



DENTAL SLEEP PRACTICE
PATIENT
EDUCATION GUIDE

SUMMER 2017



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Allows Me
to Breathe,
Sleep & Thrive

**My Spouse
Snores,
What Does This Mean?**

PLUS

**The Hidden
Airway Problem**

**Your Nose Keeps
You Healthy**



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DENTAL SLEEP PRACTICE

Patient Education Guide
Summer 2017

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Healthy and Unhealthy Sleep Breathing, What's the Big Deal?



Have you ever seen someone snore or gasp for air while sleeping? A child or relative perhaps? Maybe you've been told you snore or gasp for air. You may be thinking, "So what, what's the big deal?" Most of us think we sleep just fine. How do we know what we do in our sleep? We don't! Snoring may keep a bed partner awake but did you know that snoring could be very bad for your health, growth, development and overall brain function? Snoring or gasping for air during sleep is a struggle to breathe. When we struggle to breathe or stop breathing our bodies will do whatever it takes to keep us alive. This includes things like moving around and waking us up (without us knowing) to breathe again. It takes a tremendous amount of effort from our body systems to regulate this. Research shows us when our sleep is interrupted multiple times a night we will not benefit from the essential health-promoting qualities of sleep. The earlier in life we experience this, the more lifetime negative health effects can grow. Dentists across the country are providing services to help us breathe better during sleep, from airway orthodontics at an early age to coaching better nasal breathing to making oral devices to keep adult airways open.



Glennine Varga, AAS,
RDA, CTA

This Dental Sleep Practice (DSP) Patient Education Guide has been created to provide you information about sleep and breathing for all ages, and how the dentist can help. As a Dental Sleep Medicine (DSM) coach, I help educate dentists, team and patients to find and help people who breathe

poorly during sleep. It has been an honor to work with the leaders in our industry and DSP magazine to provide this guide to you.

If what you read in these pages prompts you to ask your dentist or your doctor, "I want to learn more about me or my family" we've met our goal. 



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On the cover: Graysen spent the first four years of her life sleeping upright in her dad's arms. Surgery and medicine did not provide any relief, but Healthy Start gave Graysen the solution to a better healthier life.

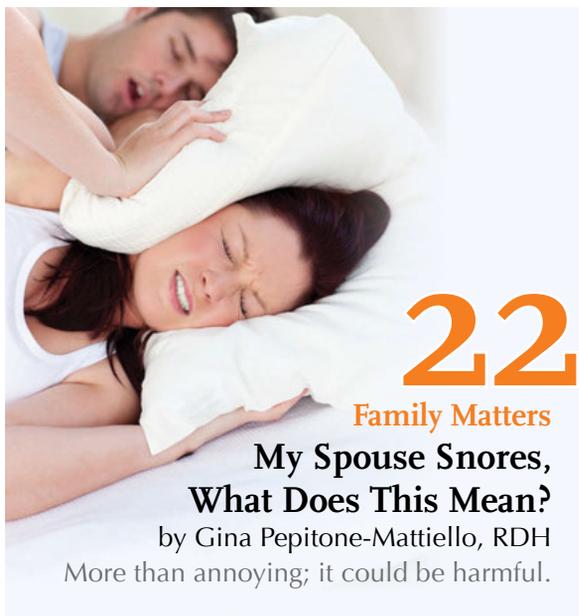


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Are You Addicted to AIR? I Am!

by Michael A. Smith, DMD

We have much to worry about in our daily lives: kids, jobs, what's for dinner, and all the other stresses that we encounter daily. We don't need to be thinking about our ability to breathe! The evolution of the airway starts before we are born and develops in every stage in our life, but sometimes growth gets compromised. When the airway growth is affected early in our development, permanent, life-changing anomalies can seriously impact our entire health. These changes can include increased chances of cardiovascular disease, kidney disease, diabetes, depression and motor vehicle accidents because poor growth may result in Obstructive Sleep Apnea (OSA). Early diagnosis and intervening to promote proper development is crucial to having a healthier life.



An open-mouth posture leads to constriction of the upper and lower jaws, impacting the bite, tongue position and air flow.

Dentistry has taken a front line role in the recognition and early treatment of airway related problems. Dentistry has a unique advantage in the medical fields since we see the effects of airway restriction in the oral environment early and we see patients more often than some other professions. Some children develop a habit of mouth breathing, which impacts the development of the bite and jaw position. An open-mouth posture leads to constriction of the upper and lower jaws, impacting the bite, tongue position and air flow. This increases the chances of developing more serious breathing problems like Obstructive Sleep Apnea (OSA). The influence of the mal-aligned bite and retruded jaw position also has a large impact on the Jaw Joint (TMJ) and related facial pain conditions. Dentists see these problems frequently when patients come in for dental treatment. The prevalence of the correlation between

OSA and TMJ related pain problems has been shown as high as 75% from research articles investigating the connection.

Dentists have the primary role of diagnosing and treating problems associated with the jaw joint and related structures. Your dentist also needs to be actively looking and screening for OSA. This screening process is for people of all ages, not just adults. The earlier the recognition of a restrictive airway is diagnosed, the better chance that the patient can be treated to open that airway and improve the ability to breathe, reducing the risk of many lifelong problems. Early diagnosis and intervention may involve treatment from the Dentist, Orthodontist, ENT, Allergist, Myofunctional Therapists, Chiropractors and Pulmonary/Respiratory specialists. The re-development of the airway, depending on the severity of the problem, may take time and multiple specialties.

The Dentist and the Orthodontist have the responsibility to maintain optimum oral health during this process, including maintaining a proper jaw joint position in the development of the airway. Diagnosis can be done in many ways: Manual testing, listening devices like a stethoscope or Doppler, Joint Vibration Analysis (JVA), 3 dimensional X-rays (CBCT), and MRI's. My personal favorite is the Joint Vibrational Analysis due to its accuracy and ability to detail the soft and hard tissue of the joint complex. This test can be run on a patient of any age and is painless! It measures the jaw joint in active motion when the patient opens and closes or goes from side to side. This test process is easy to perform and helps the Dentist make sure the jaw joint is in the best position for trouble-free function. This is very important, since the correlation between OSA and TMJ related problems is so high.



Dr. Michael A. Smith graduated from the University of Louisville School of Dentistry and pursued extensive post graduate education in dental rehabilitation in the field of occlusion, full mouth rehabilitation, TMJ disorders, sleep apnea and conscious sedation. His private practice in Phoenix, Arizona is dedicated to aesthetic, contemporary restorative and cosmetic rehabilitation. Dr. Smith instructs other dentists nationally and internationally as a lecturer and mentor for companies involved in advanced dental treatment and diagnosis in TMD, full mouth reconstruction, and implants. He is actively involved in numerous organizations and associations dedicated to the pursuit of providing patients with extraordinary care. He is currently the faculty director for Clinical Mastery and is co-founder of the Arizona Community Dental Clinic in downtown Phoenix.

The early recognition and treatment of kids with airway problems is critical for proper growth to establish the ability to breathe and can dramatically influence your child's development.

Now let's talk about the adult patient that has a problem with breathing. The adult patient has lost some of the advantages of redeveloping the airway with growth since they are already past that stage in life. Some enlargement of the oral airway can be done with certain procedures of expansion in orthodontics and even by surgical correction. Most adults open the airway with custom oral appliances that move the jaw into a down and open position to allow greater room for the tongue or by using a continuous positive pressure breathing machine called a CPAP to force air into the body during sleep. Some patients even need a special oral device that works together with the CPAP to open the airway and maintain proper breathing.

If we think about using a custom oral appliance to open your airway, how can the Dentist know how far to move your jaw? It makes sense that the minimal treatment to get the best result is the safest choice.

