


# Preoperative Screening for Sleep-Disordered Breathing in Children: A Systematic Literature Review 2.0 [www.aornjournal.org/content/cme](http://www.aornjournal.org/content/cme)

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### Purpose/Goal

To provide the learner with knowledge of best practices related to the preoperative screening for sleep-disordered breathing in children.

### Objectives

1. Discuss pediatric sleep-disordered breathing (SDB).
2. Explain why SDB screening is important in an ambulatory surgery center.
3. Discuss the merits of using an SDB screening questionnaire.

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Erin E. Bauer, DNP, CRNA; Rebecca Lee, DNP, CRNA; and Yasmine N. Campbell, DNP, CRNA, have no declared affiliations that could be perceived as posing potential conflicts of interest in the publication of this article.

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## ABSTRACT

Clinicians frequently underestimate or do not assess sleep-disordered breathing (SDB) in children in ambulatory surgical centers. Identifying the disorder and obtaining information relevant to anesthesia management can be assisted by the use of a standard questionnaire during preoperative assessment. We wanted to determine whether a preoperative screening tool increases clinician awareness of SDB in children and leads to a decrease in perioperative respiratory adverse events. We reviewed 21 articles to identify reliable screening tools for pediatric SDB in ambulatory surgical centers and selected six articles for the review. We concluded that the Snoring, Trouble Breathing, Un-Refreshed questionnaire is a reliable preoperative SDB identification tool and that awareness of preexisting SDB in children presenting for surgery in ambulatory surgical centers aids in designing a patient-specific plan of care to reduce perioperative respiratory adverse events. Standardizing the use of the Snoring, Trouble Breathing, Un-Refreshed questionnaire during the preoperative evaluation is a safety measure for pediatric surgical patients. *AORN J* 104 (December 2016) 541-553. © AORN, Inc, 2016. <http://dx.doi.org/10.1016/j.aorn.2016.10.003>

Key words: *pediatric, sleep-disordered breathing, screening, obstructive sleep apnea, perioperative complications.*

**P**ediatric sleep-disordered breathing (SDB) comprises a group of respiratory disorders that include increased upper airway resistance, obstructive sleep apnea (OSA), central sleep apnea, abnormal gas exchange, narrowing of the airway, disrupted or fragmented sleep, and hypoventilation (Table 1).<sup>1-3</sup> Sleep-disordered breathing in children may present atypically, thus escaping assessment and identification. In addition, SDB's varied, nonspecific presentation contributes to preoperative under-assessment. Sleep-disordered breathing is estimated to affect

4% to 11% of school-aged children, and the prevalence of OSA is estimated at 1% to 5% of children aged 2 to 18 years.<sup>4</sup> This estimated prevalence increases the likelihood for anesthetic complications and increases children's susceptibility to perioperative respiratory adverse events (PRAEs).<sup>3-6</sup>

The incidence of OSA, a common presentation of SDB, peaks between the ages of two to eight years, when adenotonsillar hypertrophy is prominent. Obstructive sleep apnea occurrence is equally spread between male and female children.<sup>7</sup> The

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