



BlueCross BlueShield  
of Alabama

---

**Name of Blue Advantage Policy:**  
**Balloon Dilation of the Eustachian Tube**

Policy #: 704

Latest Review Date: September 2022

Category: Surgery

---

**BACKGROUND:**

*Blue Advantage medical policy does not conflict with Local Coverage Determinations (LCDs), Local Medical Review Policies (LMRPs) or National Coverage Determinations (NCDs) or with coverage provisions in Medicare manuals, instructions or operational policy letters. In order to be covered by Blue Advantage the service shall be reasonable and necessary under Title XVIII of the Social Security Act, Section 1862(a)(1)(A). The service is considered reasonable and necessary if it is determined that the service is:*

1. *Safe and effective;*
2. *Not experimental or investigational\*;*
3. *Appropriate, including duration and frequency that is considered appropriate for the service, in terms of whether it is:*
  - *Furnished in accordance with accepted standards of medical practice for the diagnosis or treatment of the patient's condition or to improve the function of a malformed body member;*
  - *Furnished in a setting appropriate to the patient's medical needs and condition;*
  - *Ordered and furnished by qualified personnel;*
  - *One that meets, but does not exceed, the patient's medical need; and*
  - *At least as beneficial as an existing and available medically appropriate alternative.*

*\*Routine costs of qualifying clinical trial services with dates of service on or after September 19, 2000 which meet the requirements of the Clinical Trials NCD are considered reasonable and necessary by Medicare. Providers should bill **Original Medicare** for covered services that are related to **clinical trials** that meet Medicare requirements (Refer to Medicare National Coverage Determinations Manual, Chapter 1, Section 310 and Medicare Claims Processing Manual Chapter 32, Sections 69.0-69.11).*

## **POLICY:**

### **Effective for dates of service on or after 10/1/2021:**

**Blue Advantage** will treat **balloon dilation of the eustachian tube for treatment of chronic obstructive eustachian tube dysfunction** as a **covered benefit** under the following conditions:

- Adults (age 18 years and older) with symptoms of obstructive eustachian tube dysfunction (aural fullness, aural pressure, otalgia, and/or hearing loss) for 12 months or longer in one or both ears that significantly affects quality of life or functional health status
- Aural fullness and pressure must be present (see Policy Guidelines)

#### **AND**

- The individual has undergone a comprehensive diagnostic assessment; including patient-reported questionnaires, history and physical exam, tympanometry if the tympanic membrane is intact, nasal endoscopy, and comprehensive audiometry, with the following findings:
  - Abnormal tympanogram (Type B or C)
  - Abnormal tympanic membrane (retracted membrane, effusion, perforation, or any other abnormality identified on exam)

#### **AND**

- Failure to respond to appropriate medical management of potential co-occurring conditions, if any, such as allergic rhinitis, rhinosinusitis, and laryngopharyngeal reflux, including 4-6 weeks of a nasal steroid spray, if indicated

#### **AND**

- Other causes of aural fullness such as temporomandibular joint disorders, extrinsic obstruction of the eustachian tube, superior semi-circular canal dehiscence, and endolymphatic hydrops have been ruled out.

#### **AND**

- If the individual had a history of tympanostomy tube placement, symptoms of obstructive eustachian tube dysfunction should have improved while tubes were patent

#### **AND**

- The individual does not have patulous eustachian tube dysfunction or another contraindication to the procedure (see Policy Guidelines)

#### **AND**

- The individual's eustachian tube dysfunction has been shown to be reversible (see Policy Guidelines)

#### **AND**

- Symptoms are continuous rather than episodic (e.g., symptoms occur only in response to barochallenge such as pressure changes while flying)

#### **AND**

- The individual has not had a previous BDET procedure

**Blue Advantage** will treat **balloon dilation of the eustachian tube** as a **non-covered benefit** and as **investigational** if the above criteria are not met.

### **Policy Guidelines:**

Symptoms of obstructive eustachian tube dysfunction may include aural fullness, aural pressure, otalgia, and hearing loss. Nearly all individuals will have aural fullness and aural pressure. Many individuals will have otalgia, but hearing loss may not be present in all individuals (e.g., individuals with Type C tympanograms).