The airway can be measured with a series of repeat sleep tests to determine what is the best jaw position for treating the airway. Newer advances in X-ray technology like cone-beam computed tomography (CBCT) allow the doctor to 3 dimensionally measure the patient's airway, with and without appliances, using very little radiation. This gives us an idea of what can be done to enhance the opening of the airway. Another way to measure is a technology called Acoustic Pharyngometry. This uses acoustic sound waves to measure the volume or restriction of the airway without any radiation. This is helpful in determining what changes in jaw position have on the volume of the airway in regular breathing and stressed breathing. Both of these diagnostic tests can help the Dentist choose the best place to start with positioning to support the airway, although neither can measure the airway during sleep, when OSA occurs.

The Dentist must keep in mind what is happening to the jaw joint with the changes in position so not to induce a problem with the TMJ or surrounding muscles. I like to say that the Dentist needs "to be aware of his/her surroundings". Proper joint posi-

Newer advances in X-ray technology like cone-beam computed tomography (CBCT) allows the doctor to 3 dimensionally measure the patient's airway, with and without appliances, using very little radiation.



tioning and relaxed muscles are important in the process of holding the jaw and airway open with minimal side effects. Verification of the jaw joint position with Joint Vibration Analysis (JVA) and muscle testing with EMGs (electromyogram, which measures the electrical activity of muscles when they're at rest and when they're being used) are important in the establishment of the correct therapeutic positioning to allow the body to work in harmony and not fight against itself due to influences of pathologic positioning. What we are trying to accomplish with jaw joint positioning is a positive reaction of opening the airway to allow more non-restricted airflow, supporting the ability to breathe normally.

The important part is early diagnosis to recognize signs and symptoms of airway issues such as obstructive sleep apnea (OSA) and TMJ related conditions. When a positive diagnosis is confirmed, active treatment needs to be initiated with kids and adults to create a healthier environment that can be maintained over time. Don't stress over your breathing – make it right. There's plenty else to think about! 

Sleep Disordered Breathing

is a SILENT EPIDEMIC

Every child should be checked and every parent needs to understand what to look for to evaluate their child for improper breathing and lack of reparative sleep. Research has indicated that 9 out of 10 children present at least one outward symptom of Sleep Disordered Breathing.

Pictured: Graysen spent the first four years of her life sleeping upright in her dad's arms. Surgery and medicine did not provide any relief, but Healthy Start gave Graysen the solution to a better healthier life.



Fortunately, spotting signs like these give parents and professionals clues about more serious underlying conditions, often while they are still reversible. A dental professional can evaluate for these root causes and offer solutions. The Healthy Start System addresses the following conditions.

Compromised Airway

The airway is improved by correcting the position of the upper and lower jaw relative to each other and to the bones of the face. This promotes growth and development of the jawbones, better tongue position, and proper nasal breathing.

Narrow Arches and Dental Crowding

The jaws are naturally widened to the ideal width when the tongue is held in the proper place. As the tongue rests against the palate, it naturally expands the upper and lower jawbones. This action, combined with the successive Healthy Start's Orthodontic Eruptive Guidance Treatment, will straighten the teeth naturally, using the gentle, eruptive forces

Early Treatment is Critical



- | | |
|----------------------------|--|
| ADD / ADHD | BEDWETTING |
| LOWER IQ | NIGHTMARES |
| CHRONIC ALLERGIES | DARK CIRCLES UNDER THE EYES |
| AGGRESSIVE BEHAVIOR | SNORING |
| MOUTH BREATHING | IRRITABILITY |
| SWOLLEN ADENOIDS & TONSILS | FREQUENT HEADACHES |
| DAYTIME DROWSINESS | ARRESTED GROWTH |
| CROOKED TEETH | LOW GRADES IN MATH, SCIENCE & SPELLING |
| RESTLESS SLEEP | |

If children are left untreated, little can be done to correct these symptoms as adults.



Healthy Start Kids Habit-Corrector

Healthy Start Toddler Habit-Corrector

of incoming teeth to further grow the dental arches, the way nature always intended.

Mouth Breathing

Mouth Breathing is eliminated. Nasal breathing 24/7, increases oxygen saturation levels throughout the body and balances oxygen and CO₂ to promote deep sleep and



Healthy Start™ Live Patient Day at one of our Healthy Start Lecture Series.

REM sleep. REM sleep is critical for brain development and deep sleep is the reparative sleep that allows growth and repair. If your child is not receiving enough oxygen, they will not enter REM sleep and cannot grow or develop properly.

Improper Bite and Jaw Relationship

Children who breathe poorly often have misalignment of the jaws and bite. Parents notice crooked teeth, and dentists measure abnormal overbite, overjet, open-bite, cross-bite, under-bite, and other details. A “gummy smile” indicates improper growth and development of the upper jaw, for example. Research has determined that the Healthy Start treatment will assist the body to grow naturally and gain an average of 54% additional jaw growth, in the direction where it's most needed, to allow the best bite and jaw relationship to develop. This promotes an open airway, pleasing facial profile, and an easy path to a beautiful smile.

Healthy Start's Dental Appliance System has treated 3.5 million children around the world by supporting dentists globally to identify, evaluate, treat and correct these underlying dental and medical conditions. Healthy Start is FDA approved, BPA free, Phthalate free, and does not contain latex.

Straightening the teeth is an added benefit of this treatment. Early treatment supports healthy breathing, better sleep quality, stabilization of the erupting teeth and a health-affirming long-term outcome.

It's easier to have a beautiful, radiant smile when you feel rested and ready to go. Help your kids have a Healthy Start!

For more information, visit www.thehealthystart.com or healthystartchild.com, or call 844-KID-HEALTHY to find a Healthy Start Provider near you. 

What Parents Need to Know...

To Ensure Healthy Growth and Development of their Child

A guide for every parent to evaluate and understand the potential issues that affect our child's ability to breathe and sleep well.

What is Sleep Disordered Breathing?

Identifying Sleep Disordered Breathing and its Outward Symptoms:

- Sleep Questionnaire
- Observe Outward Symptoms
- Video child sleeping to evaluate their sleep

Reach out to a qualified Healthy Start provider for evaluation of root causes of outward symptoms. www.thehealthystart.com



Corrected thumb sucking, tongue thrust, mouth breathing habits and straightened teeth using the Healthy Start System™.



Treatment Protocol

- Sleep Questionnaire
- Sleep study (clinical or home sleep study test)
- Evaluation of tonsils and adenoids
- Evaluation of Growth and Development
- Airway analysis
- Poor Oral Habits
- Narrow arches in the mouth
- Mouth breathing
- Expectations with treatment
- Permanent results with early treatment
- Straight teeth
- Proper oral habits
- Expanded dental arches to provide proper swallowing and correct crowding
- Correct improper jaw relation
- Promote proper growth and development
- Dental and Medical Insurance coverage

Does Medical Insurance Cover Oral Appliances for Sleep Apnea & Snoring?

by Rose Nierman, RDH, CEO of Nierman Practice Management

Oral Appliance therapy can make your life better by getting rid of snoring. The therapy can also be a life saver by reducing many of the health-related effects of Obstructive Sleep Apnea (OSA). Health improvements from oral appliance therapy may include snoring reduction, decreasing daytime fatigue and minimizing adverse consequences such as high blood pressure, heart disease, diabetes and “brain fog” or cognitive issues. It’s incredible that a small oral appliance can have such an impact on one’s health! Oral appliances are custom-designed by licensed dentists with training in sleep apnea therapy. With such a large impact on one’s health, the question arises as to whether insurance covers oral appliances.

The answer to that is yes, almost all medical plans do offer coverage for custom-made oral appliances, even though a dentist provides them in a dental practice setting. Medical policies often provide coverage because OSA is a medical condition that can lead to deadly consequences if left untreated. My role as a dental speaker and advisor to dentists allows me the opportunity to work with high-quality dental practices that are on

a mission: To help patients live better lives through healthy sleep with oral appliance therapy (OAT). In addition to providing oral appliance therapy, many dental practices bill medical insurance for their patients.

