSA in children has not been standardized, although there is some consensus that a threshold of greater than one on the AHI is an

indication of OSA (Au, 2009; Chan, 2004; Spruyt, 2012). The AAP regards adenoidectomy as a reasonable option for any child with documented OSA and adenoid hypertrophy (2012; Marcus, 2012).

Byars and others (2018) conducted a population-based cohort study of 1,189,061 children. Subjects included both controls and those who underwent adenoidectomy, tonsillectomy, and adenotonsillectomy in Denmark between 1979 and 1999. Data for these subjects were linked to national registers up to 2009, covering at least the first 10 and up to 30 years of life. There were 17,460 subjects who underwent adenoidectomy, 11,830 who underwent tonsillectomy, and 31,377 who underwent adenotonsillectomy. The control group included 1,157,684 subjects who did not undergo these procedures. The authors reported that "adenoidectomy and tonsillectomy were associated with a 2- to 3-fold increase in diseases of the upper respiratory tract (relative risk [RR], 1.99; 95% CI, 1.51-2.63 and RR, 2.72; 95% CI, 1.54-4.80; respectively)." Smaller increases in risks for infectious and allergic diseases were also found, including that adenotonsillectomy was associated with a 17% increased risk of infectious diseases (RR, 1.17), corresponding to an absolute risk increase of 2.14%. They concluded by suggesting, "it is important to consider long-term risks when making decisions to perform tonsillectomy or adenoidectomy."

Definitions

Acute otitis media (AOM): A middle ear infection characterized by the rapid onset of signs and symptoms of inflammation (for example, pain) in the middle ear.

Adenoidectomy: A surgical procedure to remove the adenoids.

Adenoiditis: A condition characterized by inflammation of the adenoids.

Adenoids: a mass of lymphatic tissue situated at the back of the nasal cavity, in the roof of the nasopharynx, where the nose blends into the throat. This tissue helps to fight infections in the nasopharynx.

Apnea-Hypopnea Index (AHI) or Respiratory Disturbance Index (RDI): A measure of apnea severity defined by the total number of episodes of apnea or hypopnea during a full period of sleep divided by the number of hours asleep. For the purposes of this document, the terms AHI and RDI are interchangeable, although they may differ slightly in clinical use. An AHI/RDI greater than 30 is consistent with severe OSA. In some cases, respiratory effort-related arousals (or RERAS) are included in the RDI value. These RERA episodes represent EEG arousals associated with increased respiratory efforts but do not qualify as apneic or hypopneic episodes because of the absence of their defining air flow changes and/or levels of oxygen desaturation.

Myringotomy: A surgical procedure in which a small incision is created in the eardrum to relieve pressure caused by excessive buildup of fluid, or to drain pus from the middle ear.

Nasopharyngoscopy: A diagnostic procedure that examines the nasal passageways and pharynx with an instrument fitted with an optical system.

Otitis media: The medical term for middle ear infection.

Otitis media with effusion (OME): A condition of the middle ear characterized by fluid accumulation in the middle ear without signs or symptoms of infection.

Rhinorrhea: A condition where the nasal cavity is filled with a significant amount of mucous fluid; commonly known as "runny nose."

Rhinosinusitis: A condition characterized by inflammation of the nasal passages and sinus cavities. It is usually caused by allergies, autoimmune, or an infection. It causes a combination of symptoms of rhinitis and sinusitis, including runny nose, clogged nasal passages, and post-nasal drip.

Sleep-disordered breathing (SDB): A group of disorders characterized by abnormalities of breathing pattern or the quantity of breathing during sleep.

Tympanostomy tube (also known as a grommet, T-tube, ear tube, pressure equalization or PE tube, vent, PE tube or myringotomy tube): A small tube inserted into the eardrum during a myringotomy in order to keep the middle ear aerated for a prolonged period of time, and to prevent the accumulation of fluid in the middle ear.

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Document History

Status	Date	Action
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Reviewed	05/04/2017	MPTAC review. Updated Background and References sections.
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Revised	02/04/2016	MPTAC review. Deleted "adenoid hypertrophy" from medically necessary criteria #4. Updated Description and References sections. Removed ICD-9 codes from Coding section.
Revised	05/07/2015	MPTAC review. Clarified medically necessary age-related criteria for adenoid hypertrophy. Updated Description, Discussion, Definitions and References sections.
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New	11/14/2013	MPTAC review. Initial document development.