Your Child and Sleep Disordered Breathing

A Parent's Guide to a Healthy Child

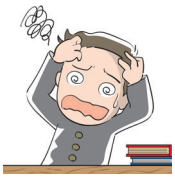
A New Children's Health Epidemic

It seems like kids are more troubled and sickly than ever today.

They have behavior issues. They take all kinds of medications. They don't have hay-fever anymore, they have life-threatening allergies. What happened?

Research shows that nearly 90% of children in the United States now suffer from one or more of these common problems.

Common Problems in Today's Kids



Learning Difficulties

Butt-Up Sleeping

ADD ADHD

Bed Wetting

Allergies Asthma

Delayed Speech

Night Sweats

Frequent Coughs & Colds

Aggression Defiance

Nightmares Night Terrors

Bullying Others

Restless Legs

Anxiety Attacks

Daytime Sleepiness

Open-Mouth Chewing

Traditional Treatments

Traditional treatments for children with these issues have included:

Psychotropic Drugs
Psychiatric Testing
Surgery
Tooth Extractions
Sleep Studies
Special Education
Counseling/Therapy
Tutoring
Sleep Aids
HGH Injections
Allergy Testing
Amphetamines
Behavior Modification
Alternative Education
Other Medications

Commonality?

What do all of these medications and treatments have in common? Like band-aids, they treat the symptoms but not neccessarily the real cause.

The Real Culprit?

Children's Sleep Disordered Breathing lowers a child's oxygen levels during sleep.

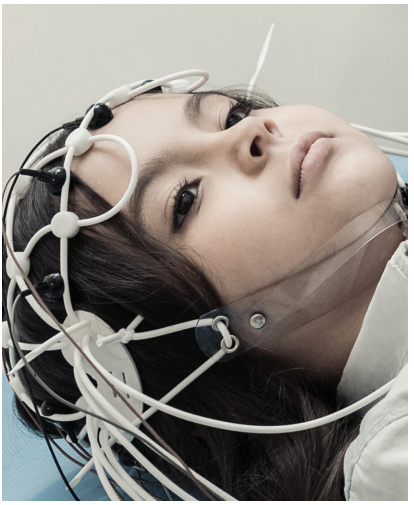
Over time, that could contribute towards behavioral problems like ADHD, Anxiety, Bullying and Bed Wetting.

The lowered oxygen level may also trigger physical problems like Delayed Speech, Crooked Teeth and Sleep Apnea.

Sometimes SDB just mimics some symptoms of more serious diseases.

SDB is a physical deformity that prevents children from getting good, restorative sleep.

We've recently discovered how SDB forms in a child and the answer might be especially shocking to moms and dads.



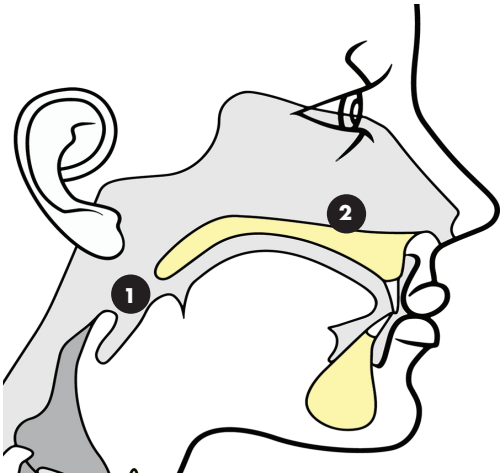
It's all about the Tongue!

The tongue learns how to twist itself into all kinds of shapes to develop speech to communicate. It can lick an ice cream cone and curl up to whistle. Some people can even tie a cherry stem into a knot using just their tongues.

But, it's what the tongue is supposed to accomplish behind the scenes in the first few years of our lives that could mean the difference between going through life happy and healthy or living a life of misery.

When we're born, our heads get squeezed down so we can fit through the birth canal. It's the tongue's job then to fit into the roof of the mouth to shape and widen our nasal and oral structures so we can breathe freely and easily.

Sometimes things don't work out that way.



