Clinical Practice Guidelines: Whose Practice Are We Guiding?

Morgan Harvey, MA1, Sarah N. Bowe, MD2, and Adrienne M. Laury, MD2

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Abstract

The American Academy of Otolaryngology—Head and Neck Surgery Foundation (AAO-HNSF) has just released an update to the clinical practice guideline (CPG) on otitis media with effusion. This common condition is frequently managed by primary care providers; however, their awareness and utilization of the AAO-HNSF CPGs are unknown. We performed a cross-sectional survey to assess familiarity with otologic diagnoses, evaluation skills, and guidelines. Only 38.5% of respondents use pneumatic otoscopy, and roughly 50% utilize a CPG for management of otitis media or for referral for tympanostomy tube insertion. Providers predominantly use the acute otitis media guideline from the American Academy of Pediatrics. In this single-institution study, providers are largely unaware of the AAO-HNSF CPGs and could benefit from additional training, including workshops taught by otolaryngologists within individual health care systems or development of a national otolaryngology medical student curriculum. A more immediate option includes referencing our CPGs on specialty societies’ websites or newsletters.

Keywords

clinical practice guidelines, otitis media with effusion, otoscopy

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The clinical practice guideline (CPG) update on otitis media with effusion (OME), recently produced by the American Academy of Otolaryngology—Head and Neck Surgery Foundation (AAO-HNSF),1 provides new evidence-based recommendations to manage OME. This is one of the most prevalent childhood diagnoses in the United States, with approximately 2.2 million new cases identified annually.2 Otitis media accounts for 1 in 9 primary care office encounters, with 1 in 3 of these resulting in a diagnosis of OME.3 Although OME is a common diagnosis in the primary care setting, proper knowledge and utilization of the available CPG by primary care providers may be lacking.

Figure 1. General practitioners’ self-assessment of comfort with acute otitis media, chronic otitis media, and tympanic membrane perforation.

A nonresearch determination was granted by the Brooke Army Medical Center Institutional Review Board prior to project initiation. A cross-sectional survey was then designed to assess primary care physicians’ confidence with diagnosing middle ear conditions and was disseminated to pediatric and family medicine providers within the San Antonio Military Health System (N = 52).

Practice Patterns

Overall, providers feel “very comfortable” with the common diagnoses of acute otitis media, OME, and tympanic membrane perforation (Figure 1). However, their comfort decreases with hearing loss, monomeric tympanic membrane, tympanostomy tube patency, and otorrhea diagnoses (Figure 2).

1Uniformed Services University of Health Sciences, Bethesda, Maryland, USA
2Department of Otolaryngology—Head and Neck Surgery, San Antonio Uniformed Services Health Education Consortium, Ft Sam Houston, Texas, USA

Corresponding Author:
Adrienne M. Laury MD, Department of Otolaryngology—Head and Neck Surgery, San Antonio Uniformed Services Health Education Consortium, ATTN: MCHE-SDT (Otolaryngology), 3551 Roger Brooke Drive, San Antonio Military Medical Center, JBSA-Ft Sam Houston, TX 78234, USA. Email: Adrienne.laury@gmail.com
Only 35 of 52 (67.3%) providers noted that they have pneumatic otoscopes in their clinics, with only 20 of 52 (38.5%) actually utilizing them to evaluate OME. Additionally, only 28 of 52 (53.8%) responded that they use a CPG to assist in their management of OME, with 20 (71.4%) utilizing the American Academy of Pediatrics (AAP) CPG, 13.5% using Up-to-Date, and only 1.9% utilizing the AAO-HNSF guideline.5

Regarding the CPGs for tympanostomy tube insertion, only 29 of 52 (55.8%) responded that they use a guideline, with 58.6% of those utilizing the AAP guideline, which states, “Clinicians may offer tympanostomy tubes for recurrent AOM (3 episodes in 6 months or 4 episodes in 1 year with 1 episode in the preceding 6 months).”4

**Implications of Current Practices**

While the majority of providers express comfort with OME diagnosis, only one-third actually perform pneumatic otoscopy, despite its strong recommendation by the AAO-HNSF CPG. Additionally, only 1 provider reported knowledge and utilization of the AAO-HNSF guideline, despite the fact that it is endorsed by the American Academy of Family Physicians.5 The remaining providers primarily use the AAP CPG, which is intended for the diagnosis and management of acute otitis media, not necessarily overlapping with OME. Thus, it appears as though the majority of responding primary care providers are unaware of and not utilizing the AAO-HNSF guidelines.