The good news is that many dental practices that provide oral appliances have become quite adept at filing medical insurance claims so their patients can more easily receive the care that they need. For the dental practice to communicate with your health insurance carrier, it’s important that you provide their office with the information they will need for prior authorizations and claim submissions, starting with your medical insurance card.

How can I determine if my medical insurance covers my oral appliance?

Although most health insurance policies include custom-made oral appliances, coverage depends on the language in your policy. Insurance benefits can typically be determined by contacting the eligibility & benefits department using the contact numbers that are on your medical insurance card. It’s important to have a sleep study

prior to the benefit check because the severity of OSA must be known before the benefits can be determined. Most health insurance plans categorize oral appliances for OSA as medical equipment or devices, so reimbursement is typically under the coverage for Durable Medical Equipment (DME). DME is the same benefit category for medical equipment such as wheelchairs and walkers. The information gleaned from the benefits verification process includes the dollar amount of your deductible and how much of your yearly deductible is satisfied to date. Co-payment amounts or co-insurance percentages are typically spelled out and, most important of all, it's essential to find out whether a treatment preauthorization is required for coverage before you begin treatment. Currently, there is only one medical diagnosis code available for OSA, so if you do have this condition, the diagnosis code on the sleep study is likely to be the diagnosis code G47.33, which stands for Obstructive Sleep Apnea (adult) (pediatric). For appliance therapy preapproval, the insurance will also want to know the procedure/equipment billing code for the custom sleep appliance which is:

E0486 – ORAL DEVICE/APPLIANCE USED TO REDUCE UPPER AIRWAY COLLAPSIBILITY, ADJUSTABLE OR NON-ADJUSTABLE, CUSTOM FABRICATED, INCLUDES FITTING AND ADJUSTMENT

It's very likely that the oral appliance will require preauthorization, so be sure to have the dental sleep practice office inquire about preauthorization rules. If a preauthorization is required, it's important to wait for the insurance company's approval before receiving your custom-made oral appliance.

In addition to the insurance information and sleep study, the dental practice will be asked to provide their office notes from the specific airway screening exam at the dental office. Routine questionnaires that may indicate excessive daytime sleepiness are important to complete since the presence of significant daytime sleepiness can increase the chance of coverage in many health plans. Also, medical history details, noted during your consultation, such as high blood pressure or intolerance to Continuous Positive Airway Pressure (CPAP) therapy, may also be required for approval of oral appliance therapy.

What type of oral appliances are covered by my medical insurance?

There are over 100 FDA-approved oral appliances available to dentists for custom preparation. Medicare and some commercial insurers specify that an oral appliance must be on Medicare's approved product list for coverage. A dentist, who provides oral appliance therapy, is qualified to recommend the custom oral sleep appliance type that is right for you.

How do I know if my insurance policy covers oral appliances?

Medical plans can typically be checked in advance for coverage, once you have a sleep test verifying obstructive sleep apnea. The insurance representative will want to know if you have mild, moderate or severe OSA. They will need additional information from your dental sleep medicine dentist as previously noted.

Will my medical insurance tell me how much they cover for a mouthpiece or appliance?

The insurance representative may not be able to determine the exact dollar amount of reimbursement in advance, but they will be able to tell you if you have the benefit available as a covered expense to help you out with necessary treatment.

What about deductibles. Are they as high as for other procedures?

Your deductible for this equipment can differ from your usual yearly deductible since most carriers categorize oral appliances for OSA as Durable Medical Equipment (DME). Equipment such as oral appliances can, at

It's important to have a sleep study prior to the benefit verification call because the severity of OSA must be known before the benefits can be determined.



Rose Nierman, RDH, is a pioneer in helping dentists implement medical billing, and currently presents workshops to dentists and dental personnel about medical billing for oral appliances for obstructive sleep apnea. Ms. Nierman also runs the resource Snoringisntsexy.com, to spread awareness about obstructive sleep apnea and connect people with dentists who provide oral appliance therapy. To find a dentist who provides oral appliance therapy for obstructive sleep apnea with expertise in medical insurance billing protocols, visit www.Snoringisntsexy.com.

Keep in mind, “that a snore could be something more” so it’s important to have a sleep test to determine if snoring is a symptom of OSA.

times, carry a different deductible from your deductible for other medical procedures. Other times, it will be the same as for your other medical procedures.

Does insurance cover snoring mouthpieces?

It is important to know that while most medical insurers do offer coverage for oral appliances or mouthpieces, when there is a diagnosis of OSA (verified by a sleep study), snoring alone, with an absence of OSA, is typically not a covered benefit. Custom mouthpieces for OSA may be considered as “necessary” when you have a diagnosis of mild to moderate OSA. Oral appliances may also be reimbursed for severe OSA if the patient cannot tolerate CPAP masks or the CPAP equipment, when the patient simply refuses CPAP or CPAP is deemed contraindicated by your physician.

Why is a sleep test required for coverage?

Keep in mind, “that a snore could be something more” so it’s important to have a sleep test to determine if snoring is a symptom of OSA. Even though the snoring sounds may stop with the placement of an oral appliance, you could still be having sleep apnea episodes (meaning stopping breathing during sleep) throughout the night. That’s why it’s important to have a follow-up sleep study following delivery of an oral appliance to make sure it’s doing its job.

Does Medicare offer coverage for sleep apnea oral appliances?

Medicare does provide some coverage for custom oral appliances for OSA. For a patient to receive reimbursement from Medi-

care for an oral appliance for sleep apnea, the treating dentist’s facility must enroll as a Medicare DME Supplier. Medicare covers specific oral appliances that are listed as approved for reimbursement. Your dental sleep medicine dentist will have access to the list of approved oral appliances and is qualified to determine the best type of appliance for your situation.

When your plan has coverage for oral appliances

Your sleep dentist team will assist with reimbursement by sending the clinical notes and documentation from your visits to your insurance company. Keep in mind, that when it comes to insurance, as the member or “owner” of the insurance plan, you (the insured), have the most clout to get things done. Ask your insurer what you can do to receive access to what can be potentially life-changing or life-saving treatment and what is wanted and needed to get the ball rolling.

Another important thing to remember is that if you receive a letter or a questionnaire from your insurance company, respond quickly with any information requested from you. There will be a time frame on the form or letter, so make sure that you answer within that time. Failure to do so may result in the claim being closed out. We all want to receive the maximum benefit allowed as part of our health plan contract. Insurance companies have their timetables in place, so make sure you follow them!