Two Types of Children's Sleep Disordered Breathing

Type 1 SDB squeezes the airway in the child's throat.

Type 2 SDB squeezes the airways in the child's nose.

Type 1 Sleep Disordered Breathing

Creating a Weak Tongue

In America, parents often feed processed baby foods as the next step from bottle or breastfeeding.

Raw foods require the tongue to position food so the teeth can grind it for swallowing. The tongue gets a workout as it does this job.

Creating a Weak Lower Jaw

The lower jaw should get stronger as it chews. But mashed potatoes, strained peas and oatmeal are "pre-chewed" for the child.

The tongue simply squeezes the food and swallows. The tongue and lower jaw start to "believe" that there is nothing important for them to do.

The child starts to develop a receding (stunted) chin.

"What is a Stunted Chin?"

There is a simple test you can do at home to evaluate your child's chin.

Take a side photo of your child and print it out.

Then, taking a ruler, draw a line from your child's forehead down through the point where the upper lip meets the bottom of the nose.

Then, continue on down to the chin.

If the child's chin sticks out beyond the line or touches the line, that's a positive sign. If not, you should contact your child's dentist.

You can do the same test on yourself.

Stunted Chin

Stunted Chin **Normal Chin**

Normal Chin **Normal Chin**

"My Child Has a Stunted Chin. So What?"

A stunted chin means that the child's tongue and lower jaw failed to grow forward and down because of soft baby foods.

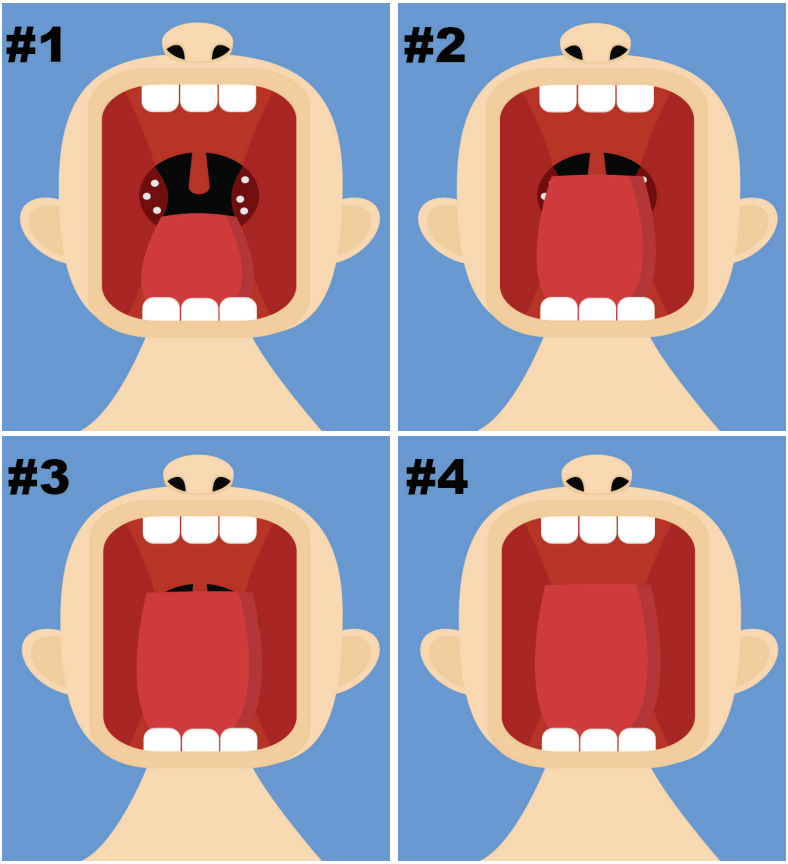
The reason that's a big deal is because the lower jaw and tongue are being pushed back into the throat and blocking the child's airway.

How badly is your child's airway being blocked? Let's find out.

Mallampati Score

Below are four diagrams that help to score a child's obstructed airway. Have your child face you straight on. Have them open their mouths real wide and put the tip of their tongue on top of their lower front teeth (just like in the diagrams below).

