

LETTERS TO THE EDITOR

Letter to the Editor Regarding the Updated American Academy of Otolaryngology-Head and Neck Surgery Foundation Clinical Practice Guideline on Tonsillectomy in Children

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The American Academy of Sleep Medicine (AASM) appreciates being invited to participate in the development of the updated clinical practice guideline on tonsillectomy in children by the American Academy of Otolaryngology-Head and Neck Surgery Foundation (AAO-HNSF).¹ We realize this was a tremendous undertaking and are pleased to endorse the AAO-HNSF guideline. This letter provides an overview of the guideline, focusing on areas of most interest to sleep medicine providers, and outlines areas in which it differs from the recommendations established by the AASM.²

PURPOSE OF AAO-HNSF CLINICAL PRACTICE GUIDELINE

Tonsillectomy is one of the most common surgical procedures in the United States with almost 300,000 ambulatory procedures performed annually in children under 15 years of age.³ The indications for tonsillectomy have changed with time. Thirty years ago, approximately 90% of tonsillectomies in children were done for recurrent infection. According to the AAO-HNSF guideline, the primary indication for tonsillectomy currently is obstructive sleep-disordered breathing in two-thirds of patients.¹

The AAO-HNSF published its original clinical practice guideline on tonsillectomy in children in 2011 and the updated guideline was published in February 2019 as a supplemental issue of the journal *Otolaryngology-Head and Neck Surgery*. The guideline is intended for clinicians in any setting who interact with children ages 1 to 18 years old who are under consideration for tonsillectomy. The purpose of the guideline is to educate clinicians, patients and/or their caregivers regarding the indications for tonsillectomy and optimize perioperative management, reducing variations in care and enhancing patient outcomes. It strives to emphasize the need for evaluation and intervention in special populations and improve counseling and education of families who are considering tonsillectomy for their child.

The guideline update group included members from various specialties: advanced practice nursing, family medicine,

otolaryngology-head and neck surgery, pediatrics, anesthesia, sleep medicine, and infectious disease. With the addition of two consumer advocates on the guideline update group, there was enhanced emphasis on patient education and shared decision-making.

There were 15 key action statements identified in the updated guideline which were expanded from 10 in the original guideline including 2 new statements related to polysomnography (PSG) indications. Throughout the guideline, “sleep-disordered breathing” was changed to “obstructive sleep-disordered breathing (oSDB)” to clarify that tonsillectomy should be done for obstructive breathing in sleep. The key action statements of most interest to sleep medicine providers are numbers 4–8 and 12, since they relate directly to tonsillectomy for oSDB, indications for PSG, education regarding persistent or recurrent oSDB after tonsillectomy, and inpatient monitoring after tonsillectomy in high-risk patients. The other key action statements are also important clinically as they relate to tonsillectomy recommendations for infection, perioperative pain counseling and management, perioperative antibiotics, intraoperative steroids, and monitoring of post-tonsillectomy bleeding. The key action statements of most interest to the readership of the *Journal of Clinical Sleep Medicine* will be reviewed here.

KEY ACTION STATEMENTS (KAS) FOCUSED ON SLEEP

KAS 4. Tonsillectomy for oSDB: Clinicians should ask caregivers of children with oSDB and tonsillar hypertrophy about comorbid conditions that may improve after tonsillectomy, including growth retardation, poor school performance, enuresis, asthma and behavioral problems.

The above statement is important for helping clinicians and caregivers make informed decisions about tonsillectomy in children with clinically diagnosed oSDB. It highlights the importance of considering comorbid conditions that may be overlooked but could affect the decision to proceed with surgery.

The AASM practice parameters for the respiratory indications for PSG in children states that PSG is indicated when the clinical assessment suggests the diagnosis of obstructive sleep apnea syndrome (OSAS) and in children being considered for adenotonsillectomy to treat OSAS.² The AASM task force found, after extensive literature review, that clinical evaluation alone does not have sufficient sensitivity or specificity to establish the diagnosis of OSAS. While the comorbid conditions should be a consideration, the gold standard for making the diagnosis of OSAS is overnight PSG.

KAS 5. Indications for PSG: Before performing the tonsillectomy, the clinician should refer children with oSDB for PSG if they are < 2 years of age or if they exhibit any of the following: obesity, Down syndrome, craniofacial abnormalities, neuromuscular disorders, sickle cell disease, or mucopolysaccharidoses.

This statement highlights that information gained through PSG can assist in diagnosing and quantifying OSA in high-risk children to help with perioperative management as well as risk for persistent OSA after tonsillectomy.

While this statement recommends obtaining PSG in obese patients, the text states that many pediatric surgeons are electing not to do so and are admitting obese children to the hospital overnight with the assumption their OSA is severe. Admitting these patients is a financial burden that may exceed the cost of obtaining a PSG. In addition, hospitalization puts the patient at increased risk inherent with hospital exposures and impacts bed availability in pediatric hospitals.

Similarly, the statement recommends obtaining a PSG in patients with Down syndrome, but the text describes that many otolaryngologists do not routinely do this. It further describes that parental accuracy of predicting OSA is poor and the risk of residual OSA after tonsillectomy is high. The conclusion was that information obtained from the PSG can help determine presence and severity of OSA, confirms appropriateness of tonsillectomy, and helps plan perioperative management and follow up in the high-risk populations.