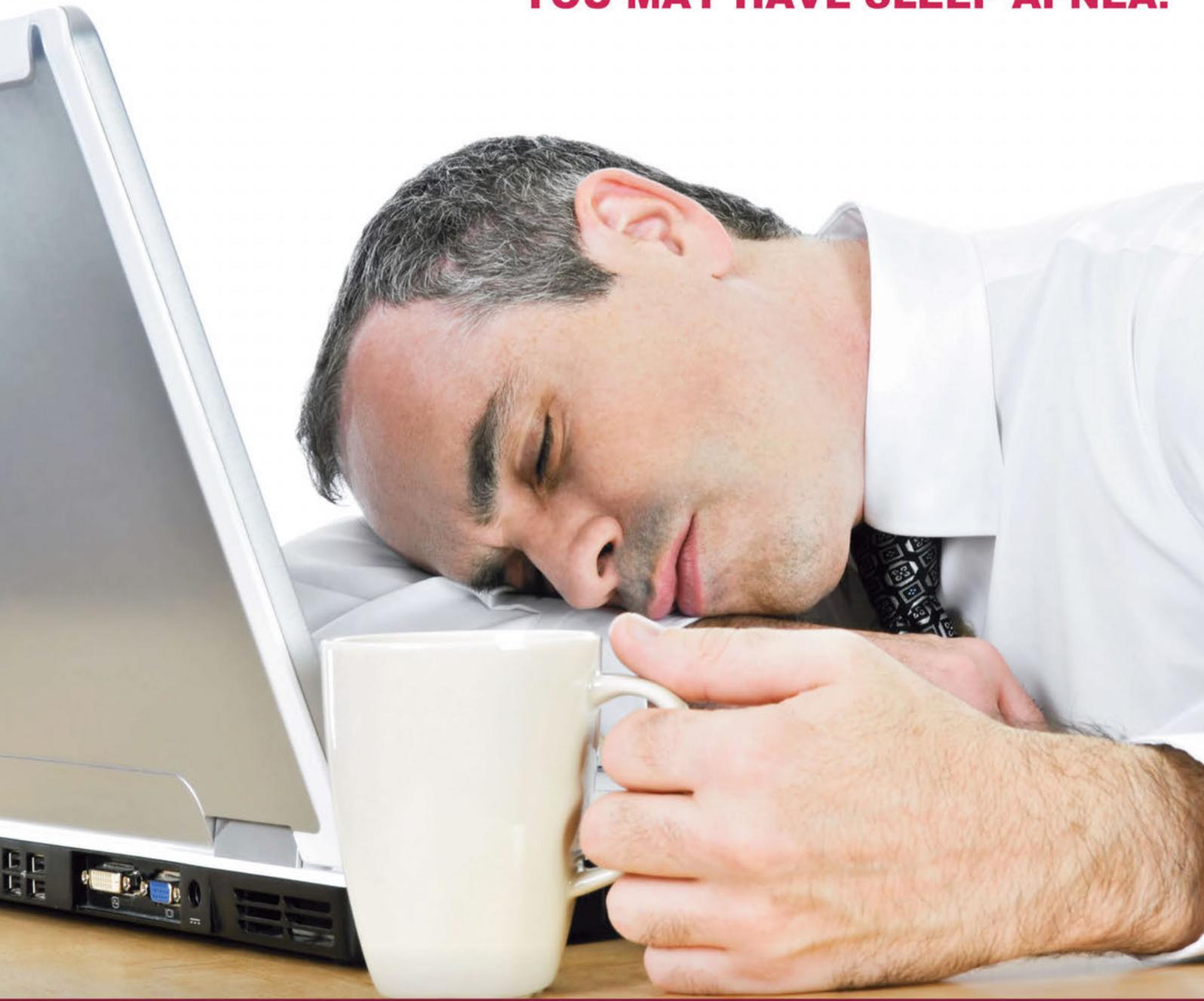
With such a large impact on one’s health, it’s important to seek care for snoring and sleep apnea; whether your insurance has the benefit available to you – or not. Hopefully, by following the advice mentioned above, you will stay on the right track in getting treated – headed straight for improved health! 



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feeling Tired?

YOU MAY HAVE SLEEP APNEA!



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SLEEP

with Buteyko

by Patrick McKeown

In *Morbis Popularibus*, Hippocrates observed that nasal polyps were associated with restless sleep.¹ The relationship between nasal obstruction, mouth breathing, snoring and sleep apnea is well documented.²⁻⁶

The Buteyko Method was developed in the 1950s by Russian doctor Konstantin Buteyko, and emphasizes the importance of breathing light and through the nose both day and night.

Breathe Light

If you listen to the breathing of someone who snores or has sleep apnea, you will find it to be noticeable, relatively fast, and noisy. People who experience snoring and sleep apnea breathe in more air than normal, and commonly take 15 to 20 breaths per minute, with each breath taking in more than the normal 500ml of air. Clinical studies report ventilation per minute in individuals with sleep apnea to vary from 9 to 15 litres, almost two times the normal amount.^{7,8}

In considering the speed and volume of breathing in causing collapse of the throat, imagine a collapsible paper straw. If you were to place one end of the straw in your mouth and inhale air forcefully through it, the pressure would cause the inner walls of the straw to collapse in on themselves. In engineering terms this is called the Bernoulli Principle: as fluid (or in this case, air) flows, negative pressure develops at the periphery of the flow. As the flow velocity increases, so too does the negative pressure.⁹ In other words, the faster

one inhales and the larger the breathing volume, the higher the negative pressure and the greater the force of collapse.

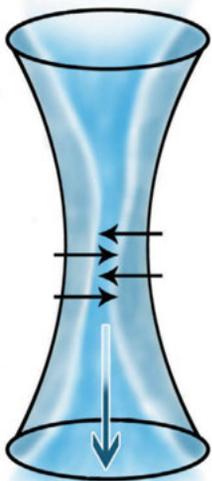
In essence, this is what happens during obstructive sleep apnea. The individual breathes out, and just as they are about to breathe in, the negative pressure created by trying to take air into the lungs causes the walls of the upper airways to collapse. As the blockage continues, the breathing centre in the brain sends increasingly urgent messages to the diaphragm to resume breathing. As the diaphragm contracts to draw air into the lungs, increased negative pressure enforces the collapse. Persons who persistently breathe through an open mouth and display faster and audible breathing during rest are more likely to breathe hard during sleep. How one breathes during the day influences breathing during sleep, and practicing breathing exercises to help restore normal breathing patterns can be a useful step in reducing the negative pressure created in the airways during sleep.

Breathe Through the Nose

Persons with a history of nasal congestion due to allergy are almost twice as likely to have moderate to severe sleep disorders than those without nasal congestion.¹⁰

The upper airway collapses when the negative pressure created by breathing exceeds the ability of the muscles of the throat to

Collapsible Paper Straw



Negative pressure as air is drawn into the lungs

keep the airway open. Whether one breathes through the nose or mouth during sleep has implications on the messages sent to the muscles of the upper airway. Researchers have found that the muscle activity required to keep the airway open is higher during nasal breathing than oral breathing.¹¹

As air is drawn in through the nose, messages are sent to the upper airway muscles to open to let the air pass into the lungs. Conversely, there is a marked reduction in the activity of those muscles during mouth breathing. This inevitably will contribute to collapse of the upper airway, causing cessation of breathing.¹²

It is interesting to note that as we get older, there is an increased likelihood of breathing through the mouth during sleep. Research highlights that persons over 40 years of age are six times more likely than younger people to spend more than 50% of their sleep time breathing through the mouth and nose combined. This is not good news as over-40s are already at an increased risk of sleep disorders including snoring and sleep apnea. Ideally, breathing should exclusively be through the nose during sleep.¹³

In comparison with breathing through the nose, mouth breathing during sleep reduces the diameter of the upper airway to create a greater resistance to airflow.¹⁴ One study shows that mouth breathing during sleep makes it up to 2.5 times more difficult to breathe (upper airway resistance) as compared with nasal breathing in normal people.¹⁴

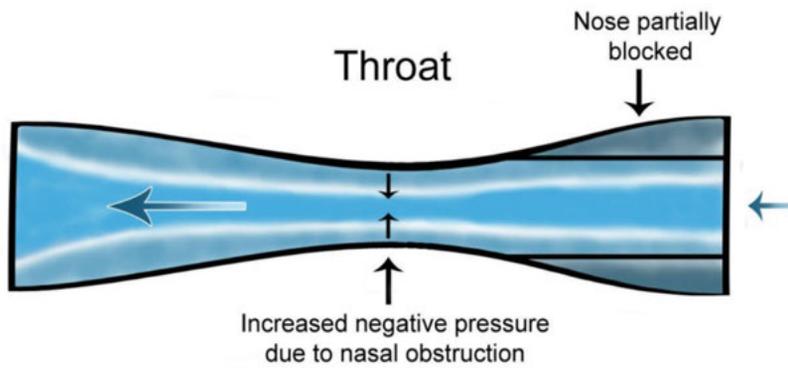
Anyone who has ever had a little too much to drink will know how it feels to wake the following morning with your throat dry and raw. The same thing happens when you breathe through your mouth at night, as the excess air inflames and narrows the airway.