Choose the diagram that best matches your child. If you choose #2, #3 or #4, you should be concerned and speak with a qualified doctor.



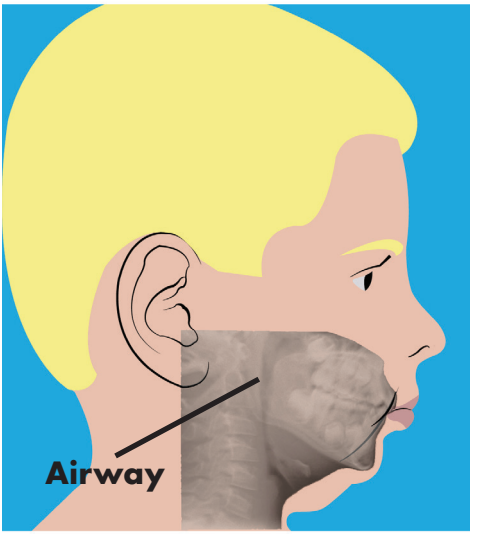
Fixing Type 1 SDB (The Stunted Chin)

Narrow Airway in the Child's Throat

The lower jaw and tongue stayed small while the rest of the head kept growing.

They are blocking the flow of oxygen.

Also, because the tongue is weak, it may fall backward into the throat during sleep and potentially cause sleep apnea.



Actual Patient X-Ray at 8-Years of Age

Before Guided Growth

Guided Growth is a "Do-Over" Program for Parents and Children

Fortunately, qualified dentists offer a program to reverse the effects of irregular facial development.

Guided Growth:

- Promotes growth of the middle head
- Promotes growth of the jaw
- Opens the airway
- Promotes proper body growth
- Reduces levels of stress hormones
- Releases more HGH during sleep
- Corrects orthodontic problems
- Creates an ideal overbite and overjet
- Creates proper bite
- Brings all 28 teeth into place

By using Guided Growth, most children can be treated and cured of a blocked airway in the throat.

Actual Patient X-Ray at 13-Years of Age

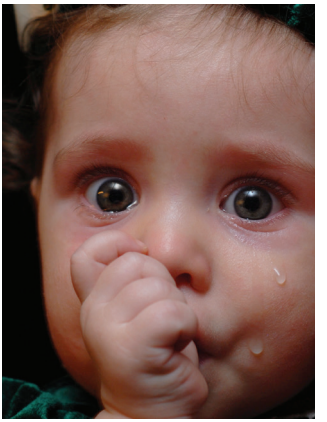
After Guided Growth

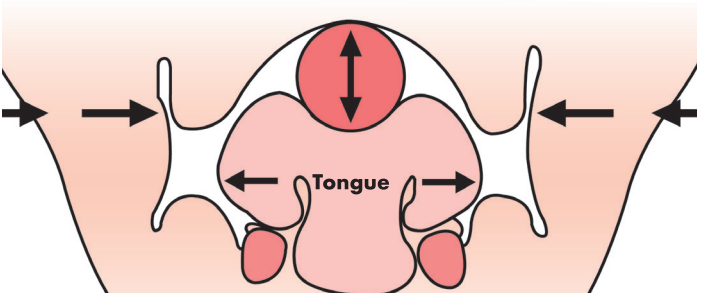
Now, Let's Look at Type 2 SDB

Pacifiers, Bottles and Thumbs, Oh My!

In America, parents often feel like breastfeeding is a hassle. And, given the hustle and bustle of everyday life here, it's easy to understand why bottle feeding is so popular.

So, we stop breastfeeding after a couple of months and put a bottle in our babies' mouths. When they are finished with the bottle, we stick a pacifier in their mouths. If there is no pacifier available, they suck on their thumbs.





The Physical Damage of Sucking on Objects

Imagine the red circle above is a thumb, pacifier or bottle nipple. The tongue pushes the object upwards into the roof of the mouth.

