



DENTAL SLEEP PRACTICE

Medically Indicated

Orthodontic Care

by Mark A. Cruz, DDS, and
Barry D. Raphael, DMD

Untreated OSA in Children Leads to Long-term Complications

by Mayoor Patel, DDS, MS

A Conversation with

TONY ROBBINS

WINTER 2016

PLUS

Short Stuff II: E-Codes

by Ken Berley, DDS,
JD, DABDSM, and
Rose Nierman, RDH

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What is Success?

Are you helping your adult patients sleep with open airways? Or are you waiting until you are more confident of your skills and keep looking for another course to take? When will the time be right for you to take charge and make the changes you need to make? What is in your way?

Tony Robbins, who has likely influenced more people to face their fears and take action than anyone, believes dentists have a responsibility to themselves, their teams, and their patients to make sure they take full advantage of their training and expertise. Hiding your lamp under the basket just won't do! When our publisher Lisa interviewed him for this issue, he talked about cosmetic dentistry, but how is that different than knowing about sleep and breathing issues and not screening your patients?

Is your practice more, or less, successful if you keep to yourself the knowledge you've spent precious time and money accumulating? Is fear of a new process, or the work involved, keeping you from achieving the best results for your practice and your team? Maybe it's fear of failure – nobody wants to disappoint people who depend on them, whether they be team members or patients. Maybe the one you are afraid of disappointing is yourself. Thoughts like this are what happen when you listen to Tony Robbins!


It's hard to make changes – difficult to 'blow up' what works and declare a new reality. It's easy to put off what you have to do, even when you know you just have to do it. The question before us is whether that is allowing you to be as successful as you can be? What's your answer to that?

I'll bet you talk with the parents in your practice a lot about their kids – maybe you see the young ones as patients, maybe not, but it's fun to talk about achievements, trips, summer adventures. Every parent wants their children to be successful, right? Do you hear stories of poor school performance, behavioral issues, enuresis, restless sleep? You won't until you ask.

And ask we must. The need to treat adults in our communities is nearly unlimited. Dr. Susan Redline, arguably the top researcher

in sleep today, told a group in Seattle just this week that she believes "80% of adults who have sleep apnea are undiagnosed." That figure hasn't changed in 20 years! During those two decades, kids have become adults and now we have to provide troublesome therapies to make up for lack of growing a big enough airway in the first place.

It's not difficult to identify children who are at risk of obstructed airways, but it is much harder to get them diagnosed and treated. Dentists everywhere are enthralled by the prospects of improving children's airways to prevent them from becoming another bad-breathing adult. We all just need to have the courage to take control of our practices and do what is necessary.

Success? Is it making a difference for the next generation by treating the children in your practice? Taking action to ask the parents about their kid's sleep – and their own, while you're at it? What about the adults with obstructed airways? Are you holding back from applying your knowledge? What's keeping success from you? 



*Steve Carstensen, DDS
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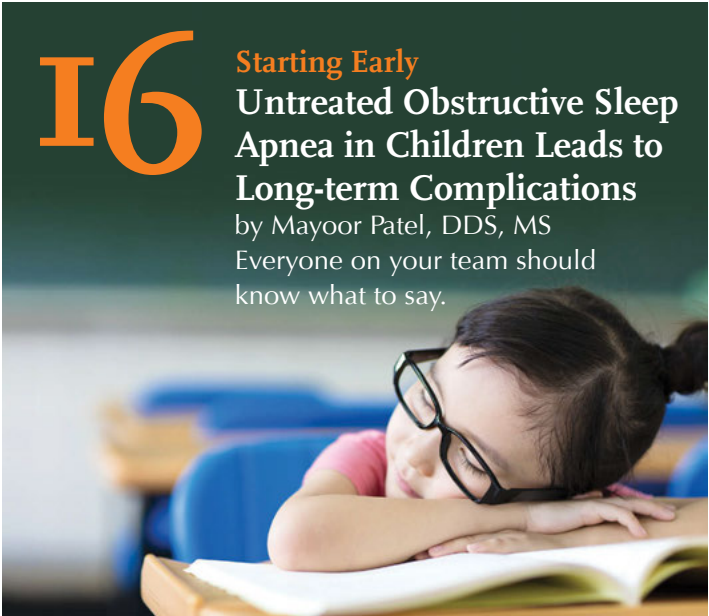
TMD is a concern for every dentist, especially those who deliver mandibular advancement devices. Each issue in 2017 will contain an article from a 30-year TMD expert to help readers gain confidence in managing this side-effect, lowering barriers some have to providing oral appliance therapy for their patients.




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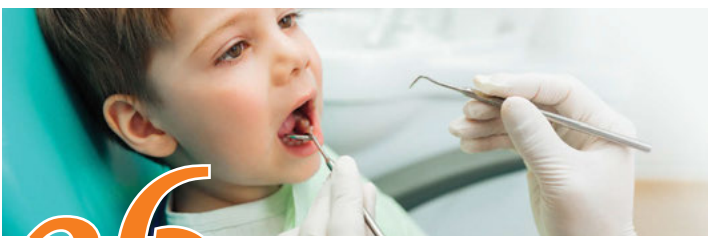
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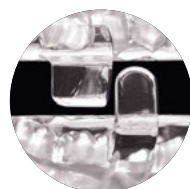
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¹Data on File. ²Based on a comparison of a meta-analysis, "Is Selecting the Appropriate Sleep Device for You and Your Patient Important?" by Dr. David Carlton III, and New Oral Appliance Titration Protocol using MicrO₂ and Mandibular Positioning Home Sleep Test. Presented at AADSM on June 10, 2016 by Dr. Remmers and Dr. Vranjes during poster and oral presentations. University of Calgary in Alberta Canada, Zephyr Sleep Technologies, Calgary, Alberta, Canada, The Snore Center, Calgary, Alberta, Canada.



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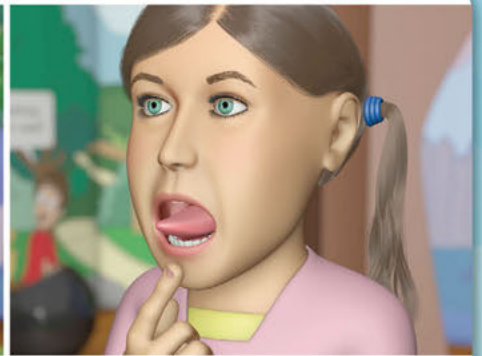
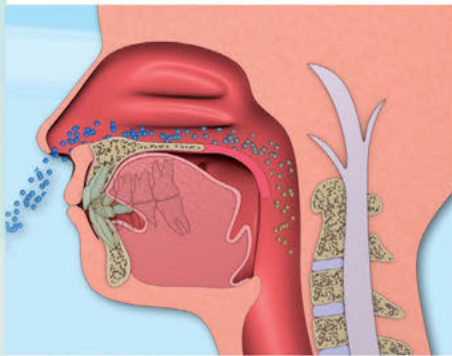
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A Conversation with

TONY ROBBINS



MedMark CEO/Publisher Lisa Moler conducted an in-depth interview with best-selling author and life strategist Tony Robbins. The following are some excerpts to inspire our readers.

LM: We are honored to be able to sit down with you today. Congratulations on your film, Tony. Can you tell us about *I Am Not Your Guru*, the movie directed by Academy Award-nominated filmmaker Joe Berlinger about your *Date with Destiny* seminar?

TR: “Date With Destiny” is my favorite seminar, and I only do it once a year. I see 200,000 people a year in 15 countries, and I do this one program for 2,500 people for 6 days and nights — it’s like total immersion. I just love it. The movie, available on Netflix, will be in 190 countries translated simultaneously. This is a true story about real people and real times creating huge transformations.



LM: As a philanthropist, you are doing amazing work, feeding millions and millions of people. Tell us about those efforts.

TR: We fed 100 million people last year alone just in the United States, and we're going to feed another 100 million this year with my partnership, Feeding America. And I've got a plan to feed a billion people over the next 9 years. I had no food when I was 11 years old for Thanksgiving; I started feeding two families initially at age 17; it just altered my life. I had so much joy to see that happen, to have my family be fed, when we had nothing. It changed my entire view of life, knowing that strangers really do care. And it affected the direction of my life, and I always promised myself I'd find a way to give back. Then I wrote *Money: Master the Game*, and I donated the \$5-million advance. Then I got more inspired, and now I've got this system laid out to feed a billion. It's the thing I'm most excited about in my life right now.