### **Contraindications to Balloon Dilation of the Eustachian Tube**

The following individuals should not be considered for balloon dilation of the eustachian tube:

- Individuals with patulous eustachian tube dysfunction
  - A diagnosis of patulous ETD is suggested by symptoms of autophony of voice, audible respirations, pulsatile tinnitus, and/or aural fullness.
- Individuals with extrinsic reversible or irreversible causes of eustachian tube dysfunction including but not limited to:
  - craniofacial syndromes, including cleft palate spectrum
  - neoplasms causing extrinsic obstruction of the eustachian tube
  - history of radiation therapy to the nasopharynx
  - enlarged adenoid pads
  - nasopharyngeal mass
  - neuromuscular disorders that lead to hypotonia/ineffective eustachian tube dynamic opening
  - systemic mucosal or autoimmune inflammatory disease affecting the mucosa of the nasopharynx and eustachian tube (e.g., Samter's triad, Wegener's disease, mucosal pemphigus) that is ongoing/active (i.e., not in remission)
- Individuals with aural fullness but normal exam and tympanogram
- Individuals with chronic and severe atelectatic ears

### **Reversibility of Eustachian Tube Dysfunction**

Reversibility of eustachian tube dysfunction can be demonstrated by several means, including any of the following:

- The individual states that they are able to relieve the pressure by performing a Valsalva maneuver to "pop" their ears
- Performing a Valsalva maneuver produces temporary improvement of the individual's tympanogram to Type A tympanogram
- Performing a Valsalva maneuver causes the member's middle ear to aerate, which is indicated by the provider visualizing lateral movement of the tympanic membrane on otoscopy

### **Balloon Dilation of the Eustachian Tube Used in Combination with Other Procedures**

- Individuals undergoing BDET concurrent with sinus ostial dilation should meet the same diagnostic criteria for BDET as those undergoing BDET alone.
- Individuals with a middle ear effusion at the time of BDET may benefit from concurrent myringotomy with or without tympanostomy tube placement

---

### **Effective for dates of service prior to 10/1/2021:**

**Blue Advantage will treat balloon dilation of the eustachian tube for treatment of patients with chronic eustachian tube dilatory dysfunction, as a non-covered benefit and as investigational.**

*Blue Advantage does not approve or deny procedures, services, testing, or equipment for our members. Our decisions concern coverage only. The decision of whether or not to have a certain test, treatment or procedure is one made between the physician and his/her patient. Blue Advantage administers benefits based on the members' contract and medical policies. Physicians should always exercise their best medical judgment in providing the care they feel is most appropriate for their patients. Needed care should not be delayed or refused because of a coverage determination.*

### **DESCRIPTION OF PROCEDURE OR SERVICE:**

Eustachian tube dysfunction occurs when the functional valve of the eustachian tube fails to open and/or close properly. This failure is frequently due to inflammation and can cause symptoms such as muffled hearing, ear fullness, tinnitus, and vertigo. Chronic dysfunction can lead to hearing loss, otitis media, tympanic membrane perforation, and cholesteatomas. Balloon dilation of the eustachian tube is a procedure intended to improve the patency by inflating a balloon in the cartilaginous part of the eustachian tube to cause local dilation.

### **Eustachian Tube Function and Dysfunction**

The eustachian tube connects the middle ear space to the nasopharynx. It ventilates the middle ear space to equalize pressure across the tympanic membrane, clears mucociliary secretions, and protects the middle ear from infection and reflux of nasopharyngeal contents. Normally, the tube is closed or collapsed and opens during swallowing, sneezing or yawning. Eustachian tube dysfunction occurs when the functional valve of the eustachian tube fails to open and/or close properly. This failure may be due to inflammation or anatomic abnormalities. Symptoms of chronic obstructive ETD can include aural fullness, aural pressure, hearing loss, and otalgia. In milder cases, eustachian tube dysfunction may only be apparent in situations of barochallenge (inability to equalize with rapid barometric pressure changes), with otherwise normal function in stable ambient conditions.

### **Diagnosis**

Because the symptoms of ETD are nonspecific, clinical practice guidelines emphasize the importance of ruling out other causes of ETD with a comprehensive diagnostic assessment that

includes patient-report questionnaires, history and physical exam, tympanometry, nasal endoscopy, and audiometry to establish a diagnosis.