The amount of saliva in the mouth and throat plays an important role in keeping the upper airway open.¹⁵ Mouth breathing and possibly fast breathing through the nose will cause saliva to become thicker and stickier. The increased stickiness of the upper airway contributes to collapse and makes it more difficult for the airway to reopen when breathing resumes.¹⁶ It is important that the areas of the throat and mouth remain moist during sleep for the muscles to function properly.

This combination of faster breathing, stickier and narrower airways is a recipe for obstructive sleep apnea.



For the past fifteen years, **Patrick McKeown** has delivered training in Breathing Re-Education to healthcare professionals and the general public with sleep disordered breathing and breathing pattern disorders. A speaker on TED talks, Patrick is the author of eight books and four DVD courses. His latest book is titled "The Oxygen Advantage" and explores improving sports performance in athletes.



Several research studies have showed how nasal breathing offers a distinct advantage during sleep, resulting in fewer incidences of obstructive sleep apnea than when a patient breathes through the mouth at night.¹⁷ For example, in one study, the apnea hypopnoea index while breathing through the mouth was measured at 43 per hour, while the nasal breathing AHI was just 1.5.¹⁴

Lastly, if the nose is congested, the opening to the upper airway is impeded and a greater suction force is generated in the throat and mouth, causing collapse of the airway walls in some people. The Starling resistor model (above image) of upper airway collapsibility demonstrates that if there is an obstruction at the opening to a tube, negative pressures can be generated downstream.¹¹

The importance of good breathing habits is well documented in medical literature; how-

ever few healthcare professionals explain the importance of functional breathing to patients suffering from sleep and respiratory problems. Addressing poor breathing habits is an important adjunct to losing weight, mandibular advancement, and CPAP therapy. It may be the case that many practitioners are unable to commit to the time involved in teaching breathing exercises to patients. However, when one adds up the personal, social and economic benefits, it is time well spent. 

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Addressing poor breathing habits is an important adjunct to losing weight, mandibular advancement, and CPAP therapy.



TIRED FROM DISTURBED,
UNRESTORATIVE SLEEP?

DRY MOUTH



SNORING



Happy



Solved



Happy



Solved

Healthy, Nasal Breathing Leads to Quiet, Restorative Sleep

Join our movement to restore the nose in our emoji. Make our emoji smile.

Nasal breathing is the primary, healthy and critical route for deep, restorative sleep. According to researchers at Johns Hopkins Medical Center, nasal obstruction from any cause predisposes or worsens sleep disordered breathing.¹ The researchers show that if nasal breathing is obstructed and breathing is re-routed to the mouth, then sleep is disordered because the airway is compromised. By maintaining healthy nasal breathing these issues are eliminated or minimized.

Sometimes, help is necessary to maintain nasal breathing during sleep. When a stuffy, blocked or collapsed nose interferes with sleep, new Max-Air Nose Cones can help.

Clinically proven to be 200% more effective than nasal strips², Max-Air Nose Cones are squeezie-soft, adhesive and latex free, made in the USA with safe, medical materials for unsurpassed nighttime airway relief. Can be used with CPAP and Oral Appliance Therapy.

Now available in adult and pediatric sizes. Ask your dentist or shop online at <http://store.maxairnosecones.com>. [NOT AVAILABLE IN STORES NOR AMAZON].

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Your Nose Keeps You Healthy

by Louise MacDonald

You might think that the most iconic emoji ever (Fig. 1) has a ‘genuine smile,’ but you’d be wrong. The emoji has no nose! Without a nose, this feel-good emoji would have seriously bad health, and that’s nothing to smile about.



Figure 1: The most iconic emoji, perhaps the one that started it all, is faking it.

In order to smile you have to feel good. And in order to feel good you have to sleep well. And in order to sleep well, you have to breathe well. And in order to breathe well, you have to breathe healthy. And in order to breathe healthy, you have to nasal-breathe.

Consider this; the nose is the first point of entry to the human respiratory system. That means that the nose is the most important feature of the face. This small, often overlooked and under-appreciated part of the human anatomy is responsible for respiratory, sleep and oral health. This may seem like a lot of responsibility for a nose, but the good news is that it is perfectly designed for its task.

As is the primary and healthy breathing route, the nose must safe-guard the air inhaled into the human body; air that will deliver oxygen to the brain, heart, and muscles through a delicate oxygen – carbon dioxide exchange process performed by the lungs. Care and guarding of this delicate, life- and health-sustaining process is the nose’s pride and joy.

Because of the nose’s responsibilities, it is a workaholic. Every three to five seconds or about 28,000 times every day, the nose, via what is referred to as the nasal airway, inhales air and then conditions it to a perfect environment for the lungs. This conditioning is performed by the sensitive mucosal lining of the nasal airway.

The mucosal lining of the nose is naturally moist and warm. As air passes through the nasal airway and around the turbinates, it is conditioned to the optimum temperature and moisture for the health of the lungs.

The nasal mucosa is also responsible for encapsulating particulate matter in the air and removing it with mucus and then flushing it down the throat and into the stomach so that the lungs are not contaminated. This flushing process requires quite a bit of thin, watery mucus; in fact the nasal mucosa secretes one quart of this cleansing mucus every day. If your nose is functioning normally, you will not even be aware of this. If there are pollutants or allergens in the air, the nose will make every effort to clear these from the air by causing a runny nose, making it imperative to blow your nose to help your respiratory system clear the pollutants.

Learning note: nasal decongestant medications mask the nasal mucosa’s healthy and natural response to contaminants by shrinking and drying the mucus. This may reduce the symptoms but can allow the contaminants to invade the airway and lungs. Instead of medication, rinsing the nasal airway with a saline rinse can aid the cleansing efforts of the nasal mucosa.

In addition to cleaning, warming and humidifying the air entering the body, the sinuses secrete a substantial dose of nitric oxide into the air passing through the nasal airway. Not to be confused with nitrous oxide the laughing gas, nitric oxide (molecular symbol is NO) is a powerful anti-microbial and anti-inflammatory vasodilator molecule. It’s easy to remember what nitric oxide does for you, just think NO viruses and NO inflammation.

Okay, so the nose, our air intake management system, cleans, warms, and humidifies inhaled air. NO is secreted into the air as it passes through the nasal airway, which kills viruses, reduces inflammation and increases oxygen absorption in the lungs. In fact, the presence of NO in the air enables the lungs to absorb 18% more oxygen. That translates into more than twice

as much oxygen being absorbed every five breaths than would be if those breaths were inhaled through the mouth.

This segues nicely into our explanation of why our smiling emojis must be faking it.

If you are like the emoji and are breathing through your mouth, then some very unhealthy conditions will be promoted, including oral and respiratory disease and sleep breathing disturbances.

1. First and foremost, since the mouth is specifically designed for eating and speaking, it is not at all suitable for breathing. The mouth or oral cavity is coated with protective saliva which dries out if the mouth is open. As a consequence, with prolonged breathing through the mouth (as may occur every night during sleep) the protective saliva dries and bacterial colonies can form. This causes bad breath and may lead to the development of gingivitis.
2. Secondly, and what may be even worse than the risk of gum disease created by oral breathing, is the risk to the lungs of air inhaled through the mouth. Since the mouth has no capacity to condition air like the nose does, the air that enters the lungs is pretty much just as it entered the mouth. This means allergens, pollutants, viruses or any particulate matter, as well as dry or cold air, are routed directly to the lungs. This is really unhealthy treatment of the lungs, and bronchitis or asthma may result.
3. Thirdly, if breathing is routed through the mouth, the tongue has to get out of the way in order for the air to pass through the oral cavity and into the lungs. When the tongue repositions itself, it moves back and down into the airway. This is unhealthy for two reasons; first, during sleep this lowered position causes the tongue to fall back and obstruct the airway causing sleep breathing disorders. Secondly, as the mouth and tongue dry out from the air passing across them, the tongue and other parts of the airway begin to vibrate and make noise, generally referred to as snoring.