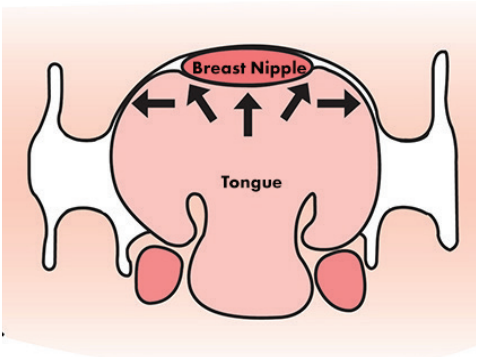
The object pushes the palate (roof of the mouth) up into the nasal airways.

Then, when the child sucks on the object, the cheeks and lips are pulled in, forcing the upper gums and teeth inward and the roof of the mouth further upward.

"Isn't Breastfeeding Sucking As Well?"

Actually, it's not. Instead, the tongue pushes the breast nipple up against the roof of the mouth causing the mother's milk to be pressed out, not sucked out.

As the baby continues to apply pressure, the tongue pushes outwards. This motion protects the nasal airways.



What Does That Mean, "Protects the Nasal Airways"?

The roof of the child's mouth (upper palate) sits right underneath the airways of the nose. If the roof of the mouth gets pushed up, it pushes into the nasal airways.

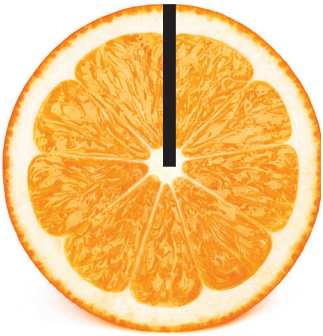
Those airways get squeezed and it becomes difficult to breathe through the nose.

"How Does the Palate Get Pushed Up Into the Nasal Airways?"

The cheeks and lips are powerful muscles and they are constantly squeezing inward on the upper gums. It's not much pressure, however, it's just enough to make big changes.

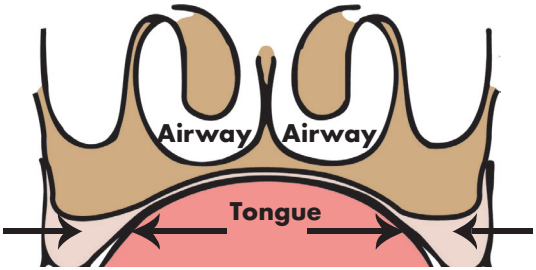
The two black lines on the oranges below are exactly the same height. As you can see, the squeezed orange is taller than the other orange. That's what happens to the child's palate.

The tongue fights that squeezing pressure.



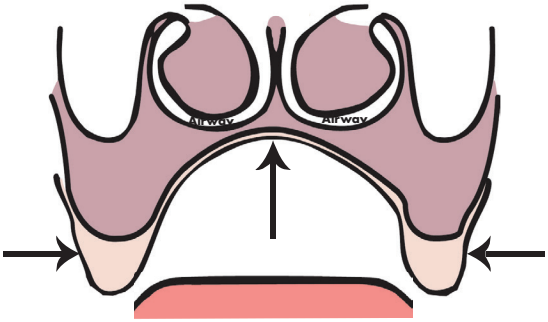
Protected Airways / Expanded Palate

When the tongue stays in the roof of the mouth, it pushes outward when the cheeks and lips squeeze inward. That keeps the upper and lower jaw aligned so the upper and lower teeth mesh beautifully.



AWOL Tongue

If the tongue is not in the roof of the mouth, it can't stop the cheeks and lips from squeezing the palate together just like the orange. So the palate gets narrower and higher, pushing up into the nasal airways.



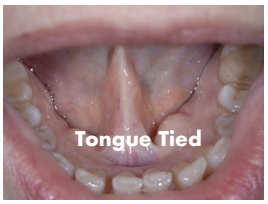
"Where is the Tongue?"

It's lying on the floor of the mouth. Remember the weakening effect of soft baby foods?

The tongue is now too weak to protect the roof of the mouth and shape the upper palate and nasal airways.