### **Medical and Surgical Management of Eustachian Tube Dysfunction**

Medical management of eustachian tube dysfunction (ETD) is directed by the underlying etiology. Treatment of identified underlying conditions, such as systemic decongestants, antihistamines, or nasal steroid sprays for allergic rhinitis; behavioral modifications and/or proton pump inhibitors for laryngopharyngeal reflux; or treatment of mass lesions, may be useful in resolving ETD.

Individuals who continue to have symptoms following medical management may be treated with surgery such as myringotomy with the placement of tympanostomy tubes or eustachian tuboplasty. These procedures create an alternative route for ventilation of the middle ear space but do not address the functional problem at the eustachian tube. There is limited evidence and no randomized controlled trials (RCTs) supporting use of these surgical techniques for this indication. Additionally, surgery may be associated with adverse events such as infection, perforation, and otorrhea. Tympanostomy tube placement may be a repeat procedure for the life of the patient, and the risk of complications from tympanostomy tubes increases with increasing numbers of tube placements and duration of tube placement.

### **Balloon Dilation of the Eustachian Tube**

Balloon dilation is a tuboplasty procedure intended to improve the patency of the cartilaginous eustachian tube to cause local dilation. During the procedure, a saline-filled balloon catheter is introduced into the eustachian tube through the nose using a minimally invasive transnasal endoscopic method. Pressure is maintained for 2 minutes or less, after which the balloon is emptied and removed. The procedure is usually performed under general anesthesia.

Balloon dilation of the eustachian tube can be done as a standalone procedure or in conjunction with other procedures such as adenoidectomy, intranasal surgery (e.g., septoplasty, turbinate procedures or sinus surgery), surgery for obstructive sleep apnea or sleep disturbed breathing, and myringotomy with or without tympanostomy tube placement. This evidence review addresses BDET as a standalone procedure.

### **KEY POINTS:**

This evidence review was created in February 2018 with a search of the MEDLINE database through June 20, 2022.

### **Summary of Evidence**

For individuals who have chronic obstructive eustachian tube dysfunction despite medical management who receive balloon dilation of the eustachian tube, the evidence includes RCTs, prospective observational studies, case series, and systematic reviews of these studies. Relevant outcomes are symptoms, change in disease status, quality of life, and treatment-related morbidity. Two 6-week RCTs found more improvement with balloon dilation plus medical management than medical management alone on individual-reported symptoms, ability to

perform a Valsalva maneuver, proportion of individuals with normalized tympanograms, and otoscopy findings. Durability of these effects was demonstrated at 52 weeks in the uncontrolled extension phase of both RCTs. No serious device or procedure-related adverse events were reported through 52 weeks of follow-up. Multiple observational studies and case series have reported that individuals experienced improvement when comparing symptoms before and after balloon dilation. The evidence is sufficient to determine the effects of the technology on the net health outcome.

### **Practice Guidelines and Position Statements**

#### **American Academy of Otolaryngology-Head and Neck Surgery Foundation**

In 2019, the American Academy of Otolaryngology published a clinical consensus statement on balloon dilation of the eustachian tube (BDET). The target population was defined as adults  $\geq$  18 years who are candidates for BDET because of obstructive eustachian tube dysfunction (ETD) in 1 or both ears for 3 months or longer that significantly affects quality of life or functional health status. The expert panel concluded:

The authors emphasized the importance of identifying other potentially treatable causes of ETD, including allergic rhinitis, rhinosinusitis, and laryngopharyngeal reflux, and noted that medical management of these disorders is indicated prior to offering BDET. They also noted that potential risks of BDET that are relevant to patient counseling include bleeding, scarring, infection, development of patulous ETD, and/or the need for additional procedures.

#### **National Institute for Health and Care Excellence**

In 2019, the National Institute for Health and Care Excellence (NICE) published updated guidance on BDET. The guidance was based on a rapid review of the evidence, and stated, "Evidence on the safety and efficacy of balloon dilation for eustachian tube dysfunction is adequate to support the use of this procedure provided that standard arrangements are in place for clinical governance, consent and audit." NICE standard arrangements recommendations mean that there is enough evidence for doctors to consider the procedure as an option.