As noted above, the AASM practice parameters for the respiratory indications for PSG in children states that PSG is indicated when the clinical assessment suggests the diagnosis of OSAS and in children being considered for adenotonsillectomy to treat OSAS.² Additionally, the AASM quality measures for the care of pediatric patients with OSA, process measure 3, recommends objective assessment of OSA with PSG in children with complex medical conditions.⁴

KAS 6. Additional recommendations for PSG: The clinician should advocate for PSG prior to tonsillectomy for oSDB in children without any of the comorbidities listed in KAS 5 for whom the need for tonsillectomy is uncertain or when there is discordance between the physical examination and the reported severity of oSDB.

Instead of “advocating” for PSG when the need for tonsillectomy is uncertain or when there is discordance between the physical examination and the reported severity of oSDB, the

AASM practice parameter *recommends* a PSG. The supporting text acknowledges this difference and also points out a similar position of the American Academy of Pediatrics (AAP), though the AAP suggests referral to a sleep specialist or otolaryngologist if this service is not readily available.⁵

Rarely is surgery for OSA considered urgent thus delaying treatment to allow for appropriate PSG evaluation is warranted. Watchful waiting may also be beneficial since OSA may resolve in children.⁶ In terms of cost considerations, obtaining a PSG on a child is less expensive and less risky than performing surgery, especially in the case when the surgery may not be indicated.

Under the “Risks, Harms, Costs” section of the AAO-HNSF guideline,¹ there is mention of the indirect cost of missed work by parents when obtaining a PSG, but the sleep studies are conducted at night and this is rarely the case.

There is an excellent table accompanying the text that summarizes the role and rationale for PSG in assessing high-risk populations before tonsillectomy.

KAS 7. Tonsillectomy for OSA: Clinicians should recommend tonsillectomy for children with OSA documented by overnight PSG.

This statement is intended to promote tonsillectomy as the primary surgical intervention for OSA in children. This is in agreement with the AASM and AAP. This statement was updated from the previous guideline that suggested counseling patients and caregivers about tonsillectomy rather than recommending it. The change reflects more recent evidence that tonsillectomy results in significantly greater improvements in behavior, quality of life, symptoms and PSG findings when compared to observation as seen in the CHAT study.⁶ There were no differences in attention and executive function between the groups studied over the 7-month period in the CHAT study.

There is acknowledgement that benefits of tonsillectomy are most clearly observed in healthy, normal weight children and may be modified by comorbid conditions such as craniofacial, neuromuscular, genetic and metabolic disorders and that there is a paucity of data to suggest tonsillectomy should be first-line treatment in these children, especially if the OSA is mild.

KAS 8. Education regarding persistent or recurrent oSDB: Clinicians should counsel patients and caregivers and explain that oSDB may persist or recur after tonsillectomy and may require further management.

This statement accurately highlights that tonsillectomy is not always curative, especially if there are comorbid conditions, and that oSDB may recur. Counseling of caregivers is important, so that they can make an informed decision regarding a surgery that may not be curative. It also points out the importance of longitudinal care in the treatment of oSDB and suggests having a low threshold for performing a postoperative PSG if there are residual symptoms, which aligns with the AASM practice parameter recommendations.

In the text, there is a discussion about the low referral rate for preoperative PSG by otolaryngologists with an even lower

postoperative referral rate. This was reflected in a table that is meant to be a reference for clinicians to counsel caregivers of patients regarding the persistence or recurrence of oSDB after tonsillectomy. In the table, there is a statement that a PSG is not necessary in all cases and that access may be limited by the availability of sleep laboratories and willingness of insurers and third-party payers to cover the cost of testing. As discussed above under KAS 6, performing a PSG on a child is less expensive and less risky than performing surgery, especially if the surgery is not indicated. Insurance or third-party payers are typically supportive of this approach. Published data are not available to support concerns about potential for limited access to pediatric sleep centers.

KAS 12. Inpatient monitoring for children after tonsillectomy: Clinicians should arrange for overnight, inpatient monitoring of children after tonsillectomy if they are < 3 years old or have severe OSA (apnea-hypopnea index \geq 10 obstructive events/hour, oxygen saturation nadir < 80%, or both).

While the AASM does not have guidelines for postoperative inpatient monitoring, the AAP recommends hospitalization for children less than 3 years, severe OSA documented on PSG, cardiac complications of OSA, failure to thrive, obesity, craniofacial anomalies, neuromuscular disorders and current respiratory infection.⁵ The AAO-HNSF guideline acknowledges in the text that children with complicated medical histories are at increased risk of postoperative complications and the clinician should have a low threshold for hospitalization. Both organizations acknowledge that individuals should be assessed on a case-by-case basis for inpatient monitoring after tonsillectomy.

CONCLUSIONS

The AASM appreciates and values the tremendous amount of work that the AAO-HNSF put forth in producing this comprehensive guideline. The endeavor was a thorough, collaborative, and detailed approach to an important and common pediatric procedure. The AASM is pleased to endorse the AAO-HNSF guideline as we agree with most of their key recommendations, and the few areas in which it differs from the recommendations established by the AASM are highlighted in this letter. We congratulate the AAO-HNSF on the publication of

the clinical practice guideline on tonsillectomy in children and look forward to future partnerships.

CITATION

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DISCLOSURE STATEMENT

With the exclusion of Robin Lloyd, MD, the authors represent the 2018–2019 Executive Committee of the AASM. This letter to the editor is intended by the AASM to help physicians and other health care providers make decisions about the appropriate treatment of patients with OSA. It is to be used for educational and informational purposes only.