LM: That is so touching. What would you say to our readers on how to be better business owners in this day and age?

TR: Professionals like dentists and doctors are some of the hardest working people, but they never really learn to run a business. They're artists; like I am at my core — meaning our art is helping people change their



Tony with his first Basket Brigade.

“

It changed my entire view of life, knowing that strangers really do care.

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Tony and Sage Robbins with the International Basket Brigade delivering food to families in need.

lives. Dentists have worked a lifetime to develop their skills, compassion, and their art. But then there's running the business, and they spend all this money going to school and becoming a great dentist, but no one teaches the business aspect. Most people in that position get stressed out and overwhelmed.

The chokehold on the growth of your business is your own psychology, your own fears, your own limits, your own "I have tried everything." We convince ourselves we've tried everything, and we haven't.

Innovation is the secret to really growing anything. You've got to innovate, and you got to market. And as a dentist, you've got to say, "I have a gift, and I have a talent, but my talent is going to die on my lips or die in my hands unless I can find a way to market that, to get people to want to do business with me." And what makes people do that today and more than anything else in relationship and referrals is innovation.

The first step is to decide that you're going to own the business, not just be the dentist. That you're going to take the time to put yourself in some environments where you learn the things you don't know so you can feel comfortable, so you can feel that you can make this thing happen, and there's no conflict between being a great healing professional and being a successful business person.

I knew a dentist who told his patients that he would give the best care and the most attention possible. But he required that patients realize that they need to reciprocate. He said he'd refer them out to if they were not comfortable. He required that if they canceled, they're would have to pay for the appointment anyway. He required they show up on time because of mutual respect. He also required that in the next 6 months, if he did the quality work promised, they would provide two referrals from two other quality potential patients. He said, "I'm going to spend more quality time with you, and I am asking for the referrals because I don't want to spend time marketing and selling. I want to spend time putting my attention to making your life better." He quadrupled his income and cut the time he spent doing dental work by more than 60%.

You need to find out more about your clients than anybody — more than they know about themselves. You need to understand



what's going on in their lives, their goals, and make sure that everything in their psyche is taking care of them and helping them augment the way they look, the way they feel, their vitality, and the health of their system.

We've got to know who's making health-care decisions. What do they want? What do they fear? What do they desire? And how do we meet those needs for them? We also need to align with what people spend money on. And most people don't go to the dentist until they have to. The profits are, as you well know, in elective dentistry. So we have to be aware of the innovations that can bring leverage so that the dentist has a reason for people to come see him or her instead of anyone else.

LM: How would you speak to the difficult task of staffing?

TR: It is not the person you hire, it's the person you fail to fire that messes you up. The person at the front desk, might be a really nice person, but if that person isn't connecting with people and doesn't have a natural effervescence, then the wrong person is in the wrong seat. This person might belong in another seat, but can't be the person up front connecting with people. You have to make those decisions quickly. The people interface is everything.

LM: What else can the dentist do to thrive in their practice?

TR: Start to take control of business. If the largest trend once again is 92% of people in this culture believe their smile is a very important element, then how do I reorient the practice to welcome those people, not just for maintenance and support, but what do you do to make somebody more attractive? You have to say, "I'm not going to tolerate the way I have run my business in the past. I'm better than this. I deserve more than this. My staff

deserves more than this, and there is a way." Most people get to a place of learned helplessness and they will tell themselves, "I have tried everything." When we get fearful; when we've tried something, and we're not succeeding as fast as we want; when we are afraid of failing, we come up with a story about how it's not our fault, or how we're going to do in the future, because then we don't have to feel bad. But feeling bad makes us have to deal with it. Most people are overwhelmed.

LM: You just have to do it, correct?

TR: When you change the story and come up with a new set of beliefs, you find yourself finding the strategy or using the strategies that work. You've got to be able to produce a different state of mind in your people. There has to be a compelling sense of mission. Patients need to know they are going to get the most beautiful smile as painlessly as possible, and you need to figure out how to be so compelling that people want to do business with you.

LM: Good point! Let's transition. In your book, *Money: Master the Game*, you talk about the 401(k) industry and the corruption involved. Please tell our readers some more.

TR: Close to 70 percent of Americans think that their 401(k) has no fees, or the company is paying for it, and it's not true. The reason they believe that is that the 401(k) industry is a multi-trillion-dollar industry that up until 2012 didn't have to tell you what they were charging you. Can you imagine taking people's money, taking whatever you want, and because it's so complex, people think they're being charged nothing? Some people think the charge is 1%. But there are

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And as a dentist, you've got to say, "I have a gift, and I have a talent, but my talent is going to die on my lips or die in my hands unless I can find a way to market that, to get people to want to do business with me."

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up to 17 total fees, many of them hidden or opaque. The biggest providers layer on other charges in the fine print. To give people a perspective, the average mutual fund costs 3.12% (according to *Forbes*) when you add up the management fees and the laundry list of other costs that deduct from your returns. That may not sound like much but it acts as the proverbial hole in your retirement boat. Most people are investing at some level they know that if I compound my money, if I keep reinvesting it, there's a point it starts to grow geometrically. Well, costs grow geometrically as well, and 1% of costs will cost you a decade of your income. So I've partnered with a company called America's Best 401(k), because I understood that fees matter, and I can pay the 1% in fees, or I can pay 3% in fees or I can pay less than 1% in fees, and the difference in compounding is mind boggling.

Warren Buffet taught me that in this day and age, people need to own index funds. These funds allow people to have the best companies available, like the S & P 500, but they pay the least amount of costs. Sounds brilliant, except when you get your 401(k), if the big company comes along that doesn't offer index funds to most dentists; they say you're too small; you can't do that, so we're going to give you all these expensive funds that underperform. That's like saying I can't give you this because I won't make enough money on you.

So we say funds matter, and we make available these index funds like Vanguard. To help people understand this concept, we created a site called showmethethefees.com. You can go there or to AmericasBest401k.com/fee-checker-medmark/, and you can just put in simple information about your company, and it'll show you what you really pay, and what that means over decades because it's costing millions of dollars.

Also, protection matters. If you're a doctor and you have a 401(k) for your office, that



Tony Robbins with the Dalai Lama.



Tony Robbins with Marc Beniof and Richard Branson.

“
What I've learned is it's really about making enough money that you don't ever have to work again, and then you work harder, and you enjoy it more.
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gives the staff a tax deferral that allows them to grow. But as the business owner, you are known as the plan sponsor which means you have a fiduciary obligation to run the plan for the sole benefit of the employees. And for most, they have no idea what that entails and are busy being a dentist. One of the many legal obligations is that you periodically benchmark your plan and compare costs to other similar plans. 9 out of 10 that we talk to are unaware of this task and being out of compliance could be a serious fine. In fact, the Department of Labor, who hired an additional 1,000 auditors in 2015, reported that 70% of plans they reviewed were out of compliance and the average fine was \$600,000. And to make matters worse, lots of employees are now suing the business owner for not keeping a close eye on their plan!

LM: Wow. That could easily put a small business under.

TR: It happens all the time. So our firm actually steps into your role as the fiduciary to the plan and handle the many legal tasks required. Show us your fees, put your information in, and then we run the report, and then you have that comparison. Then, you're protected. The 401(k) can be a fundamental wealth builder for you and your staff.

LM: What should dental professionals and business owners never give up on?

TR: What I've learned is it's really about making enough money that you don't ever have to work again, and then you work harder, and you enjoy it more. My heartfelt prayer is that from this little conversation, some people will look at this and say wow, the greatest gift in life is not what I achieve, but it's my ability to enjoy this life, and the only thing preventing me is a mind where I believe my own limiting thoughts. Don't focus on the ills in the world — every generation has had ills that can make it feel like it's the worst time to be alive. If you want to, you can find it's the best time to be alive and appreciate. When we turn expectation into appreciation our who life changes.

LM: Thank you, Tony. I recommend to our readers to check out "I'm Not Your Guru" on Netflix. Although you are not my guru, you're my hero. 



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Is your 401(k) plan a ticking time bomb of personal and professional liability?

by Tom Zgainer

Class-action lawyers seeking plaintiffs are reaching out to employees in businesses of all kinds with opportunistic letters that highlight how they have been harmed by excessive fees in their 401(k) plans. These letters encourage plan participants to join lawsuits against their employers for breach of their fiduciary obligation to provide a retirement plan that is set up for the sole benefit of the employees.

