

Obstructive Sleep Apnea & Sleep Disordered Breathing

A Parent's Primer

“Why is my orthodontist asking about my child's sleeping or behavior? Don't they just straighten teeth?”

Not at all. We are realizing that orthodontic care can make a big difference in overall health. OSA (Obstructive Sleep Apnea) and SDB (Sleep Disordered Breathing) have largely gone unrecognized in children but can have serious implications, contributing to growth problems, failure to thrive, asthma, Type 2 Diabetes, ADD, ADHD, autism, hypertension, stroke- even cardiovascular disease.

Causes The most common and significant are:

- Obstructive tissues (enlarged tonsils, adenoids, turbinate bones (in the nose), deviated septum)
- Lack of room for the tongue (narrow jaws, recessive upper or lower jaws, tongue-tied)

What happens physiologically

With improper breathing, blood oxygen decreases and carbon dioxide increases. This triggers release of cortisol (the "fight or flight" or "survival" stress hormone) that increases heart rate and activates muscles to force breathing. Although the person doesn't actually wake, they are driven from deep restorative sleep to "catch their breath". Once they begin to relax to the deeper levels of sleep, it happens all over again. This is hard on the body – like running a race all night long. You wake up exhausted and unrested, but more importantly, prolonged levels of increased cortisol negatively affects the immune system, normal hormone production, insulin function, gastric acid production, and learning and memory retrieval, and a host of other organs and body functions.

What are the implications of decreased O₂ in a growing and developing brain of a child?

We now know that any airway resistance is not healthy and is harmful to the developing brain- it makes it difficult or impossible to store the information they learned today into long-term memory.

Diagnosis

Sleep Questionnaire, Clinical Examination, 3D imaging, Home sleep testing, Overnight Sleep Test

Treatment

- Growth-oriented Orthodontics (jaw expansion, advancement of upper and/or lower jaws to create room for the tongue and open the airway) rather than pulling teeth or using headgear (which can actually decrease the airway)
 - Reduction of obstructive tissues (Remove Tonsils/Adenoids, allergy correction or naturopathic)
- Research has shown that the best results occur when both are done!

When to assess and treat?

As soon as you are aware of the problem! Although 7-8 years of age is an important age for orthodontic correction, we can make a big difference in 3- to 6-year olds with some simple and timely care.

For our practice, Orthodontics is MUCH more than straight teeth