Tied-Down Tongue Deemed "Blameless"

Sometimes the frenulum (little flap of skin that holds the tongue in place) is too tight and the tongue is prevented from being in the roof of the mouth to protect the nasal airways. A qualified dentist can easily free the tongue.



The Cycle of Mouth Breathing

More often than not, a child gets trapped in a cycle of mouth breathing.

Mouth Breathing Event

Sometimes a child catches a cold or gets a sinus infection.

The child has a stuffy nose and starts mouth breathing when asleep.

The child doesn't sleep well and is tired during the day.

The child has a sore throat from breathing dry air all night.

The child is cranky.

It Gets Worse

Mom makes sure that the child has a pacifier most of the time for soothing.

She also gives the child extra bottles to stay hydrated.

At bedtime, mom puts a pacifier in the child's mouth. The child spits it out so the mouth can be kept open for breathing.

Mom puts it back in every time she checks on the child.

She is making the problem worse.

The Cycle Continues

Because the nasal airways keep shrinking, the child has to keep mouth breathing. Mouth breathing encourages respiratory illnesses.

The cycle goes around again.

The Tongue Lies Low

The tongue becomes trained to stay out of the way of the incoming oxygen.

Because the tongue is not protecting the child's palate, the roof of the mouth gets squeezed up into the nasal airways.

24/7 Mouth Breathing

Eventually, the child "forgets" how to breathe through their nose.

The mouth begins to hang open both night and day.

Fixing Type 2 SDB (The Nasal Airways)

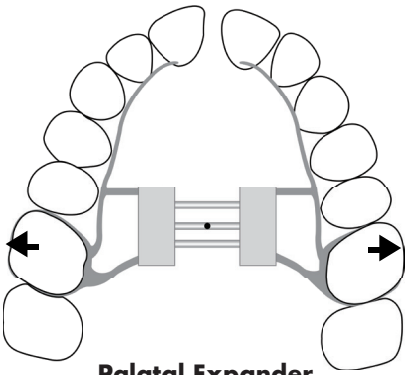
Expanding the Palate

Using orthodontic appliances, a doctor can restore the child's ability to breathe through the nose by expanding the palate.

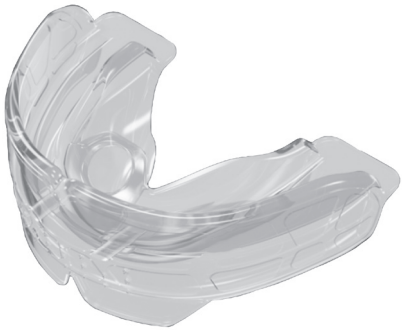
When the palate gets wider, the upper jaw and facial structure get wider which, in turn, opens up the child's nasal airways.

Rapid Palatal Expander

A metal adjustable Rapid Palatal Expander is attached to the upper molars and worn 24-hours a day.



Palatal Expander Widens the Palate



Myo-Functional System

A Myo-Functional system consists of a series of specially molded plastic mouthpieces that are worn 1-2 hours a day and while sleeping.

SDB Case #468

Five-year old Shondra was having trouble sleeping at night.

She had just started kindergarten and was having some troubles in reading at school.

Her pediatrician suspected SDB and ordered a sleep test.

Shondra had a narrow, raised palate. She was a mouth breather and sometimes choked during sleep.

Guided Growth Plus Expanded Palate

After completing Guided Growth and Palate Expansion treatment, Shondra's lower face and jaw filled out and she found it easier to breathe through her nose. She began getting the restorative and rejuvenating sleep that she needed.

Not only did her facial structure change, her behavior turned around as well.

A few years later, her adult teeth came in just where they were supposed to and her smile was beautiful.

Indicators of Sleep Disordered Breathing

You may ask, "How do I know if my child has Sleep Disordered Breathing?"

There are physical indicators or characteristics that have been shown to accompany Sleep Disordered Breathing in children. Of course, it's not a hard and fast rule that children with SDB will have these characteristics. However, when they are accompanied by one or more of the negative health and social symptoms discussed at the start of this book, you should consult with a qualified sleep medicine dentist.

