

Polysomnography for sleep-disordered breathing prior to tonsillectomy in children

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A multidisciplinary clinical practice guideline, "Polysomnography for Sleep-Disordered Breathing Prior to Tonsillectomy in Children" will be published as a supplement to the July issue of *Otolaryngology-Head and Neck Surgery*. This guideline provides otolaryngologists with evidence-based recommendations for using polysomnography in assessing children, aged 2 to 18 years, with sleep-disordered breathing and who are candidates for tonsillectomy, with or without adenoidectomy.

Polysomnography (PSG), commonly referred to as a sleep study, is presently the gold standard for diagnosing and quantifying [sleep-disordered breathing](#) (SDB) in children. SDB affects approximately 12% of children with manifestations ranging from simple snoring to potentially serious conditions, including sleep apnea. SDB is also the most common indication for tonsillectomy with or without adenoidectomy in the United States. Since more than 530,000 tonsillectomies are performed annually on children younger than the age of 15, primarily for SDB, clear and actionable guidance on optimal use of PSG is strongly needed.

"Less than 10% of children get a sleep study before tonsillectomy," notes Richard M. Rosenfeld, MD, MPH, guideline author and consultant. "The polysomnography guideline will empower doctors and parents to get the right test for the right reasons, leading to safer surgery and better outcomes for children with tonsils that block their breathing while asleep."

The primary purpose of this guideline is to improve referral patterns for [polysomnography](#) among these patients. In creating this guideline, the American Academy of Otolaryngology-Head and Neck Surgery Foundation selected a panel representing the fields of anesthesiology, pulmonology medicine, otolaryngology - head and neck surgery, pediatrics, and [sleep](#) medicine.

More information:

Important Points about the AAO-HNS Polysomnography Guideline

What is polysomnography and why is it important?

- Polysomnography (PSG), also called a sleep study, is the best test for diagnosing sleep-disordered breathing, which can include snoring, gasping, choking episodes, and breath-holding (apnea).
- PSG is like getting an EKG but while asleep: children stay overnight, with their parent, in a special sleep lab with stick-on electrodes that record oxygen levels, respiratory effort, heart rate, and other factors.
- PSG is important because it helps doctors and families make evidence-based decisions about tonsillectomy and whether the surgery can be ambulatory (out-patient) or requires an overnight hospital stay.

Why is the Polysomnography Guideline newsworthy?

- First - and only - national, evidence-based guideline on PSG prior to tonsillectomy in children.
- Sleep-disordered breathing affects 12% of children and is the #1 reason why over 530,000 tonsillectomies are performed annually on children under age 15 years in the United States.
- Treatment of sleep-disordered breathing with tonsillectomy has been shown to improve child behavior, attention span, quality of life, sleep quality, and neurocognitive functioning (classroom performance).

What is the purpose of the Polysomnography Guideline?

- The primary purpose of this guideline is to provide evidence-based recommendations for PSG prior to tonsillectomy in children between 2 and 18 years with sleep-disordered breathing as the reason for surgery.
- Although the guideline was developed with other specialties, the intent is to provide guidance for ENT (ear, nose, and throat) doctors, also called otolaryngologists - head and neck surgeons.
- Specialties that contributed to the guideline included pediatrics, sleep medicine, pediatric anesthesiology, pediatric pulmonology, and otolaryngology - head and neck surgery.

What are the newsworthy points made in the Guideline?

1. PSG should be obtained before tonsillectomy in children with sleep-disordered breathing who have conditions that increase their risk of complications from surgery or anesthesia, including obesity, Down syndrome, craniofacial abnormalities (e.g., cleft palate), neuromuscular disorders (e.g., muscular dystrophy), sickle cell disease, or mucopolysaccharidoses (metabolic problems in digesting sugars).
2. Doctors should encourage otherwise healthy children (without any of the conditions in #1) to have PSG when either the need for tonsillectomy is uncertain (e.g., differing opinions or observations among parents, family members, primary care doctors, and specialists) or when size of the tonsils is smaller than what would be expected from the severity of snoring or sleep disturbance.
3. When a child does get PSG before tonsillectomy, the surgeon should communicate the test results to the anesthesiologist before surgery begins in case the anesthesia approach needs to be modified.
4. Children should be admitted to the hospital for overnight monitoring after tonsillectomy if they are under 3 years of age, because they may require oxygen or breathing assistance after surgery.
5. Children should be admitted to the hospital for overnight monitoring after tonsillectomy if PSG indicates they have severe obstructive sleep apnea, which is a type of sleep-disordered breathing in which the child's oxygen levels drop below 80%, there are 10 or more breathing obstructions (weak breaths or

apneas lasting 10 seconds or longer) every hour, or both.

6. When PSG is indicated to assess sleep-disordered breathing prior to tonsillectomy, doctors should obtain laboratory-based PSG (an overnight study attended by a technician in a sleep laboratory), not home-based PSG (with a portable, unattended monitoring device), because more is known about the accuracy and interpretation of laboratory-based testing.

Provided by American Academy of Otolaryngology - Head and Neck Surgery

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