This shouldn't come as a surprise since the mouth is designed for speech; there are lots of moving parts that are supposed to vibrate and make noise. Unfortunately, during

sleep when the mouth is used for breathing, all that vibration is uncontrolled and snoring is the noise that results.

Learning note: Nasal breathing naturally promotes a closed mouth and sealed lips. With a closed mouth, the natural saliva of the mouth protects the teeth and gums, and the tongue is instinctively positioned at the front of the mouth behind the teeth and up against the palate or roof of the mouth. This keeps the tongue forward out of the airway to reduce obstruction for better sleep, and eliminates the noise generated by dry, vibrating oral anatomy.

So, it is now easy to understand why a noseless emoji would be an unhappy emoji.

Most likely they would have a dry mouth and be sleep deprived from oral breathing during sleep. This would create a tired emoji (Fig. 2); and a tired emoji is going to be a grouchy emoji (Fig. 3).

But with an awesome high-functioning nose added to each and every emoji, well... happy solved (Fig. 4).

But, what if you have a nose but it isn't fully functional due to a deviated septum, sidewall collapse, or even chronic sinus or nasal allergy congestion? It's important to take action and solve the problem.

There are simple non-drug, non-surgical solutions to relieve nasal obstruction or congestion such as the nasal strips, or a new and more effective solution, the Max-Air Nose Cones®. If the obstruction is severe, surgery may be the best choice to correct anatomical abnormalities. If you are feeling like the fake-smiling, tired or grouchy emoji with inadequate nasal breathing capacity, ask your local Ear, Nose and Throat, Sleep Medicine Dentist, or Sleep Medicine specialist for a consult.

Keep your nose happy, healthy and breathing, and smiles healthy and real. 

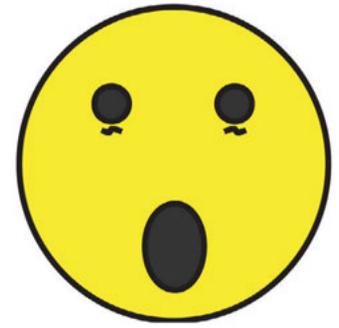


Figure 2: Tired emoji



Figure 3: Grouchy emoji



Figure 4: Happy emoji



Louise MacDonald, aka the "Nose Ninja" is an advocate for healthy airways, which begin and end with the nose. For over 10 years, Louise has worked to focus attention on the importance of healthy, uninterrupted nasal breathing for sleep and well-being. As co-founder of SANOSTEC CORP, Louise has engineered, through advanced materials science and ergonomic design, innovative, nose-friendly products for the relief and treatment of nasal airway issues that disorder sleep and cause unhealthy respiration. Join the MAX-AIR NOSE CONES' campaign to focus on restoring healthy nasal breathing and include a nose in every emoji.

The Hidden Airway Problem:

An Answer to Your Child's Struggle with Health and Learning

by Howard Hindin, DDS

Are you struggling because your child is struggling? Are you mystified by your child's behavior at home and at school? Does your child's learning and behavior issues combine with chronic health problems like ear infections, or frequent colds or respiratory infections?

If yes, we want to introduce you to "airway health", a concept you may not have heard of before.

If you're reading this article in a sleep/dental practice waiting room, you have probably been searching for a while, trying to unravel the mysteries of your child's suffering (and yours). The answers might literally be staring you in the face! Perhaps the greatest hidden cause of learning issues and chronic health problems is located in the airway – how and where you breathe. The shape and function of the face, nose, mouth, tongue, and throat will determine how hard you work to breathe and how well you sleep and function during the day. Up to 80% of children with ADHD may really have an airway/sleep problem. (Visit www.airwayhealth.org and see Dr. Stephen Sheldon's video.)

When a child – or anyone – struggles to breathe, the brain will do anything to ensure a constant flow of oxygen. The brain will arouse you from deep sleep or wake you up through the night. It will release stress hormones to keep the breathing passages open. The brain will contort the neck, jaw or spine in uncomfortable positions to open the airway.

There are many, many families just like yours.

The rising tide of chronic health, behavior and learning issues has forced lots of parents into the role of Sherlock Holmes, trying to figure out why their kids can't function normally. Connor Deegan was a child struggling in school with academic and behavior problems. With no explanation, he was labeled as ODD (Opposition Defiant Disorder) with no solution, hope or future. However, his mother took Connor to be screened for a sleep/airway problems. His airway was compromised by enlarged tonsils and adenoids, allergies, a narrow dental arch, and a tight tongue muscle attachment. Once

recognized and treated, his airway, sleep, health, behavior and potential were restored. The story of Connor Deegan can be seen on the Foundation for Airway Health website – www.airwayhealth.org.

Many families with "Connors" have seen similar changes when a "hidden" airway problem was recognized and treated. Many more have not yet found the right path. When the airway is the problem, medications, therapies, and other intervention provide limited, if any, results, leading to frustration, mistrust, and loss of hope by families and medical professionals alike.

An airway problem requires very specific, individualized interventions. But let's first see if it's highly likely that airway is a driver of your child's learning issues. You can get a good idea by checking out the Foundation for Airway Health's simple screening questions on the adjacent page.

You have the power to find out if your child's problems relate to breathing. Become informed. Visit the Foundation for Airway Health website (www.airwayhealth.org). Ask your providers for more information on airway health. If breathing is at the core of your child's problem, better breathing has to be part of the solution. The Foundation for Airway Health was created to serve all sufferers of "hidden" airway problems, particularly families so the children can thrive. Struggles with behavior, learning, and fatigue can be turned around dramatically with opened airways and easier breathing. 



Dr. Howard Hindin is the Co-Founder and Chairman of the Foundation for Airway Health and the current President of the Academy for Physiological Medicine and Dentistry (AAPMD). He is an acknowledged pioneer in the relationship between dental issues and whole body health and the co-author of *GASP: Airway Health - The Hidden Path to Wellness*. At the Hindin Center, he focuses on temporomandibular joint, craniofacial pain, sleep and airway issues and their link to systemic disorders. Together with Jeffrey Hindin, DDS, they founded HHSSystems offering HindexRV monitoring instrumentation for Physiological Dentistry.



Discover Your "Hidden" Airway Problem



Foundation for Airway Health www.airwayhealth.org is a non-profit organization dedicated to help the public realize their maximum potential by championing the recognition, diagnosis and treatment of airway related disorders through collaboration, awareness, research, education and access to care.

HOW CAN YOU KNOW IF YOUR CHILD HAS A "HIDDEN" AIRWAY PROBLEM?

ADHD? · FATIGUE? · LEARNING ISSUES? · FREQUENT INFECTIONS?

IF YOUR CHILD EXPERIENCES ANY OF THESE CHALLENGES...



LEARNING & DEVELOPMENT

Attention Issues (ADHD)
Learning Impairments
Speech Delay



PSYCHOLOGICAL

Irritability
Impulse Control Issues
Anxiety/Depression
Socially Withdrawn



SLEEP-RELATED

Sleep Disturbances
Daytime Fatigue
Restless Legs During Sleep
Bedwetting

AND YOU HAVE NOTICED ANY OF THESE ISSUES...



