OFFICIAL BUT UNFORMATTED

Policy on Obstructive Sleep Apnea (OSA)

Latest Revision
2026

Abbreviations
AAPD: American Academy of Pediatric Dentistry.
CSA: Central sleep apnea.
OSA: Obstructive sleep apnea.

Purpose
The American Academy of Pediatric Dentistry (**AAPD**) recognizes that obstructive sleep apnea (**OSA**) is a public health threat with significant consequences for the pediatric population. Undiagnosed or untreated OSA is associated with multiple chronic health conditions including cardiovascular complications, impaired growth (including failure to thrive), learning problems, and behavioral problems.[1,2p283] Management of OSA can reduce such complications and associated healthcare expenditures. AAPD encourages oral health care professionals to routinely screen their patients for OSA and to facilitate medical referrals when indicated.

Methods
This policy was developed by the Council on Clinical Affairs, adopted in 2016,[3] and last revised in 2021.[4] This revision is based on a review of current dental and medical literature pertaining to obstructive sleep apnea including a search with PubMed/MEDLINE using the terms: (*sleep apnea* OR *sleep apnoea*) AND *dentistry* OR *attention-deficit hyperactivity disorder* AND *sleep disordered breathing* AND *children*; fields: all; limits: within the last 10 years, English, all article types. The search returned 490 articles which were reviewed by title followed by abstract.

Background
OSA affects approximately 25 million people in the US and is a common form of sleep-disordered breathing.[5] The presentation, diagnostic criteria, course, and complications of OSA differ significantly between adults and children due to several developmental, physiological, and maturational factors related to respiration and sleep parameters.[6,7p291] Adult and pediatric breathing disorders are defined by different criteria.[7p291,8] Most studies suggest a 1% to 4% prevalence of pediatric OSA.[9] Data suggest the prevalence may be higher in males.[2p283] Untreated OSA in combination with insulin resistance and obesity in a child sets the stage for heart disease and endocrinopathies.[10,11] Early diagnosis and treatment of OSA may decrease morbidity and improve quality of life.[12-14]

OSA is a disorder of breathing characterized by episodes of complete or partial upper airway obstruction during sleep, often resulting in gas exchange abnormalities and arousals that cause disrupted sleep.[2p283] In most children who are otherwise healthy, narrowing of the upper airway is due primarily to adenotonsillar hypertrophy.[2p283] Other anatomical contributors include macroglossia, choanal atresia, respiratory tissue thickening (eg, caused by disease such as mucopolysaccharidosis), or obesity.[15] Children with craniofacial differences (eg, craniosynostotic syndromes, achondroplasia, Pierre Robin sequence, cleft lip and palate) have an increased risk of having OSA because of modified craniofacial morphology.[15] Certain surgical procedures (eg, pharyngeal flaps to correct velopharyngeal insufficiency) also may contribute to OSA.[16] Children with inadequate neuromuscular tone or hypotonia, including those with conditions such as cerebral palsy, myotonic dystrophies, or other myopathies, are at increased risk for development of OSA.[15,17,18p378] Exposure to environmental tobacco smoke also has been associated with OSA.[19]

OSA differs from central sleep apnea (**CSA**). CSA is less common and occurs when the brain fails to transmit signals to the muscles of respiration.[20] The most common conditions associated with CSA include neurological or neurosurgical conditions[21] (eg, Arnold-Chiari malformation, brain tumor), genetic conditions[21] (eg, Down syndrome, Prader-Willi syndrome, achondroplasia), congestive heart failure[21], stroke[22], high altitude[23], and use of certain medications[24](eg, narcotics, benzodiazepines, barbiturates). Premature infants also may be predisposed to CSA.[25]

Arousals related to obstructive events cause sleep fragmentation which is believed to be responsible for excessive daytime sleepiness in older children or adolescents and hyperactivity, behavioral problems, and impaired academic performance in younger children.[2p287] For this reason, children with untreated OSA may be inappropriately diagnosed as having attention-deficit hyperactivity disorder (ADHD).[20]

Symptoms of OSA include[2p287]

- loud snoring.
- episodes of breathing cessation witnessed by another person.
- abrupt awakenings accompanied by shortness of breath.
- difficulty staying asleep.
- attention problems.
- diaphoresis.
- restlessness.
- frequent awakenings.