The guidance also noted:

#### **U.S. Preventive Services Task Force Recommendations**

Not applicable.

### **KEY WORDS:**

Balloon dilation, Eustachian tube, AERA<sup>®</sup> (Acclarent), XprESS<sup>™</sup> ENT Dilation System

## APPROVED BY GOVERNING BODIES:

**Table 1. Devices Cleared by the US Food and Drug Administration**

Device	Manufacturer	Date Cleared	510(k) No.	Indication
Acclarent Aera Eustachian Tube Balloon D	Acclarent, Inc.	01/16/2018	K171761	Eustachian tube dilation
Xpress ENT Dilation System	Entellus Medical Inc.	04/05/2017	K163509	Eustachian tube dilation

In September 2016, the AERA<sup>®</sup> (Acclarent) was granted a de novo 510(k) classification by the U.S. Food and Drug Administration (FDA) (class II, FDA product code: PNZ). The new classification applies to this device and equivalent devices of this generic type. The AERA<sup>®</sup> is cleared for dilating the Eustachian tube in patients ages 22 and older with persistent ETD.

In December 2016, FDA cleared the XprESS<sup>™</sup> ENT Dilation System (Entellus Medical, Plymouth, MN) for marketing through the 510(k) process (K163509). FDA determined that this device was equivalent to existing devices for use in eustachian tube dysfunction. The predicate devices are XprESS<sup>™</sup> Multi-Sinus Dilation System and AERA<sup>®</sup> Eustachian Tube Balloon Dilation System.

## BENEFIT APPLICATION:

Coverage is subject to member's specific benefits. Group specific policy will supersede this policy when applicable.

## CURRENT CODING:

### CPT Codes:

69705	Nasopharyngoscopy, surgical, with dilation of eustachian tube (i.e., balloon dilation); unilateral (Effective 01/01/21)
69706	Nasopharyngoscopy, surgical, with dilation of eustachian tube (i.e., balloon dilation); bilateral (Effective 01/01/21)

## PREVIOUS CODING:

### CPT Codes:

69799	Unlisted procedure, middle ear
-------	--------------------------------

## REFERENCES:

1. Anand V, Poe D, Dean M, et al. Balloon Dilation of the Eustachian Tube: 12-Month Follow-up of the Randomized Controlled Trial Treatment Group. *Otolaryngol Head Neck Surg.* Apr 2019; 160(4): 687-694.
2. Cutler JL, Meyer TA, Nguyen SA, et al. Long-term Outcomes of Balloon Dilation for Persistent Eustachian Tube Dysfunction. *Otol Neurotol.* Dec 2019; 40(10): 1322-1325.
3. Food and Drug Administration. De Novo Classification Request for Acclarent Aera™ Eustachian Tube Balloon Dilation System. 2015; [https://www.accessdata.fda.gov/cdrh\\_docs/reviews/DEN150056.pdf](https://www.accessdata.fda.gov/cdrh_docs/reviews/DEN150056.pdf). Accessed January 2, 2018.
4. Food and Drug Administration. 510(k) Summary: XprESS ENT Dilation System. 2017; [https://www.accessdata.fda.gov/cdrh\\_docs/pdf16/K163509.pdf](https://www.accessdata.fda.gov/cdrh_docs/pdf16/K163509.pdf). Accessed January 2, 2018.
5. Froehlich MH, Le PT, Nguyen SA, et al. Eustachian Tube Balloon Dilation: A Systematic Review and Meta-analysis of Treatment Outcomes. *Otolaryngol Head Neck Surg.* Nov 2020; 163(5): 870-882.
6. Gluth MB, McDonald DR, Weaver AL, et al. Management of eustachian tube dysfunction with nasal steroid spray: a prospective, randomized, placebo-controlled trial. *Arch Otolaryngol Head Neck Surg.* May 2011; 137(5):449-455.
7. Huisman JML, Verdam FJ, Stegeman I, et al. Treatment of Eustachian tube dysfunction with balloon dilation: A systematic review. *Laryngoscope.* Jan 2018; 128(1):237-247.
8. Hwang SY, Kok S, Walton J. Balloon dilation for eustachian tube dysfunction: systematic review. *J Laryngol Otol.* Jul 2016; 130 Suppl 4:S2-6.
9. Llewellyn A, Norman G, Harden M, et al. Interventions for adult Eustachian tube dysfunction: a systematic review. *Health Technol Assess.* Jul 2014; 18(46):1-180, v-vi.
10. Katz J. *Handbook of Clinical Audiology.* 5th ed. Baltimore: Lippincott Williams & Wilkins; 2002.
11. McCoul ED, Anand VK, Christos PJ. Validating the clinical assessment of eustachian tube dysfunction: The Eustachian Tube Dysfunction Questionnaire (ETDQ-7). *Laryngoscope.* May 2012; 122(5):1137-1141.
12. Meyer TA, O'Malley EM, Schlosser RJ, et al. A Randomized Controlled Trial of Balloon Dilation as a Treatment for Persistent Eustachian Tube Dysfunction With 1-Year Follow-Up. *Otol Neurotol.* Aug 2018; 39(7):894-902.
13. National Institute for Health and Care Excellence. Balloon Dilation of the Eustachian tube [IPG 409]. 2011; <https://www.nice.org.uk/guidance/ipg409/chapter/1-Guidance>.
14. Norman G, Llewellyn A, Harden M, et al. Systematic review of the limited evidence base for treatments of Eustachian tube dysfunction: a health technology assessment. *Clin Otolaryngol.* Feb 2014; 39(1):6-21.