DENTAL OR RESPIRATORY

Deep Overbite
Scalloped Tongue
Mouth Breathing
Tongue Thrust
Allergies / Asthma
Crooked Teeth



PHYSICAL

Recessive Chin
Forward Head Posture
Carb Cravings / Obesity
Headaches
Stomach Problems
Frequent Infections

THEN IT'S TIME TO SEE IF THESE PROBLEMS ARE BEING DRIVEN BY
CHRONIC AIRWAY OBSTRUCTION

**WHEN YOU CAN'T BREATHE,
HEALTH & LEARNING ISSUES ARISE BECAUSE
YOUR BRAIN WILL DO ANYTHING TO GET ENOUGH AIR**

YOUR NEXT STEP TO LEARN WHERE TO BEGIN

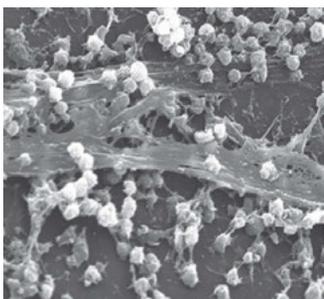
airwayhealth.org

FOUNDATION FOR
AIRWAY
HEALTH

CARING

for Your Oral Appliance

by Dr. Todd Morgan



Biofilm are Tough: Once bacteria and other disgusting microbes have colonized and organized themselves on your oral appliance or orthodontic trays, they exude their gooey products that spill and harden like a protective shield. This varnish coating is the key to understanding why it's so hard to kill a biofilm. Even after boiling, bacterial colonies still adhere to device surfaces like in this photo. That's how tough that coating is to remove.

Doctors have been providing a variety of prosthetic devices to their patients for centuries, the latest being devices that can help us sleep better. Thank goodness for this wonderful technology, but along with a promise of better sleep comes all of the bacteria that can build up on the metal and plastic surfaces that make up these devices.

The bacteria in our mouths and gut are mostly naturally occurring and part of life, helping with digestion in a delicate balance. Our bodies keep their numbers at bay by using saliva and other secretions in combination with our immune system's natural defenses, preventing disease. BUT, our medical and dental devices are a different matter!

What is a Biofilm?

Free-swimming, or planktonic bacteria are common and found in all biological systems. However, these same bacteria, fungus

and other microbes will jump at any chance to build up their numbers and organize into colonies called a biofilm. One example of a biofilm is dental plaque, that yellowish goo that build up on teeth – YUK! Oral bacteria that has become organized like this can cause gum disease and cavities.

The Danger

Biofilms have been found to be involved in a wide variety of infections in the body, by one estimate 80% of all infections! The bacteria, fungi and protozoa associated with

colonization within the oral cavity are of special interest when we talk about orthodontic retainers, mouth guards, and especially sleep apnea devices. The oral environment is harsh and the bacteria that live there are built to withstand acids from foods and resist routine washing procedures. They are hard to kill! According to a study published by the Academy of General Dentistry, oral appliances can harbor life-threatening bacteria, yeast and mold. Germs found in these devices can cause Strep. and Staph. infections, and **re-infection or extension of illness can occur if devices are not completely cleaned.** This means we had to find a way through the tough varnish-like coating formed by biofilms.

The Answer

We developed PRODENTCLEAN with one chief purpose in mind: to keep our patients safe and healthy! After years of disappointment with existing denture cleaning products and seeing the condition of appliances when patients would return for check-ups, we decided that it was time for innovation. After two years of research, laboratory testing and then clinical evaluation, we arrived at our answer: PRODENTCLEAN®.

Our innovation is based on oxygen and key laundry detergent ingredients. Through our research we discovered that the most powerful tool for breaking through tough biofilm is a by-product of peroxide – oxygen! Our formula for releasing EMPOWERED OXYGEN® is the key to our amazing results. 

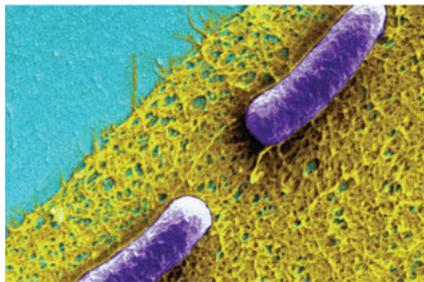
What is Empowered Oxygen™?

The “Empowered Oxygen” released from hydrogen peroxide is also known as a free radical. Peroxide ions that can react with bacterial cell walls and other cells’ structures. This process is termed “oxidation.” Most bacteria we encounter have little to no defense against “Empowered Oxygen.”

Our own bodies use a very similar system of defenses to fight infections. While hydrogen peroxide is a common disinfectant due to its bacteria-killing properties, in high concentrations it is dangerous for human cells. That’s why we add other key ingredients to “empower,” or unlock the true muscle of the oxygen at lower peroxide concentrations. Our combination of ingredients is the key to the amazing cleaning power of PRODENTCLEAN.



Germs found in these devices can cause Strep. and Staph. infections, and re-infection or extension of illness can occur if devices are not completely cleaned.



Dr. Todd Morgan is board certified in Dentistry and Dental Sleep Medicine. His goal for patients is very simple: to deliver the best dental care in a relaxing, comfortable, and enjoyable environment.

Dr. Morgan graduated from the Washington University School of Dental Medicine in 1985, promptly returned to his hometown San Diego and began his practice in 1986.

Dr. Morgan is internationally recognized as an expert in the field of Dental Sleep Medicine and has completed several clinical research studies and published many scientific papers on the treatment of snoring, sleep apnea, and headache with dental devices.

Dr. Morgan is the inventor and holds interest in the intellectual property associated with PRODENTCLEAN.



My Spouse Snores, What Does That Mean?

by Gina Pepitone-Mattiello, RDH

It is widely known that snoring is a huge nuisance to the bed partner, but in reality it's very detrimental to both people. Sleep is one of the most mysterious states of being. You spend approximately one third of your life sleeping, which means if you live to 90 years old, you may have spent 30 years sleeping.

My husband was a New York City fire-fighter and worked many long night shifts. As long as I can remember, he had snored; it was a soft sound that created a feeling of security, as I knew someone was there. Because of this, I didn't really mind for a long period of time. However, as years progressed, my husband's snoring became a true nuisance. It began affecting my sleep. The thought of raising two young sons, working, and life in general was not easy to swallow when you're the one with sleep deprivation.

On one Tuesday morning my husband – who had just returned from a night shift – walked through the door into our house but soon got the call to return back to work. Tuesday, September 11, 2001 would be a day that changed the world. After being down by the Trade Center for what seemed like forever, my husband finally returned home. I guess we had a new perspective on life, as I was just happy he made it home, and I didn't want to complain about snoring anymore.

My husband would always joke about the bunk room in his firehouse. He said to me, "If you were there, you would never sleep, it sounds like roaring thunder." He meant that the snoring was terrible. At home though, little by little, the snoring was getting worse. Night after night I grew angrier. Then the

gaspings started – loud snorting sounds and gasps for air. Then jumping out of bed, trying to catch his breath. I would elbow and kick him to startle and awaken him just so I could have quiet for a minute. He started losing his energy and then became irritable. In fact, the two of us were moody, short tempered, and cranky just because we were sleep deprived.

After reading up a little on the internet about snoring and gasping, we went to a physician who specialized in sleep. My husband received an overnight sleep study at a sleep clinic. He was diagnosed with Severe Obstructive Sleep Apnea. A person called the next day and instructed us to come pick up a machine – a CPAP. On the first night, he put the mask on, showed the boys, and laughed saying he was a fighter pilot. That lasted about 20 seconds. The CPAP mask was soon ripped off and thrown across the room. My husband said it felt like when the face mask used for firefighting loses oxygen and suction to your face – you know you are out of air. After attempting to wear the CPAP for a few weeks, we both became frustrated and gave up.

Years passed by with my husband neither receiving nor seeking any therapy at all. His progressive decline in health and mood were evident. Irritability, sleeping in separate rooms, and the struggle to find help continued daily. Something had to be done. Around the time I was looking to increase my work hours, I started working with a dentist who was interested in making oral devices to treat sleep apnea. I begged my husband to try one out.