While you are busy running your practice and offering a 401(k) as a benefit for your team, a recent ruling by the Supreme Court has officially started the clock on this ticking time bomb. Larger employers in a variety of industries are already under attack, and many others have paid to settle such suits. Smaller companies (under 100 employees), where excessive fees are most prevalent, are now also in litigation. Employee Benefit Advisor, an industry trade publication, recently prophesied that an “onset of 401(k) lawsuits should prompt rigorous plan evaluations.”

The 401(k) is a great piece of tax code, but the problem lies in the method by which 401(k) plans are sold — and the surprising number of hands in the retirement plan pie.

Over the past 3 decades, 401(k) plan providers have been making big money through hidden or opaque fee arrangements. In fact, it took a full 30 years before the industry was required to disclose just

how much they make on your plan! Only since 2012 are they now required to produce a fee disclosure document (known as a 408b2), that plan sponsors are required to review, articulate, and take action if necessary, yet the actual fees are often buried in fine print.

This is why over 60% of Americans think they pay no 401(k) fees when nothing could be further from the truth. So just how do plan providers make their money? Primarily by taking a cut of the fees charged by the mutual funds offered in the 401(k) plans they sell. And those fees directly subtract from your returns. Or if that’s not enough to wet their beaks, they layer on additional fees such as “asset management charges” or “contact asset charges.”

And so we have a business model where nearly all the major plan providers are conflicted. They choose funds for your plan that charge hefty fees so that there is plenty to go around (or worse, they just sell you their own name-brand funds, which

are more profitable for them). Did you think the funds were chosen because they were the best performing? Think again. They were probably chosen because the fund company will “pay to play”— which is why superior-performing, low-cost index funds tend to be a rarity in 401(k) plans.

But it doesn't stop there. The broker who sold the plan wants his cut. So he too will receive commissions from the funds or simply layer on additional fees. And let's not forget the third-party administrator. They typically charge a fee directly to the employer, but many will also accept a portion of the mutual fund fees. This often buys their loyalty to specific providers.

The net result is an industry with layers upon layers of incestuous relationships that funnel excessive fees from your plan and puts numerous conflicts of interest in play — hence the lawsuits.

Do fees really matter?

Although the fees your plan charges might sound like small percentages, they have a massive impact over time. Fees subtract directly from your returns. John Bogle, founder of Vanguard, says that costs can cut returns by 66% over the course of our saving years. Said another way, simply controlling costs could double your future nest egg in size.


The Department of Labor (DOL) says that hidden fees and backdoor payments in retirement plans are costing Americans over \$17 billion annually. The head of the DOL, Secretary Thomas Perez, rightly stated, “The corrosive power of fine print and buried fees can eat away like a chronic illness at a person's savings.”

It's your problem

At first glance, you might be thinking these issues and conflicts should be the liability of the provider. After all, they sold you the plan. But ERISA rules make you, the employer, the fiduciary to the plan and to your employees. As the plan sponsor, it's your job to make sure the plan is set up for the sole benefit of the employees. It's your job to review and periodically benchmark your plan against other options. For many employers, this is alarming news, as running a business is already challenging enough.

So where do you go from here? There are five key steps we advise all plan sponsors to take:

- 1. Benchmark your plan to determine how it compares to alternatives.** A periodic benchmark is required by the DOL anyway, so it's an exercise that can reap great rewards while also taking care of your duty as a plan sponsor. Beware that if you use a broker to do this, they will typically show other similar plan options where they will also make big commissions. As Warren Buffet says, “Never ask a barber if you need a haircut.”
- 2. Eliminate layers of fees wherever possible.** The first and easiest way is to eliminate the use of a broker who is paid by commission. Brokers typically add little ongoing value short of bringing donuts to your office twice a year to keep everyone happy. Many employers were sold their plans by brokers who may also be personal friends. Breaking up is hard to do, but a personal relationship is not a defensible position with the Department of Labor.
- 3. Remove conflicts of interest.** If you are using a plan where the provider is being paid by the mutual funds in the plan, they have an inherent bias to select more expensive funds or sell you their own name-brand proprietary funds. This is nearly always the case with plans offered by insurance companies, payroll companies, or mutual fund companies. You can simply ask your provider if they are “revenue sharing” with the mutual funds they offer.
- 4. Install a third-party fiduciary on your behalf.** This is known as a 3(38) fiduciary, who will take over nearly all of the responsibilities and much of the liability of the plan sponsor. Their job is to make sure that the plan is continually operated in the best interests of the plan participants. This is a best practice adopted at many Fortune 500 companies but is rarely seen in small to midsize plans.
- 5. Look for a plan that has access to the lowest-cost index funds.** Index funds consistently outperform nearly all actively managed mutual funds over the long term. One note of caution: Many providers don't make money off these funds due to their rock-bottom fees, so they sometimes charge additional layers of fees, or they will say your plan isn't big enough to qualify. Nonsense! Every 401(k) participant in America should have access to the same low-cost funds regardless of the balance in their company's 401(k) plan.

The 401(k) is an amazing retirement solution when there is alignment between the provider and the saver. It's time that Americans wake up and take back their retirement plans from the providers that have been milking them for every dime they can get. It's time for business owners to feel proud of the plans they offer, knowing that they will give themselves and their employees the absolute best chance at a successful retirement. 

Receive your retirement plan checkup here: americasbest401k.com/fee-checker-medmark



Tom Zgainer is CEO and founder of America's Best 401k and has helped thousands of companies repair or rescue their retirement plans over the past 15 years. You can learn more at <http://americasbest401k.com/fee-checker-medmark>.

Creating Your Practice Culture

The keys to Inspiring, Self-direction, Synergistic Teamwork and Continuous Improvement

by Amy Morgan

Have you decided to take control of your business? Implement some of the life-changing choices you've had in front of you? Decided to finally start making a difference in the lives of the children in your practice? Or for that matter, introduce any change or innovation that will help you achieve your professional goals? If the truth be told, the only thing that could stand in the way of successful innovation is an uninspired or poorly managed team, who don't want to do what you want them to do or don't know how to implement the plan! And that my dear friends is caused by no or poor leadership! As Tony Robbins so aptly stated in his interview, "Dentists have worked a lifetime to develop their skills, compassion, and their art. But then there's running the business, and they spend all this money going to school and becoming a great dentist, but no one teaches the business aspect. Most people in that position get stressed out and overwhelmed." I empathize with that. Getting a strong hold on the business is the only way to get everything you want from your practice!

An excellent leader is responsible for creating and maintaining the culture of a business. The first question then should be: "Exactly what goes into creating an organization's culture and how does that relate to my practice?"

An organization's culture includes:

- The **values** and **behaviors** that contribute to the unique social and psychological environment of an organization.
- It includes an organization's **expectations, experiences, philosophy, and values** that hold it together, and is expressed in its self-image, inner workings, interactions with the outside world, and future expectations.
- It is based on shared **attitudes, beliefs, customs, and** written and unwritten **rules** that have been developed over time and are considered valid.
- **It is important** because it affects the organization's productivity and performance, and provides guidelines on customer care and service.

- And...**It is important** because it extends to production-methods, marketing and advertising practices, and to new product innovation.

Which is why a strong practice truly is the make-break point for any new technology or clinical methodology's successful integration. If an inspired culture is what is needed to implement sleep solutions in your practice, the next question is: "Where do I begin?"

It all starts with your team. In every survey that has ever been conducted, the results are universal about what behaviors team members come to expect from excellent leaders in order to support a culture of change, growth and innovation. The top expected behaviors of leader excellence always include:

1. The leader treats me as a human being, not just an employee.
2. The leader believes in me, even when I don't believe in myself.
3. The leader trusts me and is honest, including admitting when he/she is wrong.

The secret to your success as a leader lies in exhibiting all 3 of these behaviors at all times! When you can personify these behaviors and integrate the additional key skills of leadership, you will create a successful culture and begin to experience success beyond your wildest dreams. The question then becomes: "How do I continue my journey?" The answer is simple (and on-going):

So, where to start, or re-start?

- **Create a vision for change**, align your people behind it and develop a plan for executing it. And anyone who has attended Leadership 1 (The "Unkillable" Leader) or Wayne Pernell's

Leadership Retreat knows that this is the "STEP 0" for any upgrades to your practice culture! Your vision doesn't have to be grand or profound, but without it you can't expect people to be motivated to follow.