Similarly, only 53.8% use a CPG for their referrals for and management of tympanostomy tubes. While the AAP CPG has authorship representation from prominent otolaryngologists, it currently provides an incomplete picture of tympanostomy tube insertion criteria. Based on AAO-HNSF guidelines, not only must patients meet the AAP CPG,4 but they must also have fluid on examination. The omission of this criterion in the AAP CPG creates a discrepancy between the AAP and AAO-HNSF guidelines and can result in a family’s or patient’s expectation of definite surgery upon referral. In turn, increasing pneumatic otoscopy utilization would likely result in more appropriate tympanostomy tube referrals and, therefore, more consistent expectations among families when transitioning from primary care provider to otolaryngologist.

While these results are impressive, this data represents a single military academic medical center and, as such, may be limited in its generalizability.

**Opportunities for Improvement**

The otologic disorders included in this survey are relatively common and make up a significant portion of primary care clinical practice.3 Therefore, the data obtained from this survey indicate that further training is required to improve diagnostic comfort, utilization of available tools (pneumatic otoscopy), and knowledge about the available CPGs. This additional training could be incorporated in a variety of formats, including workshops taught by otolaryngologists at national conferences or within individual health care systems. These sessions could provide didactic lectures on CPGs as well as hands-on simulation training to improve diagnostic accuracy. The OtoSim device is one such simulation tool that has been shown to improve the accuracy and confidence in otoscopic diagnoses.6,7

The OtoSim was recently utilized within our institution as part of an otoscopy simulation course for providers. Mock cases were presented, and diagnosis and management were taught with simulation and relevant AAO-HNSF CPGs. Figure 3 shows our preliminary results, indicating statistically significant improvement in both knowledge and diagnostic accuracy after lecture/simulation. Another, more long-term solution could be to create a national otolaryngology medical student curriculum, similar to that which the American Urological Association has created for common urologic pathologies.8,9 This would provide improved universal knowledge of otolaryngic diagnoses, equipment, and management options.

A more immediate intervention could capitalize on widely accessible communication avenues, such as websites and newsletters. The American Academy of Family Physicians currently refers to the AAP acute otitis media guideline as well as the AAO-HNSF CPG for OME on its website.5 In contrast, the AAP does not have any links available to AAO-HNSF guidelines. This addition would be a simple yet beneficial way to expand awareness to the pediatric community.

In conclusion, the AAO-HNSF guidelines provide clear recommendations on how to manage OME. However, in this single-institution study, the majority of responding providers who initially diagnose OME are largely unaware of our CPGs and would likely benefit from additional training on otologic diagnoses, evaluation skills, equipment, and guidelines. This expanded knowledge and understanding would enable otolaryngologists and general practitioners to more effectively communicate and collaborate on patient care and would further assist in setting consistent expectations for patients and their families with regard to treatment.

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**Figure 2.** General practitioners’ self-assessment of comfort with monomeric tympanic membrane, hearing loss, tympanostomy tube patency, and tympanostomy tube otorrhea.

**Figure 3** shows our preliminary results, indicating statistically significant improvement in both knowledge and diagnostic accuracy after lecture/simulation.
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Author Contributions

Morgan Harvey, data acquisition and manuscript preparation; Sarah N. Bowe, conceptualization, data acquisition, and manuscript preparation; Adrienne M. Laury, conceptualization, data acquisition, and manuscript preparation.

Disclosures

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Figure 3. Box and whisker plot showing the average improvement of all OtoSim participants in knowledge of the clinical practice guideline for otitis media with effusion and in otologic diagnostic accuracy.