15. National Institute for Health and Care Excellence. Balloon dilation for chronic eustachian tube dysfunction. Interventional procedures guidance [IPG665]. December 2019. <https://www.nice.org.uk/guidance/ipg665>.
16. National Institute for Health and Care Excellence. Interventional procedure overview of balloon dilation for chronic eustachian tube dysfunction. <https://www.nice.org.uk/guidance/ipg665/documents/overview-2> December 2019.
17. Poe D, Anand V, Dean M, et al. Balloon dilation of the eustachian tube for dilatory dysfunction: A randomized controlled trial. *Laryngoscope*. Sep 20 2017.
18. Poe DS, Hanna BM. Balloon dilation of the cartilaginous portion of the eustachian tube: initial safety and feasibility analysis in a cadaver model. *Am J Otolaryngol*. Mar-Apr 2011; 32(2):115-123.
19. Satmis MC, van der Torn M. Balloon dilatation of the Eustachian tube in adult patients with chronic dilatory tube dysfunction: a retrospective cohort study. *Eur Arch Otorhinolaryngol*. Feb 2018;275(2):395-400.
20. Seibert JW, Danner CJ. Eustachian tube function and the middle ear. *Otolaryngol Clin North Am*. Dec 2006; 39(6):1221-1235.
21. Schilder AG, Bhutta MF, Butler CC, et al. Eustachian tube dysfunction: consensus statement on definition, types, clinical presentation and diagnosis. *Clin Otolaryngol*. Oct 2015; 40(5):407-411.
22. Schroder S, Lehmann M, Ebmeyer J, et al. Balloon Eustachian tuboplasty: a retrospective cohort study. *Clin Otolaryngol*. Dec 2015; 40(6):629-638.
23. Tucci DL, McCoul ED, Rosenfeld RM, et al. Clinical Consensus Statement: Balloon Dilation of the Eustachian Tube. *Otolaryngol Head Neck Surg*. Jul 2019; 161(1): 6-17.

## **POLICY HISTORY:**

Adopted for Blue Advantage, February 2018

Available for comment February 21 through April 6, 2018

Medical Policy Group, February 2019

Medical Policy Group, November 2020: 2021 annual coding update. Added CPT codes 69705-69706 to the current coding section.

Medical Policy Group, August 2021

Medical Policy Group, September 2022

---

*This medical policy is not an authorization, certification, explanation of benefits, or a contract. Eligibility and benefits are determined on a case-by-case basis according to the terms of the member's plan in effect as of the date services are rendered. All medical policies are based on (i) research of current medical literature and (ii) review of common medical practices in the treatment and diagnosis of disease as of the date hereof. Physicians and other providers are solely responsible for all aspects of medical care and treatment, including the type, quality, and levels of care and treatment.*

*This policy is intended to be used for adjudication of claims (including pre-admission certification, pre-determinations, and pre-procedure review) in Blue Cross and Blue Shield's administration of plan contracts.*