- **Communicate in a way that inspires trust and confidence.** Once you have the vision, it is vital to learn how to communicate in a way that inspires both trust and confidence in the people that you lead. The only communication that inspires trust is honest, authentic communication that allows the individual you are communicating with to know exactly where they stand. Does it take courage? You bet it does! Is it important? No doubt. This is commonly called assertive influence and it includes: "this is what I need, this is what I am getting and this is what I expect in the future". Elsewhere in this issue of DSP, you can read an interview with Tony Robbins that I hope you will take to heart. Anyone think he doesn't have courage and make important choices?

As Tony Robbins stated, it is essential that dentists take control of their practice! Leading a team and creating the ideal culture is a process, not an event, and it requires continued dedication and focus beyond the dental chair (and a great deal of humility) to be successful. As a practice management consultant, I can assure you that being a leader, investing in your culture and inspiring change – change is difficult, but also the only way to ensure innovation and synergistic growth. Keep on keeping on! It's always worth the effort! **DSP**

An inspired culture is needed in your practice. The next question is: "Where do I begin?"



Since 1993, **Amy Morgan**, CEO and owner of Pride Institute has had the privilege of serving the dental community as part of the team at Pride Institute. She counts herself lucky to have been hired and mentored by Dr. Jim Pride as she moved up from a consultant/trainer to CEO in 1999. Since 2004 when Dr. Pride passed his legacy to Amy and the ownership team, it has been their goal to honor his contributions and his core values while implementing new models and methods for a modern world!

As a well-known consultant/trainer, Amy has worked diligently to enhance Pride Institute's time-proven management systems and strategies in order to revitalize thousands of dental practices. Her goal is to make sure all who seek Pride's advice and support become more secure, efficient, profitable and happy. Amy continues to enjoy "spreading the word" as a speaker throughout North America and Europe and has been featured at every major dental meeting, as well as presenting customized programs at various study groups and dental companies. Amy also contributes articles, columns and whitepapers in all the major dental publications. Some of the unique books and training manuals she has created are designed to address the true issues that doctors and team face every day in their practice with real solutions. To find out more about how Pride Institute can help you, send an email to info@prideinstitute.com, or visit us at www.prideinstitute.com.

Untreated Obstructive Sleep Apnea in Children Leads to Long-term Complications

by Mayoor Patel, DDS, MS

Sleep is supposed to be a peaceful activity, not a battle to breathe. Watching a child struggle to get oxygen at night is one of the most heartbreaking things for one to witness. Obstructive sleep apnea (OSA) not only causes restless sleep in children, but can also lead to serious morbidities into adulthood. And not only are cardiovascular, metabolic, and endocrine problems linked to pediatric OSA, but OSA is also associated with behavioral and neurocognitive dysfunction.¹

It is time for parents to take charge of their child's health now before OSA develops into more complicated conditions. Dentists are positioned to screen children and to make parents aware of current statistics and studies regarding OSA, especially since this condition has become increasingly more common with the prevalence of snoring in children at 3 to 12 percent, and OSA affecting up to 10 percent.¹

Behavioral Problems and Attention Deficit Hyperactivity Disorder (ADHD)

In a study of 829 children, ages 8 to 11 years old, 5% of children were classified as

having OSA, and 15% had primary snoring without OSA². Children suffering from some form of sleep disordered breathing (SDB), such as sleep apnea or snoring, exhibited a higher prevalence of problematic behaviors including an increase in hyperactivity (19%), inattention (18%), aggressiveness (12%) and daytime sleepiness (10%)³. These conclusions remained significant among all ages, sex, race, household income, and respiratory health history.

In another study of 66 school-aged children diagnosed with ADHD, a presence of mild OSA was found. After treatment, behavior was improved more than in those who had received no treatment. Recognition of ADHD with OSA, and treatment of the underlying OSA has proven results in long-term behavioral improvements⁴.

Children ages five and up often exhibit enuresis, behavior problems, deficient attention span, and failure to thrive, as well as snoring. With this in mind, it is important to encourage parents to seek a diagnosis and begin treatment for children before the condition affects not only their health but their



day-to-day life including aggressive behavior, ADHD, delays in development and reduced scholastic performance. In our practice, we use a special screening questionnaire for children and I have listed some of the most pertinent questions below:

While sleeping, does your child:

- Snore?
- Exhibit “heavy” or loud breathing?
- Appear to struggle to breathe?

Does your child:

- Tend to breathe through the mouth during the day?
- Have a dry mouth on waking up in the morning?
- Exhibit morning headaches?
- Sometimes wet the bed?
- Wake up feeling unrefreshed in the morning
- Appear to be sleepy during the day?
- Appear to be easily distracted?
- Have problems with tasks or school performance?

Our visual intraoral assessment includes evaluating the tongue and tonsil size, Mallampati class, temporomandibular joints, screening for maxillary and mandibular constriction and the dental relationship.

Parents Need to Seek Care Now

We’ve seen that treating behavioral problems and other conditions is easier in children than it is in adults. As adults, behavioral problems such as ADHD, depression, anxiety or anger issues may be complicated and deep rooted. We can provide these adults with as many treatments as we can think of, but the one underlying cause of their development of these conditions may have never been solved: obstructive sleep apnea. Untreated sleep apnea leads to daytime sleepiness, aggression, irritability, and comorbidities. We need to encourage parents to take charge of their children’s health before symptoms worsen and further complicate their lives.


Establish Referral Relationships Across Various Physician Specialties

A working relationship with the medical professionals in your community is essential in providing proper treatment for your patients. Treating childhood OSA is a team effort, with the patient’s dentist, pediatrician, ENT, sleep physician and an orthodontic provider, specializing in jaw orthopedics, all

potentially playing a role in diagnosis and treatment. Determine which sleep physicians have training in pediatric OSA. Introduce yourself to the child’s physicians and establish solid relationships by informing them that you are screening your pediatric patients for obstructive sleep apnea, will be referring to them for an evaluation and diagnosis and keep them in the loop with written follow-up reports.

Treatment Options

Treatment options for our pediatric population vary based on physician’s opinion. It’s been recommended that this population of patients is managed and in some cases treated with adenotonsillectomy⁵, CPAP and maxillofacial expansion⁶.

It’s no secret that we want our children to grow into successful adults, so why hinder their development by ignoring sleep apnea symptoms? As mentioned, untreated OSA in children can lead to problematic behaviors, ADHD, depression, anxiety and deep rooted anger issues. Start screening now for a proper diagnosis for children to prevent the development of further complications as they become teenagers and adults. 

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Having a limited practice to Craniofacial Pain and Dental Sleep Medicine, **Dr. Mayoor Patel, DDS, MS, RPSGT, D.ABDSP, DABCP, DABCDSM, DABOP**, utilizes his experience and expertise to help dentists across the country excel in these areas within their dental practices. As Clinical Education Director with Nierman Practice Management, Dr. Patel develops up-to-date curriculum for their sleep apnea and craniofacial pain programs. Dr. Patel serves as a board member with the Georgia Association of Sleep Professionals, the American Board of Craniofacial Dental Sleep Medicine, American Board of Craniofacial Pain and American Academy of Craniofacial Pain. He also has taken the role as examination chair for the American Board of Craniofacial Dental Sleep Medicine and American Board of Craniofacial Pain.

New TMD Diagnosis Codes Show Laterality

by Rose Nierman, CEO Nierman Practice Management

You've heard the adage of the three most important things in property: location, location, location. For TMD (temporomandibular disorder) medical claims, the adage is diagnosis, diagnosis, diagnosis! Whether you are treating an adolescent or an adult, documenting your clinical assessment using specific diagnostic codes is essential for record-keeping, for medical insurance reimbursement and retention of insurance payments. ICD-10 diagnostic codes are developed by the World Health Organization (WHO). The set of codes referred to as the International Classification of Diseases, Tenth Edition (ICD-10), is a clinical cataloging system modified in 2015 from the previous coding set to allow for more specificity. At the time of the 2015 ICD-10 release, codes for organ systems and body areas were designed to stipulate left and right sides of the body. Surprisingly, the TMD ICD codes were not as specific. Until now. On October 1, 2016, the majority of TMJ related ICD-10 codes were deleted and replaced with new codes which indicate left or right side or bilateral conditions.

The deleted codes and their replacements are listed below.

