

Client	HEALTH BENCHMARKS, INC. STANDARD ALGORITHM <i>Implemented for Blue Cross Blue Shield of Texas</i>		
Measure Title	OTITIS MEDIA WITH EFFUSION: HEARING TEST		
Disease State	Otitis media with effusion	Indicator Classification	Screening
Strength of Recommendation	B		
Organizations Providing Recommendation	American Academy of Family Physicians, American Academy of Otolaryngology-Head and Neck Surgery, and American Academy of Pediatrics		
Clinical Intent	To ensure that children 2 years to 12 years old years old underwent hearing evaluation prior to tympanostomy tube insertion for otitis media with effusion.		
Physician Specialties (suggested)	Family Medicine, Otolaryngology, Pediatrics		
Background	<ul style="list-style-type: none"> • Approximately 2.2 million cases of otitis media with effusion (OME) are diagnosed each year, which result in an estimated societal cost of \$4.0 billion dollars. [1] • OME is different from acute otitis media, in that it is characterized by presence of fluid in the middle ear, without signs or symptoms of acute ear infection. [2] • The persistent presence of fluid in the middle ear decreases the mobility of the tympanic membrane and may result in temporary or permanent hearing loss. [2] • While the majority of cases of OME resolve within three months, for those that persist beyond 90 days the decision regarding active intervention vs. watchful waiting needs to be made.[10] • Hearing decreases in children are particularly of concern because of possible detrimental effects on development of speech and language, and on learning, school performance, and quality of life.[1, 3] • Because hearing loss caused by OME may delay language development, [4-6] children with persistent OME for 3 months or longer should have their hearing tested. • Because randomized trials have shown that children with OME who do not have hearing loss are less likely to experience negative outcomes, [7-9] clinicians and parents can more fully consider treatment options based on the results of a hearing test. 		
Clinical Recommendations	<ul style="list-style-type: none"> • The American Academy of Family Physicians, American Academy of Otolaryngology-Head and Neck Surgery, and American Academy of 		

Pediatrics recommended that children with persistent OME (> 3 month duration) have a hearing test. Based on hearing test results, the above organizations recommend following level of action: [10]

- Moderate hearing loss (loss of ≥ 40 dB): tympanostomy tube insertion is recommended because persistent hearing loss of this magnitude has been shown to negatively impact language acquisition and academic performance.
- Mild hearing loss (loss of 21-39 dB): Consider tympanostomy tube insertion because mild hearing loss also has been associated with difficulty in language acquisition and academic performance. Repeat hearing test in 3-6 months if OME persist at follow up or tympanostomy tube have not been place.
- Normal hearing (loss of ≤ 20 dB): Repeat hearing tests in 3 to 6 months.
- Hearing testing should be performed when OME persists for more than 3 months and should be done prior to tympanostomy tube insertion. [10]
- Approved hearing testing methods include conventional audiometry and comprehensive audiologic evaluation. Methods *not recommended* as substitutes include tympanometry, pneumatic otoscopy, caregiver judgement regarding hearing loss, speech audiometry, tuning forks, acoustic reflectometry, behavioral observation, auditory brainstem response and otocoustic emissions. [10]

Source	Health Benchmarks, Inc.
Denominator Definition	Continuously enrolled children 2 to 12 years of age with a tympanostomy tube insertion during the measurement year, with a diagnosis of otitis media on the same date of service as tympanostomy tube insertion.
Denominator Codes	<u>Tympanostomy tube insertion</u> CPT-4 code(s): 69433, 69436 <u>Otitis media</u> ICD-9 diagnosis code(s): 381.xx, 382.xx
Denominator Exclusion Definition	Members who have undergone tympanostomy tube insertion in the 0-6 months prior to the index date (not inclusive of the index date).
Denominator Exclusion Codes	<u>Tympanostomy tube insertion</u> CPT-4 code(s): 69433, 69436
Numerator Definition	Children who received a hearing test during the 0-6 months prior to the index date.
Numerator Codes	<u>Hearing test</u> CPT-4 code(s): 92551, 92552, 92553, 92557, 92560, 92561, 92579, 92582, 92583, 92587, 92588

Physician Attribution Description Score all physicians (in the selected specialties) who saw the member during the 0-6 months prior to the index date.

References

1. Shekelle P, T.G., Chan LS, et al., *Diagnosis, Natural History, and Late Effects of Otitis Media With Effusion: AHRQ Publication No 03-E023*, in *Evidence Report/Technology Assessment*. 2003, Agency for Healthcare Research and Quality: Rockville, MD.
2. *Diagnosis and management of acute otitis media*. Pediatrics, 2004. **113**(5): p. 1451-65.
3. Stool SE, B.A., Berman S, et al., *Otitis Media With Effusion in Young Children. Clinical Practice Guideline, Number 12*, in *Evidence Report/Technology Assessment*. 1994, Agency fo Healthcare Research and Quality: Rockville, MD.
4. Friel-Patti, S. and T. Finitzo, *Language learning in a prospective study of otitis media with effusion in the first two years of life*. J Speech Hear Res, 1990. **33**(1): p. 188-94.
5. Wallace, I.F., et al., *Otitis media, auditory sensitivity, and language outcomes at one year*. Laryngoscope, 1988. **98**(1): p. 64-70.
6. Robert, J.E., et al., *Otitis media, hearing sensitivity, and maternal responsiveness in relation to language during infancy*. J Pediatr, 1995. **126**(3): p. 481-9.
7. Paradise, J.L., et al., *Effect of early or delayed insertion of tympanostomy tubes for persistent otitis media on developmental outcomes at the age of three years*. N Engl J Med, 2001. **344**(16): p. 1179-87.
8. Rovers, M.M., et al., *The effect of ventilation tubes on language development in infants with otitis media with effusion: A randomized trial*. Pediatrics, 2000. **106**(3): p. E42.
9. Paradise, J.L., et al., *Early versus delayed insertion of tympanostomy tubes for persistent otitis media: developmental outcomes at the age of three years in relation to prerandomization illness patterns and hearing levels*. Pediatr Infect Dis J, 2003. **22**(4): p. 309-14.
10. *Otitis media with effusion*. Pediatrics, 2004. **113**(5): p. 1412-29.