Signs of untreated sleep apnea in school-aged children may include nocturnal enuresis (bed wetting), poor school performance, aggressive behavior, or developmental delay.[2p287,26] Rare sequelae of untreated OSA include[2p283,285;27-29] brain damage, seizures, coma, and cardiac complications. Children with OSA also may experience impaired growth.[2p283,30]

Pediatric dentists are in a unique position to be able to identify patients at greatest risk.[31] Adenotonsillar hypertrophy[14] and obesity[32] are major risk factors for OSA in otherwise healthy children. With a history and careful clinical examination at each dental visit, pediatric dentists may identify signs and symptoms that may raise concern for OSA. Assessment of tonsillar hypertrophy and percentage of airway obstruction by supine Mallampati classification[33] or the Friedman tongue position (FTP)[34] may be performed as part of the routine intraoral examination.

Validated screening tools are available for adult obstructive sleep apnea (eg, STOP-BANG, STOP, Berlin questionnaire, Epworth sleepiness scale)[35]; however, questionnaires for the pediatric population (eg, PSQ, OSA-18) are not sensitive enough to detect presence or severity of OSA.[36] Nonetheless, the inclusion of sleep questions on the health history form may further help identify patients at risk. The AAPD's *Pediatric Airway Assessment* lists useful questions that indicate risk for OSA.[37]

Patients with OSA are more likely to experience perioperative and postoperative breathing complications.[38] Performing an airway assessment in conjunction with the caregiver, especially when considering sedation or general anesthesia, may help identify patients at increased risk for OSA or peri-/postoperative breathing complications. These individuals may benefit from referral to a medical professional for further evaluation, diagnosis, and management. If administering opioids to a patient with OSA, a reduced, titrated dose will likely achieve the desired analgesic effect due to pathophysiologic alterations in mu receptors in this population.[39] Patients with anatomic airway concerns require increased caution and prolonged monitoring when undergoing sedation to watch for signs of obstruction or respiratory depression.

If a patient is suspected of being at risk for OSA, a referral to a medical specialist (eg, otolaryngologist, pulmonologist, sleep medicine physician) allows for further assessment including polysomnography (sleep study) to either confirm or deny the diagnosis.[7p297]

Treatment for OSA may be accomplished with either nonsurgical or surgical options, depending on its severity and etiology. Nonsurgical options include[18p379,383;40;41] anti-inflammatory therapies (ie, intranasal steroids, montelukast), positive airway pressure (CPAP), and weight reduction. Some studies have advocated the use of nonsurgical dental interventions; however, these reports were based on small sample sizes and lack control groups.[19] Rapid maxillary expansion (RME) used to normalize maxillary transverse deficiencies and mandibular advancement devices (MADs) for Class II malocclusion correction are examples of orthodontic therapy that may be useful for managing OSA. Cumulative evidence to date on the use of rapid maxillary/palatal expansion consists of small uncontrolled studies with a relatively short follow-up period.[42] Mandibular advancement devices are an alternative to continuous positive airway pressure to treat OSA in adult patients[18p383]; however, they are not routinely used in growing children[43]. As functional intraoral appliances alter the position and/or growth of the maxilla or mandible, a complete orthodontic assessment including records should be completed prior to initiating appliance therapy.[44] Through consultation with the physician, the dentist can determine if adjunctive options (eg, rapid maxillary/palatal expansion, orthodontia) are advised as part of a multi-disciplinary treatment effort.[8] The most common surgical option for treatment of OSA is adenotonsillectomy.[45] Other surgical options include uvulopalatopharyngoplasty, ablation, revision of previous posterior pharyngeal flap surgery, maxillomandibular advancement, distraction osteogenesis, or tracheostomy.[46,47]

Policy statement

Recognizing that there may be consequences of untreated OSA, the AAPD encourages oral health care professionals to

- screen patients for sleep-related breathing disorders such as OSA and primary snoring through history intake and careful clinical examination.
- be cognizant of general (eg, obesity, craniofacial anomalies) and oral (eg, tonsillar hypertrophy, tongue position) anatomic contributors to OSA, especially when considering sedation for patients.
- refer to an appropriate medical provider (eg, otolaryngologist, sleep medicine physician, pulmonologist) for diagnosis of any patient suspected of having OSA.
- consider nonsurgical intraoral appliances only after a complete orthodontic/craniofacial assessment of the patient's growth and development as part of a multidisciplinary approach.

Additionally, the AAPD encourages additional research on dental interventions for management of pediatric OSA.

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