Deleted Temporomandibular Disorder (TMD) ICD-10 codes

- M26.60 Temporomandibular joint disorder, unspecified
- M26.61 Adhesions and ankylosis of temporomandibular joint
- M26.62 Arthralgia of temporomandibular joint
- M26.63 Articular disc disorder of temporomandibular joint


Added Temporomandibular Disorder (TMD) codes

- M26.601 Right temporomandibular joint disorder, unspecified
- M26.602 Left temporomandibular joint disorder, unspecified
- M26.603 Bilateral temporomandibular joint disorder, unspecified
- M26.609 Unspecified temporomandibular joint disorder, unspecified side
- M26.611 Adhesions and ankylosis of right temporomandibular joint
- M26.612 Adhesions and ankylosis of left temporomandibular joint
- M26.613 Adhesions and ankylosis of bilateral temporomandibular joint



- M26.619 Adhesions and ankylosis of temporomandibular joint, unspecified side
- M26.621 Arthralgia of right temporomandibular joint
- M26.622 Arthralgia of left temporomandibular joint
- M26.623 Arthralgia of bilateral temporomandibular joint
- M26.629 Arthralgia of temporomandibular joint, unspecified side
- M26.631 Articular disc disorder of right temporomandibular joint
- M26.632 Articular disc disorder of left temporomandibular joint
- M26.633 Articular disc disorder of bilateral temporomandibular joint
- M26.639 Articular disc disorder of temporomandibular joint, unspecified side

The ICD-10 codes are an essential part of your clinical record, and it's important to include these TMD codes in your clinical notes as well as your letters of medical necessity. Also, when there is a secondary diagnosis, the sequence that codes are placed on a CMS 1500 medical claim form does matter. For example, a TMJ condition is typically coded first. Secondary codes, such as head pain (ICD R51) "tell the story" of medical necessity in that the TMJ disorder is primary and is causally related to head or cranio-mandibular pain.

TMD claims are processed favorably by many medical insurers when the dental practice knows the processes including documentation, narratives and billing codes that are appropriate. And with the new codes, it's not only choosing the right diagnosis but the location that matters too! 



Rose Nierman, RDH, is the Founder and CEO of Nierman Practice Management, an educational and software company (DentalWriter™ and CrossCode™ Software) for Medical Billing for Dentists, TMD and Dental Sleep Medicine advanced treatment, and co-founder of the SCOPE Institute, a non-profit educational organization dedicated to the advancement of sleep apnea, craniofacial pain treatment, and medical billing within dentistry.

Rose and her team of clinical and medical billing experts can be reached at Rose@Dentalwriter.com or at 1-800-879-6468.

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Don't Call It Early Orthodontics!

DSP Profiles Dr. Kevin Boyd
and Dr. Janet Pannaralla





Drs. Kevin Boyd and Janet Pannaralla



Craniofacial Mandibular Respiratory Morphology. Chances are, you've not seen those words together before. If you want to make a real difference in your community health, Drs. Boyd and Pannaralla think those words are maybe the most powerful phrase you can know. DSP had a chance to interview these inspiring professionals and here's their story:

Kevin Boyd grew up a son of a dentist when 'children's dentists' were rarely found. Other kids wanted to be firemen, but Kevin set his sights not on just following his father into the profession, but helping children. Schooling included a master's degree in Human Nutrition, where he studied dental caries, then dental school and specialty training at the University of Iowa. This turned out to be fortuitous, because that program had an aggressive approach to 'interceptive orthodontics.' He learned to pay attention to jaw shapes and developing arches, but, like nearly every program, there was no airway focus back then. One of his professors, Dr. Samir Bishara, emphasized growth and development from an early age.

In practice in the early 1980's, Kevin was using his training to help kids get bigger arches for better smiles and easier orthodontic care – and began to notice parents were thanking him for other results. Widening the arch was being credited for better breathing, halting bruxing, even resolving enuresis! Who knew at that time that early therapy was having an airway effect?

Dr. Stephen Sheldon, DO, thought so – and recruited Kevin to see the kids from the sleep center he headed in Chicago. This started a close collaboration between medical and dental specialists that has resulted in research, a book chapter, and many children breathing better for life. They see children as young as 2 and track the effect of treatment as they grow.

The busy practice needed help so Dr. Janet Pannaralla, a general dentist, came aboard; after many hours of CE and years of clinical experience practicing child and airway health-focused general dentistry, she is as highly skilled in many important aspects of children's dentistry as any specialist. One of her many passions and skills is helping children with special needs – a segment of our population that is already vulnerable and sometimes overlooked. Many have an unrecognized airway problem – along with myofunctional issues and open mouth posture, structural compromises can provide serious challenges to 'regular' dental care and even more for airway! It's common to see wheelchairs in Kevin and Janet's office as they re-



The team includes service dog "Blue."

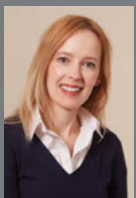
fuse to let such things get in the way of their commitment to helping all of their patients.

"Nathan", age 2 ½, was brought in by his mother, a dental hygienist, driving 4 hours each way because Nathan was going down the path of ADHD diagnosis, medications, behavioral labeling, and Mom would have none of that. A sleep test confirmed the symptoms she was seeing were from POSA – and they didn't go away after adenotonsillectomy. Next up? Orthodontic expansion – but she drove all that way to find dentists who understood Craniofacial Mandibular Respiratory Morphology – it's not about the shape of the jaw alone! It's the whole complex. Interceptive orthodontic therapy with an airway focus coincided with resolution of most of his pre-treatment symptoms, and Mom is happy to have a better sleeping, breathing.....and behaving Nathan now.

No one can talk with Kevin and Janet long without feeling their passion for Craniofacial Mandibular Respiratory Morphology – and it's not enough for them to impact only the kids in their practice area - even from 4 hours away. Good news for more children is they have plans to teach dentists from anywhere how to help kids like Nathan.



Kevin Boyd, DDS, MSc, is a board-certified pediatric dentist practicing in Chicago. He is also an attending instructor in the residency-training program in Pediatric Dentistry at Lurie Children's Hospital where he additionally serves as a dental consultant to the Sleep Medicine service. Prior to completing his dental degree from Loyola University's Chicago College of Dentistry in 1986, he obtained an advanced degree (MSc) in Human Nutrition from Michigan State University where his research interests were focused on unhealthy eating, dental caries, obesity and diabetes. Kevin attended the University of Iowa for his post-graduate residency training where he received a Certificate in Pediatric Dentistry in 1988. Dr. Boyd has served on the teaching faculties of the University of Illinois College of Dentistry, the University of Michigan's College of Dentistry, the University of Chicago Hospital, Rush Presbyterian-St. Luke's Medical Center and Michael Reese Hospital as an attending clinical instructor. He is currently completing pre-requisite course work in Biological Anthropology at Northeastern Illinois University in preparation for graduate study and research in the newly emerging discipline of Evolutionary Medicine. His clinical focus is centered upon prevention of oral and systemic disease through promotion of healthy breathing and eating; his primary research interest is in the area of infant/early childhood feeding practices and how they impact palatal-facial development, naso-respiratory competence and neuro-cognitive development. He is currently a visiting Scholar at U.Pennsylvania doing research in the areas of anthropology and orthodontics.



Dr. Janet Pannaralla is a general dentist who has been part of the Dentistry for Children and Families team for more than nine years. She earned her doctorate in dental surgery from the University of Illinois. Dr. Pannaralla has a gentle nature with children and adults and is an excellent communicator. She practices holistic dentistry and makes suggestions based on the overall health needs of her patients. With four children of her own, Dr. Pannaralla has gained valuable insight for addressing the unique needs of children. She has a large following of loyal patients that value her expertise. Her treatment philosophy is to correct facial growth of the upper and lower jaw early, diagnose and help any airway issues, and align the teeth.

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Every dentist who treats childrens' airways doesn't have to be an orthodontist – or a pediatric dentist.



Kids are fascinated by skulls - and Dr. Boyd loves his World Champion Cubs!

Sleep courses for dentists are easy to find – and it's fantastic that more and more of us are learning to screen for sleep breathing problems, get them diagnosed and treated, and look for more of the vast number of at-risk people in our community. But where to go for children's airway issues?


Kevin and Janet have been inspired by pioneers in this area such as Drs. William Hang, John Mew, Barry Raphael, Mark Cruz, Jeff Rouse, Marianna Evans and others, but they have bigger ideas. Every dentist who treats childrens' airways doesn't have to be an orthodontist – or a pediatric dentist. But there are anxiety-behavior management and treatment skills that need to be learned. Soon, in a city near you (because they are 'starting small' with about a dozen cities) you'll have expert classes to take in all aspects of Cranio-facial Mandibular Respiratory Morphology. General dentists and orthodontists can learn to augment their already existing clinical skills to include techniques that are aimed at

helping children at younger ages than what might otherwise be common practice, to sleep, breathe.....and yes, maybe even behave, better; and pediatric dentists who are already highly trained and skilled in pediatric oral medicine might find new areas of service within their

specialty. Dental team members are vital to every office service – the reason for the 'many cities' is to make it easier for teams to attend training together.