With my husband's first use of the oral device we were back to dreamy sleep quite literally overnight. Wearing the device was easy for my husband. He had worn sports mouth guards for much of his life, so this was not a far stretch. He fell asleep quickly and barely snored, but better yet, he did not gasp, choke, snort, or jump out of bed. Eight hours later, we were woken up by our boys. There were big smiles all around. As the weeks passed, he suffered no more daytime sleepiness or irritable moods, and felt healthier and happier.

Fast forward seven years – my husband has not gone one night without his oral device. I thought back on all the years of suffering with the effects of OSA. I used to kick my husband in his sleep to quiet him down, how selfish was I? He was slowly dying, never

With my husband's first use of the oral device we were back to dreamy sleep quite literally overnight. Wearing the device was easy for my husband.



realizing that his blood pressure was out of control, he had acid reflux, and that his irritability and sleepiness were signs of his struggle to breathe. All he needed was a little oxygen.

I just wanted a good night sleep. In return, I got my amazing husband back. This story has another silver lining. Currently I am a practicing sleep hygienist with Long Island Dental Sleep Medicine. Spending days caring for patients who are suffering the way my husband did. Every day ends with a smile, knowing I can make a difference in the quality of life, health and happiness of so many OSA sufferers. 



Gina Pepitone-Mattiello, RDH, C.ACSD, is a Registered Dental Hygienist practicing with Long Island Dental Sleep Medicine, the only AADSM accredited dental sleep facility in New York state. On a daily basis she works with patients, identifying risk factors, signs, and symptoms of obstructive sleep apnea. Focusing on Continuous Open Airway Therapy (COAT) to help manage sleep breathing disorders, Gina has helped thousands of patients achieve optimal, healthy sleep. A pioneer in the dental sleep medicine field, Gina has developed an online on-demand certification course, "Certificate in Dental Sleep Medicine for the Registered Dental Hygienist", that is accredited by the Academy of Clinical Sleep Disorders Disciplines. This is the first and only certification course of its kind available to RDHs. Gina also lectures internationally on behalf of SomnoMed as well as various organizations and educational institutions, striving to advance the knowledge of dental sleep care professionals.



Headaches Could Signal Sleep Apnea Problems

by Mayoor Patel, DDS, MS, RPSGT

Have you ever woken up with a headache? Has a friend or family member ever complained about a headache or a migraine immediately after waking up? Those morning headaches might be more than just annoying – they might be a sign of interrupted sleep during the night. Snoring can be one such interruption and studies have shown that people who snore are more likely to have daily headaches than those who do not snore. Snoring can also be indicative of the much more serious condition of obstructive sleep apnea (OSA). Since people who have OSA often wake with headaches, these three conditions, snoring, headache, and OSA, can be connected. OSA is a sleep breathing disorder where the tissues in the back of the throat and the tongue collapse or form an obstruction during sleep. The obstruction may cause snoring and in many cases, the obstruction leads to pauses in breathing at night that can occur several times per hour – yikes!



What Causes Sleep Related Headaches?

Studies have shown that over 50% of people who have morning headaches also have sleep apnea. The reason is that when a person stops breathing during the night, less oxygen is making its way to your brain. Low oxygen levels lead to the widening of blood vessels, which is associated with inflammation and is a source of headaches.

How do you know if obstructive sleep apnea is the culprit causing headaches? Since most people are not aware of their own snoring, or of frequent pauses in breathing while sleeping, morning headaches may be the very first symptom of a sleep breathing disorder that the snorer will notice. An overnight sleep test is the only way to verify that obstructive sleep apnea is the cause, but there are many other signs indicative of the need for OSA screening. Some of the signs are:

- Snoring
- Excessive daytime sleepiness
- Witnessed pauses in breathing
- Morning hoarseness
- Mood disorders or memory problems

If left untreated, the airway obstructions from OSA, can cause:

- Daily morning headaches
- High blood pressure
- Heart disease
- Stroke
- Diabetes
- Depression
- Memory loss
- Accidents
- Weight gain

Childhood Headaches and the Connection to Sleep

Studies have also shown that children's headaches often link to OSA. Sleeping problems can exacerbate headaches and have other effects on a child's health. It's also no surprise that interrupted sleep is one of the main causes of any downturn in a child's school performance. OSA develops in children at any age, but is most common in preschoolers. It's also of interest to note that children who have family members with obstructive sleep apnea are also more likely to develop sleep apnea and sleep-related headaches.

Teeth Grinding and Headaches

The thought of tooth grinding or clenching and the related gnashing sounds (also known as bruxism) might cause you to cringe. However, it's important to know that sleep-related bruxism is common and can cause pain in the muscles around the head and face. It is common for the jaw muscles to tighten while you sleep, but when these contractions are too strong, they produce the sound of tooth grinding. As a result, bruxism can cause dental damage by wearing down the teeth and could lead to headaches from the stressing of the muscles in the face and jaw due to the grinding and clenching.

In the most severe cases, hundreds of grinding episodes can occur during the night, while milder cases may vary from night-to-night and have less of an effect. So, why do we care about grinding and clenching of the teeth? Well, there's little doubt that bruxism is associated with sleep arousals. Headaches in the temples and stress on the temporomandibular joints (TMJ) are also a concern we need to pay attention to because of bruxism.

The Cycle: Snoring, Insomnia, Morning Headaches, Tooth Grinding. Could it be OSA?

Sleep breathing disorders can also lead to insomnia, which can cause headaches and lead to irritability and ultimately stress, which is another headache trigger. And, on the flip side, oversleeping is believed to cause headaches too. So, when you think sleeping more will improve your headache, you might actually be making it worse. No sleep? More sleep? Where is the comfortable medium? With proper treatment, you can find relief from your sleep disorders.

A common trait of sleep-related headaches is that the "ache" is typically felt on both sides of the head rather than just one side. Another sleep-related characteristic is that these types of headaches can be a throbbing pain, which sometimes includes nausea and vomiting. With these factors, it's understandable that patients with headaches have a difficult time sleeping. They might even attempt to go to a quiet space to relieve their throbbing pain or take medications to go to sleep, but there may be another solution.

Dental Appliance Therapy for Obstructive Sleep Apnea and Headaches

Once it is determined that obstructive sleep apnea is the culprit of your morning headaches, what do you do? Dentists can help provide relief through the placement of an oral appliance. Bite guards (oral appliances) can also relieve aching jaw muscles caused by bruxism or misaligned jaws. With treatment, many people experience improved sleep while resolving pain from their headaches.

The bottom line is that people who complain of headaches, especially morning headaches, may have a sleep disorder. If you suffer from morning headaches, it is important that you are screened for OSA or other sleep related disorders. If you suffer from frequent headaches, take charge of your health by getting screened for obstructive sleep apnea (OSA).

By visiting www.SnoringIsntSexy.com, you can put in a zip code to locate a dentist in your area who has training in oral appliances (mouth guards) for OSA. Take the next step in improving your health now! 

A common trait of sleep-related headaches is that the "ache" is typically felt on both sides of the head rather than just one side.

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Dr. Mayoor Patel has expanded on his Doctor of Dental Surgery (DDS) degree with a Certification in Orofacial Pain and has been providing his patients with excellent care in the Atlanta, Georgia area. Through his knowledge in orofacial pain and dental sleep medicine, Dr. Patel works with his patients to help them live without pain and discomfort and to help patients who are suffering from obstructive sleep apnea. Dr. Patel has earned a Diplomate status from the American Board of Dental Sleep Medicine, Board of Craniofacial Pain, Board of Orofacial Pain, Board of Craniofacial Dental Sleep Medicine and teaches treatment of OSA and TMJ disorders to other dentists as part of Nierman Practice Management's continuing education program. Dr. Patel can be reached at www.mpateldds.com or at 678.899.6076.

Dental Sleep Practice introduces the "DSP Patient Education Guide"

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