

Children's airway concerns are a growing health concern, and medical and dental professionals are finding new ways to diagnose and manage these problems. In my many years of care as a Pediatric Dentist, it has become increasingly more important to me in that many of the early signs and symptoms of Sleep Disordered Breathing (SDB) are seen in our children even as young as infancy and can be recognized during their dental exams.

This journey began as a personal revelation, as our first child was my first recognition of this concern. Please keep in mind that this subject is more comprehensive than this article allows; however, it is a great way for us to become more mindful of what we should be looking for and how we should extend our knowledge and practice to become more "whole-istic," as I say!

Many health care professionals, from Speech-Language Pathologists, Dental Hygienists, Dentists, Pediatricians, Pediatric Sleep Physicians and Ear, Nose and Throat Physicians (ENT), are getting involved in recognizing early signs of SDB and working cohesively to resolve it. So if most adults we know snore, why is this becoming the "new thing" we are all talking about? What we know is that what is "common" is often not what should be normal. With mild sleep-disordered breathing affecting nine out of 10 children, it needs to be assessed for and addressed, likely involving various specialists.

In October 2017, the American Dental Association (ADA) released a call to action for our dental community. Dentists are now called upon to screen for children's sleep behavior using the Pediatric Sleep Questionnaire. Based on the answers to this questionnaire, in addition to our clinical assessment of a child's breathing pattern, tonsillar grading size and soft palate visibility, we should consider the need to refer for ENT or sleep study assessments.

As a Pediatric Dentist, I commonly ask my parents to observe their children at rest and during sleep. Are their lips sealed with good, patent nasal breathing? Are they seeing open mouth resting posture? Are parents noting mouth breathing because their children are unable to breathe clearly through their noses? I encourage parents to listen and watch their children for snoring or interruptions (even gasping) in their breathing, grinding of their teeth, tossing in their beds, posturing their necks as though extending their airway. Are they waking up excessively sweaty? Are they bedwetting or experiencing night terrors? As we turn away from nasal breathing to mouth breathing, we question, what is the potential concern or consequence?

To learn what is harmful, you must first learn what is optimal. Our ideal oral resting posture is straight body, tall shoulders, eyes to the horizon and proper lips sealed with the tongue resting like a dome on the roof of the mouth with the tip touching the tissue just behind our top front teeth. This ideal position is referred to as "tongue-to-spot." This tongue position provides a parasympathetic input for our bodies to be calm and restful. The

## ask the doctor By Dr. Karen Benitez, Chevy Chase Pediatric Dentistry



tongue helps to develop the broad-shaped roof of the mouth, which in turn is the floor of the nose, providing wide and patent nasal passages.

Nasal breathing filters, humidifies and warms our air. It provides a direct airflow to the lowest third of our lungs. If children have chronic nasal congestion or enlarged and inflamed tonsils and adenoids, or a constricted top arch, they struggle to breathe through their nose and default to mouth breathing. Mouth-breathing lends to various skeletal changes, resulting in more narrow and long dental arches, potentially limiting our airway. This less-favorable breathing process does not filter air intake of allergens, nor does it warm and humidify the air. It creates a more turbulent process of air intake which can further irritate the tonsils and adenoids and does not allow air to reach the lower third of the lungs. A chronic state of mouth breathing over healthy nasal breathing weakens our immune system and our growth potential.

Sleep is a regenerative process for our brains and lymphatic system to remove the accumulation of toxins and rehabilitate our systems. Interruptions in its stages or oxygen saturation concerns with snoring or apneic episodes cause this regenerative process to operate at less than ideal. This distress lends to an increase in cortisol levels as our bodies are moving from a parasympathetic (rest and digest/calm) sleep process to that of a sympathetic

one (fight or flight/distress). Children with SDB are often restless overdrive. Many colleagues are aware of oral restrictions which may be affecting this tongue-to-spot parasympathetic position during sleep – they toss and turn, or experience restless leg syndrome. If observed during their sleep, they may often position of the tongue. These tethered structures can also limit the jaw themselves with extended necks and open mouth postures as growth potentials or lend to open mouth resting postures. We though looking for air. They may experience night sweats during are consistently working with oral myofunctional therapists sleep. Snoring and grinding can be heard. They are often experito address the muscle tone concerns seen in these children. encing daytime sleepiness and can be considered hyperactive or Many colleagues in speech-language pathology are essential in having an attention deficit. Common behavioral consequences of this process as they have training in feeding therapies and oral sleepless nights for these children include irritability, inability motor control of all age groups, so they can assess for potential to focus or sit quietly, learning difficulties and delayed growth. gag, feeding and speech concerns seen with continued tethered They often experience bedwetting outside of the age expected to tongue and/or lip structures. have this occurrence. They can be seen to have dark circles under their eyes (allergic shiners). They can develop obesity and cardiovascular concerns with these increased sympathetic cortisol with you if questions surrounding sleep, breathing and facial levels, much like adults respond to cortisol spikes. growth patterns arise during your child's dental examination.

It is my hope that this article has enlightened you and resonates It is an important subject to me as I have evolved as a clinician. Sleep Disordered Breathing (SDB) can cause postural alterations My Pediatric Dental practice is dedicated to early recognition of shoulder slumping or extended neck positions, as this elonand management of this growing concern as well a commitment gates the airway as an attempt to breathe. Our spine and pelvic to recognizing oral restrictions and their interruptions to early cavities are designed to hold a natural S-shaped curve, but a nursing, early oromyofunctional input, breathing and growth continued alteration to posture strains the spine and lower body, concerns. My practice is evolving to become a holistic environpushing the abdominal cavity out with the loss of abdominal ment from infancy for the health and benefit of our children, strength in this strained neck-reaching position. our rising stars!

Pediatric Sleep Questionnaire (CHERVINE ET AL, PEDIATRIC SLEEP QUESTIONNAIRE: As dentists, we can contribute to correcting SDB by first serving VALIDITY AND RELIABILITY OF SCALES FOR SLEEP DISORDERED BREATHING, SNORING, as a screener. Furthermore, our profession is maintaining or cor-SLEEPINESS, AND BEHAVIORAL PROBLEMS, SLEEP MEDICINE 2000; 1:21-32) recting jaw growth patterns and addressing digit or pacifier habits that children often use to self-regulate from the sympathetic