Look for these classes in 2017 – and, in the meantime, you can download Drs. Boyd and Sheldon's book chapter on growth of the airway at: <http://www.kidstowndentist.com/wp-content/uploads/2015/11/Boyd-Sheldon-Sleep-2014.pdf>. You can also find this link at www.DentalSleepPractice.com

Treating adult airway problems is challenging, rewarding and necessary. Treating children when you have a chance to allow them to grow without the compromise of a poor airway is life changing – for you, for the parents, and for our next generation.

Dr. Kevin Boyd and Dr. Janet Pannaralla can inspire every dentist to truly be part of the solution. Don't delay – your impact is needed. 

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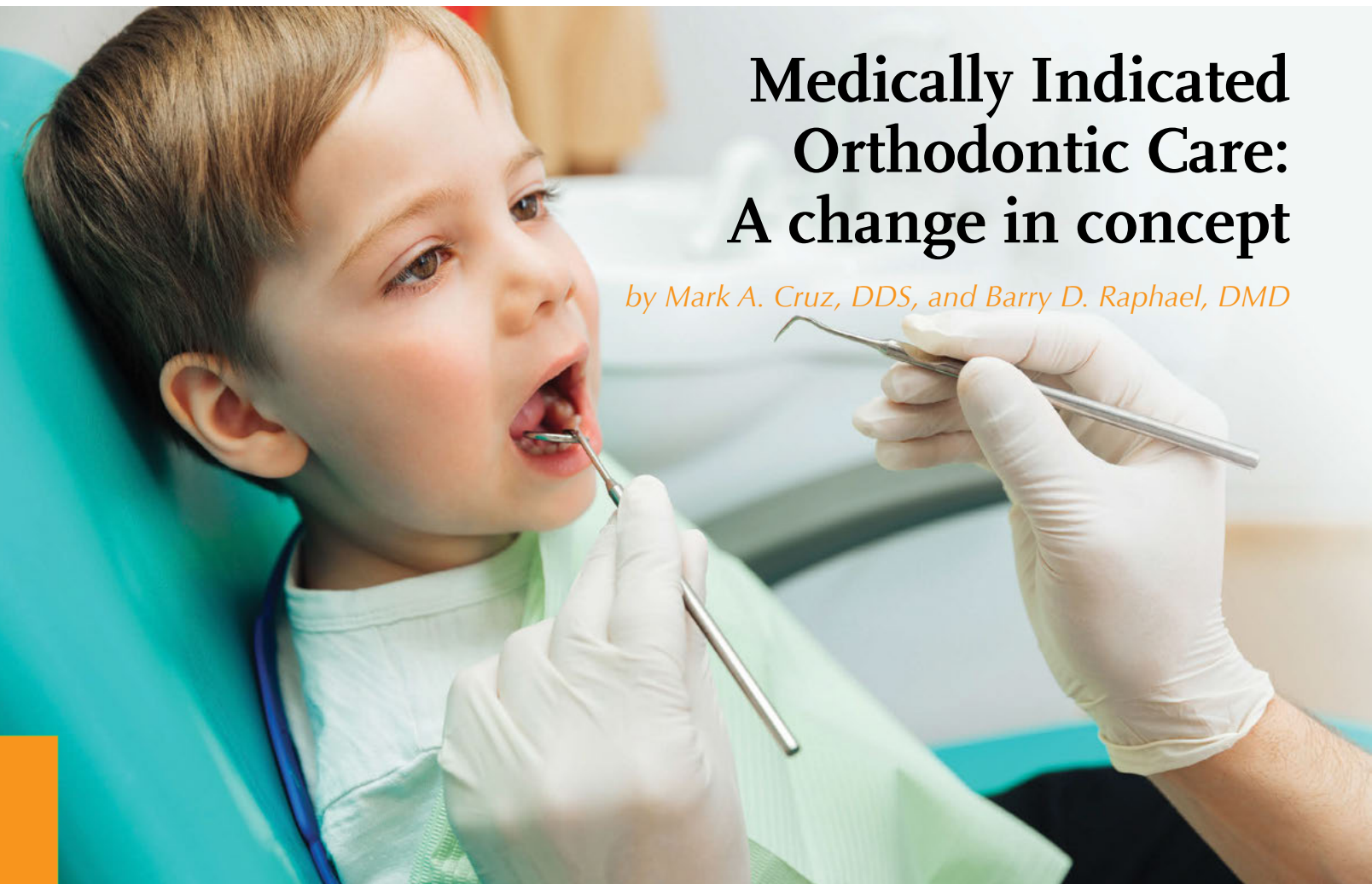
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Medically Indicated Orthodontic Care: A change in concept

by Mark A. Cruz, DDS, and Barry D. Raphael, DMD

The Problem

Current health care policy in the U.S. has mandated that our children should be offered competent dental care as part of maintaining good general health. This includes orthodontic care only if it can be shown to be “Medically Necessary”.¹ Even though only 16% of children can be easily recognized as requiring medically necessary orthodontic care² (while 85% have malocclusion to some degree) as part of the aforementioned mandate, the definition of medical necessity as far as third party payors is concerned has been defined solely by the severity of the malocclusion being based on scoring systems that pile up points for deviations in the position of the teeth from the ideal. These scoring systems (indices) leave no room for subtlety. A malocclusion has to look really bad to qualify even though we know that small occlusal disharmonies can be the etiology of dysfunction and discomfort.

The position of this paper, however, is that traditional methods of orthodontic diagnosis and treatment planning fall far short of defining the true medical needs that can be – must be – addressed by orthodontics, and indeed, healthcare in general. Mounting evidence that comes from outside the orthodontic literature suggests that the conditions that lead to malocclusion also lead to health issues far beyond just crooked teeth including problems with breathing and sleep.^{3,4,5,6}

In his timely 2016 article, Joseph Ghafari describes his vision of “Medically Necessary Orthodontic Care”⁷, noting this topic is of understandable concern for the American Association of Orthodontists. He suggests that the time has come to forgo the distinction between medicine and dentistry, as we are finding it harder to justify paying attention to the teeth without consideration for the person to whom the teeth are attached.

Ghafari illustrates conditions that are directly associated with malocclusion including physical deficits (skeletal malocclusion, hindered growth potential), dental deficits (hygiene, alignment), and psychological deficits (self-esteem). These are the conditions that orthodontics does deal with even if they don't show up in the occlusal indices.

However, there are also medical conditions that orthodontists tend to ignore by declaring them to be issues unsupported by the orthodontic literature; these include TM disorders⁸, facial pain⁹, breathing dysfunctions including upper airway flow limitation^{10,11}, facial morphology changes secondary to open mouth posture¹², and larger whole-body issues related to cranial and spinal alignment, nutrition, breathing, and sleep. While there has been an ongoing thread of effort in other realms of dentistry and medicine to deal with these problems¹³, the orthodontic specialty has by and large seen fit to distance itself by claiming that orthodontic treatment has no direct role to play in either the causation or correction of these dysfunctions.

Historically, many within the orthodontic community have argued that orthodontics should grapple with issues like airway patency and respiratory health. For instance, Donald Enlow, the acknowledged "father" of craniofacial growth concepts, has been commonly quoted as saying, "the airway is the keystone for the face, implying a reciprocal relationship between breathing and facial development."¹⁴ Also, Robert Ricketts stated that "respiration and deglutition is governed

by the same set of muscles and the same set of nerve paths, we cannot separate the two".¹⁵

The question that needs to be asked is whether orthodontic treatment can be responsible for either aggravating, reducing, or even curing certain systemic problems? With the current focus in dentistry on breathing and sleep, the interest in evidence and research is becoming greater.¹⁶

Responsible or Irresponsible?

Perhaps the disconnect in understanding occurs because many orthodontists don't yet recognize that so many of the chronic non-communicable diseases of civilization (including but not limited to malocclusion and sleep apnea) that so plague us (and are breaking our collective healthcare bank) are already developing well before customary orthodontic treatment begins.¹⁷ Since traditional orthodontics is directed primarily at the jaws and teeth, any mitigation of chronic issues of breathing or posture by orthodontics is largely accidental or directed as only a small part of the problem (ie palatal width). While some orthodontists and other dental professionals are showing interest in improving aspects of health (for instance, by enlarging the airway and improving function), there is still no widely accepted, comprehensive approach for the medical conditions other than malocclusion.