Snoring/Sleep Apnea

If the child is snoring or having sleep apnea episodes, it might be from Type 1 SDB.

Crowded Teeth

Children with Type 2 SDB often have overcrowding of the upper teeth.

Receding Chin

A receding chin is a classic sign of Type 1 SDB where the lower jaw and tongue are blocking the airway in the throat.

Dark Circles

Children who are not getting restful, restorative sleep at night develop distictive dark circles under their eyes. Their eyelids may sag and they look like an adult who has been out partying all night.

24/7 Mouth Breathing

Type 2 SDB blocks the airways in the nose so children get their oxygen through the mouth.

Dry and Swollen Tonsils

Type 2 SDB makes children breathe dry air through the mouth making the tonsils swollen and irritated.

It’s Hard To Imagine Now...

...but, just two years ago, one of them was a bed wetter. Another one was in danger of not passing into the next grade because defiant refusal to do one’s homework does not make for good grades.

The oldest one had no friends because of his bullying and the youngest had anxiety attacks that made going on a family vacation a nightmare for everyone involved. They weren’t “bad” kids but they had a problem.

They ALL had Sleep Disordered Breathing and were not getting a fully rejuvenating night of sleep. However, after completing a program of Guided Growth and Palate Expansion, their lives have improved significantly.

They’re no “Li’l Angels”, but they are much happier kids and have put their SDB symptoms behind them. Here, they’re having some fun displaying the smarter, stronger tongues they developed during the Guided Growth program.

"Where Do We Go From Here?"

The good news is that whether a child is just beginning to show signs of Sleep Disordered Breathing or has done so for years, dentistry can help.

In fact, in cases where the development of a compromised airway is caught early enough, a qualified dentist can not only fix the problem, they can usually reverse the damage and restore a child's ability to breathe freely through the night.

As for you, from now on, you'll see children differently. Everywhere you go, you'll be aware of tired children standing in the background with dark circles under their eyes, stunted chins and crowded or crooked upper teeth.

Please share with other parents what you now know about Sleep Disordered Breathing.

Go ahead and give them our contact information.

You might change a child's life.

DANIEL MOHEBAN, DMD

Dr. Moheban (or Dr. Dan) received his undergraduate degree from Brandeis University in 1996. After college, Dr. Moheban spent three years conducting research at the Beth Israel Deaconess Medical Center and at the Dana Farber Cancer Institute. He then went on to attend Tufts University School of Dental Medicine where he earned his Doctorate in Dental Medicine in 2003. During that time, Dr. Moheban also worked at Colgate Oral Pharmaceuticals studying dental sealants. Dr. Moheban completed his post-doctoral training in pediatric dentistry at the University of Michigan in Ann Arbor and Mott Children's Health Center/Hurley Medical Center in Flint, MI in 2005. Most recently, in 2019, Dr. Moheban completed study in the Pediatric Dental Sleep Medicine mini-residency at Tufts University School of Dental Medicine.

Dr. Moheban has been practicing pediatric dentistry in the state of Massachusetts. Dr. Moheban has also taken numerous continuing education courses to stay current with the latest advances in dentistry. He has studied extensively in the areas of oral bacterial management and caries (cavity) prevention, laser dentistry, early orthodontic treatment, evaluation of lip and tongue ties, pediatric dental sleep medicine, and treatment of Temporomandibular Joint Disorders (TMD) in children, adolescents and young adults.

Dr. Moheban is board certified and is a diplomat of the American Board of Pediatric Dentistry. He is a member of the American Academy of Pediatric Dentistry, American Dental Association, Massachusetts Dental Society, Massachusetts Academy of Pediatric Dentistry, Academy of Laser Dentistry, Academy of Applied Myofunctional Sciences, American Academy of Dental Sleep Medicine and the American Association of Dental Research.

Dr. Dan enjoys spending time with his wife and two boys. He likes being active in the outdoors of New England hiking, biking and going to the beach in the summer. In the winter he enjoys snow shoeing and making snowmen with his kids followed by delicious cups of hot cocoa.

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