For example, if a child has been mouth breathing since his/her ear aches began at 2 years of age (otitis media) and the TM joints

The time has come to forgo the distinction between medicine and dentistry,



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Barry Raphael, DMD, is a practicing orthodontist in Clifton, New Jersey, for over 30 years. His transition to airway thinking came 25 years into practice so as he says, "I know what it takes to make the transition." He teaches these concepts at the Mt. Sinai School of Medicine in New York City. He is the owner of the Raphael Center for Integrative Orthodontics and the founder of the Raphael Center for Integrative Education.

have been strained by compensatory muscle patterns (mouth breathing and reverse swallow), and the shape of the face continues to elongate and the teeth are failing to erupt properly, by the time this child is of “braces age” the damage to the face and airway has already been done. The common assumption

an orthodontist might make is that the condition is a “genetic” problem and erroneously uses the Angle classification to diagnose and treat the case as if the teeth were the only problem. Consequently, some children’s breathing related co-morbidities might be aggravated, or at least remain unaddressed, because the underlying medical problem was never recognized.

However, much can be done for the child starting as early as 2 years of age to prevent the long face syndrome and sequelae, soft tissue dysfunctions, strain on the TM joints and the craniofacial deficiencies if a proactive approach to screen and address early growth and development compensations is taken. Let’s consider just a few of the issues at hand:

1. Posture: A recognition of the destructive influence that mouth breathing and open mouth posture have on the growing face is imperative. Without the scaffolding effect of the tongue resting on the palate, the maxilla deforms in three dimensions of space and changes the shape of the lower third of the face.¹⁸ This subject has been intriguing enough to inspire much research, even though most of the findings have been overlooked in clinical practice. Perhaps this has been due to the difficulty in clinical management and protocol. Moreover, it is well established that intramembranous bone growth – of which much of the splanchnocranium is derived – is driven by the soft tissue function or dysfunction.

Additionally, achieving proper tongue posture and function requires us to address the adequacy of nasal and pharyngeal airway patency first and foremost. We need to add clinical protocols and appropriate referrals to address the need for proper nasal breathing and good lip seal as a primary goal of treatment in every case.¹⁹

2. Nutrition: Current evidence both within and outside of dentistry shows that the foods we eat²⁰ (highly processed and sugar-laden) and how we eat them^{21,22} (first from a bottle rather than the breast, and then highly processed and soft) are a major factor in the malocclusion epidemic. This has been known for over a hundred years and is amply verified in the anthropology literature. Malocclusion is a modern epidemic and needs to be recognized as an epigenetic response to a changing environment.



Here’s a relevant quote from an orthodontic journal: “It is the duty of every physician to realize that [skeletal] deformities are progressive, and that the removal of the adenoids is but half of the treatment required. If a greater amount of attention is paid to the deformities in early life, a great amount of good will be done the human family.”

– Dr. W.F. Taylor, *International Journal of Orthodontia*, 1915

By encouraging natural nursing, getting toddlers to eat foods that foster proper chewing, swallowing and breathing neural patterns early in development, we will help assure the promotion of proper function and structure. Society needs to recognize that the provision of nutrient-rich foods that do not challenge the immune system is a responsibility we have to future generations.

3. Breathing: The influence of the modern environment on respiration deserves further study, too. We are literally breathing twice the rate we used to a hundred years ago as our bodies struggle to process the toxic burden of the things we breathe, eat, drink and put on our skin. Many of these industrially derived substances are so foreign to our body that it is a constant struggle to destroy, eliminate or sequester them mounting an exaggerated immune and metabolic response.

There are effective ways to change our biochemistry through breathing repatterning, which improves perfusion/gas distribution to make better use of oxygen and bring the sympathetic nervous system into better balance.²³

4. Sleep: The effects that all the previously described “daytime” problems have on our sleep cannot be overemphasized. Whether affecting the quantity or quality of our sleep, we – and our children – are suffering from a lack of proper rest and recuperation.

The behavioral and neurocognitive sequelae of poor sleep are well documented.^{24,25} The physical comorbidities of bad sleep are numerous and well documented. Sleepiness in adults and hyperactivity in children are well recognized and are, frankly, a menace to our society (How many train, boat, bus and car accidents could be prevented by good sleep?)

What readers of this article should know is that by the time a person succumbs to sleep apnea, it’s is way too late to do anything but mask (pun intended) the problem. CPAP and OATS are but crutches to relieve symptoms. Making sleep and breathing a priority in our early treatment protocols will lessen the risk factors for sleep disorders well before we get to crisis management.^{26,27}

Medically Indicated Orthodontic Care

There are other issues that could be addressed here, but these four are good illustrations of where we in dentistry and orthodon-

tics need to begin to take action. Although orthodontic treatment plans will need to include collaboration with other healthcare professionals to be thorough, orthodontists can play a crucial role in controlling the conditions that create malocclusion.

First, we must intercept the compensations (read: bad habits) that lead to poor facial growth and airway development. Secondly, have to undo the damage to the face caused by those chronic habits. And lastly, we must make sure our patients have adopted the good habits and practices that will keep them healthy from then on. Then and only then can we take our place, not just as mechanics of the mouth, but as physicians of the face. As part of an interdisciplinary team, we can change the outcomes of bad breathing for children so they need not get

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It is time for dentistry, orthodontics and medicine to step up together.

to the point where they can't sleep well in adulthood.

Protocols are available that can be easily inserted into a pediatric and orthodontic practices to deal with these issues.^{28,29} While new learning and some retooling is needed, the biggest obstacles are the revision of orthodox beliefs about how it can't be done. It can be done and is being done.

To summarize, medical indications for orthodontic care are when a child cannot breathe through their nose, cannot hold their lips together without strain, cannot keep the tongue resting on the palate, or cannot swallow without having to recruit facial muscles to help. Similar-

ly, the medical indications for overall health are when a child has poor body alignment, eats foods that are challenging to the body, does not breathe well enough to efficiently support proper metabolism, and does not get a good, restorative night of sleep. Note that none of these conditions are defined by how crooked the teeth are and might never show up in any index. This does not diminish the importance of these medical indications, but it does call into question the methods we have of defining them.

It is time for dentistry, orthodontics and medicine to step up together. When we, as a profession and as a society, take responsibility for these medical indications, we will be a much healthier people. 

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AHI 1 All Night



by Glennine Varga, AAS, RDA, CTA

We team members need to be educated on sleep and how to communicate and educate patients to make decisions that are best for them. When it comes to kids, not only should we be aware of sleep breathing disorders but we need to help educate parents on what to look for, what to be concerned with, and how to approach the medical community.

When a child is diagnosed with Obstructive Sleep Apnea (OSA) the Apnea Hypopnea Index (AHI) is 1 or more events for the whole night, not per hour. You can see how much more sensitive this is compared to adult OSA diagnosis of 5 events per hour or less as normal! This means if a parent witnesses a child struggle to breathe at night, that child only needs to exhibit one episode of total airway cessation for 10 seconds or longer. Parents are the best witnesses and whistle-blowers to have their child observed and evaluated for OSA. Let's look at ways to educate parents on clinical signs and symptoms, risk factors and how to bring this up to physicians.

"He's just tired...irritable...distant...and uninterested. However, he never used to be like that." These are phrases I hear from parents all the time and when the topic of sleep breathing and quality come up most are fascinated with the connection. It's simple. If we don't breathe well during sleep, our sleep cycles can become interrupted causing fragmented sleep which can have a huge negative impact on our overall physical health and mental wellness. When this happens with children the ramifications are massively negative to every aspect of growth and development.

In a dental office we see signs and symptoms of obstructed airways in both adults and children all day everyday. For adults it may be difficult to point out some of these signs; you may see dark circles under the eyes, but no one likes to hear they look tired. However, in children the "allergic shiner" should be a topic of discussion with parents as it can be a dead giveaway that the blood is pooling under the eyes as a result of nasal and sinus congestion. To talk to parents about this sign

**Parents are the best witnesses
and whistle-blowers to have
their child observed and
evaluated for OSA.**




and ask questions about symptoms is a great way to present the value of observation. Like any sign, it is not a diagnosis so the more we can observe the better we can inform physicians when the time comes for an evaluation and diagnosis.

Here is a list of the most common signs and symptoms of obstructed airways in children along with risk factors to be aware of:

- Lingual tongue tie
- Speech impairment
- No spaces between primary teeth
- Retrognathic jaw (skeletal and dental)
- Lingually inclined teeth
- High palatal vault
- Reports of clenching or grinding
- Bed wetting
- Night terrors
- Restless sleep
- Snoring
- Allergies (nasal congestion)
- Mouth breathing (check pillow)
- Allergic shiner (dark circles under the eyes)
- Hyperactivity (ADD/ADHD)
- Loss of interest in learning
- Mood swings

Now that we know what to look for, how to do have conversations with parents? We do this as we do with adults – simply ask: Has your child's sleep ever been evaluated? Ex-

plain that an obstruction in sleep breathing can cause all of these signs and symptoms. Most parents have no idea bedwetting at age 10 could be linked to sleep breathing. Most have no idea that when a child is lingually tongue-tied it restricts the child from using the tip of his/her tongue to expand his/her maxilla, which happens to be the base of the sinus cavity. Most have no clue mouth breathing could be restricting the child's growth and mental development. Of course once parents are interested in learning more it is best to direct them to a physician and orchestrate a sleep evaluation.

Direct parents to a physician. Easier said than done in some cases. My own godson Charlie has a sleep breathing issue and his mother became aware of it and had her pediatrician evaluate him. The pediatrician said "No, he is fine – no evaluation needed." She immediately looked for another opinion. The second physician listened to her concerns and evaluated his sleep and breathing. As the exam occurred it became very apparent Charlie was not able to breathe through his nose and it was suspected that he hadn't been able to for several years. He is currently being treated and his parents are grateful for the second opinion. In my experience, it is best for parents to become educated and search for medical professionals who understand the impact of an obstructed airway. Dentists and teams are working hard to develop relationships with physicians and it would be a great start to find like minded physicians that are proactive with sleep breathing evaluations. Until then, educating parents is key and offering resources like the Foundation of Airway Health (FAH) so they can learn more. *Finding Connor Deegan* is a great video FAH posted on YouTube (<https://www.youtube.com/watch?v=Sk5qsmRyVcE>) that has helped parents become more aware of sleep breathing issues in children. Our dental profession can work directly with physicians to help identify children at risk. However, a concerned persistent parent should get the job done and it's best to support and educate as best we can. 



Glennine Varga is a certified TMD assistant and educator with an AA of sciences. She is a certified TMD assistant with the American Academy of Craniofacial Pain. She has been employed in dental education for over 19 years. Glennine has been a TMD/Sleep Apnea trainer and speaker with emphasis on medical billing and documentation for over ten years and a trainer of electrodiagnostic equipment for five years. Glennine

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Editor's Note: This Sleep Team Column will be dedicated to the team and provide practical tips and resourceful information. Let us know your specific issues by email to: SteveC@MedMarkAZ.com, while we can't respond to every individual. Your feedback will help us create the most useful Sleep Team Column we can!

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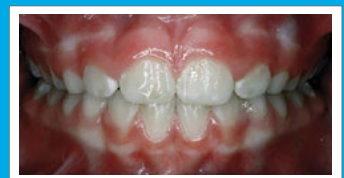
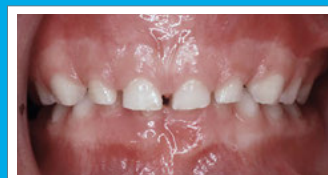


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The Healthy Start System is Effective in Addressing Sleep-Disordered Breathing in Children

by Earl O. Bergersen, DDS, MSD, and Brooke Stevens

Sleep Disordered Breathing in children is a much more critical and common problem than what has been previously thought. SDB can manifest itself in a variety of outward symptoms that can be easily over-looked, misdiagnosed, and, most unfortunately, left untreated. The Healthy Start system is a non-invasive, non-pharmaceutical, natural form of treatment that uses a series of specially designed appliances to promote proper breathing habits. The Healthy Start addresses mouth breathing, snoring, open-bite, cross bite, narrow palate, improper jaw development, speech difficulties, thumb/finger sucking, and improper swallowing. The system treats orthodontic problems such as crowding, overbite, overjet, gummy smiles, and class III corrections.

Does your child:		INITIAL	FOLLOW UP		INITIAL	FOLLOW UP	
1.				Snore at all?	14.		Talks in sleep
2.				Snore only infrequently (1 night/week)	15.		Poor ability in school
3.				Snore fairly often (2-4 nights/week)	16.		Falls asleep watching TV
4.				Snore habitually (5-7 nights/week)	17.		Wakes up at night
5.				Have labored, difficult, loud breathing at night	18.		Attention deficit
6.				Have interrupted snoring where breathing stops for 4 or more seconds	19.		Restless sleep
7.				Have stoppage of breathing more than 2 times in an hour	20.		Grinds teeth
8.				Hyperactive	21.		Frequent throat infections
9.				Mouth breathes during day	22.		Feels sleepy and/or irritable during the day
10.				Mouth breathes while sleeping	23.		Have a hard time listening and often interrupts
11.				Frequent headaches in morning	24.		Fidgets with hands or does not sit quietly
12.				Allergic symptoms	25.		Ever wets the bed
13.				Excessive sweating while asleep	26.		Bluish color at night or during the day
					27.		Speech Problems *

Figure 1: Sleep Disordered Breathing Questionnaire

Early intervention is critical when addressing sleep issues. The optimal age for a Healthy Start patient is between 2 to 12 years of age. The first step is to have a parent complete the Healthy Start Sleep Questionnaire (Figure 1), a series of 27 observable symptoms. With each symptom identified, the parent assigns a severity score from 1 to 5.

A recent study of 501 Healthy Start patients from the ages of 2 to 19 found that 9 out of 10 children display at least one symptom of Sleep Disordered Breathing.¹ This study also found that between 4 and 12 years of age, 92.6% of symptoms did not self correct while 30% worsened with age. The four most common symptoms found amongst this sample include mouth breathing, snoring, talking in sleep, and teeth grinding. The dentist is well positioned to uncover these problems and guide the parents into seeking a solution.



The 14 Most Common Symptoms of SDB

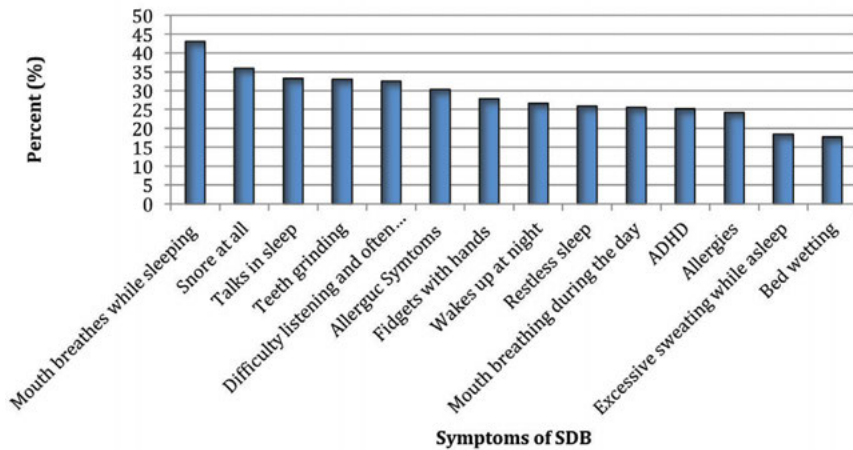


Figure 2: The 14 Most Common Symptoms of SDB

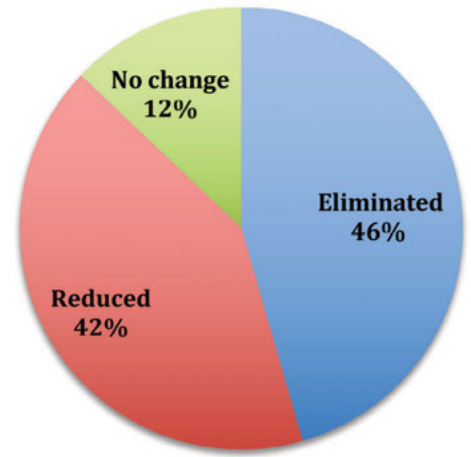



Figure 3: Incidence of Symptoms in the 3 Month Follow Up Sleep Questionnaires

The Healthy Start system consists of a series of oral appliances that are worn initially at nighttime and then includes progression of appliances to be worn up to two hours per day. The initial Healthy Start appliance begins to address these habits. The Habit Corrector appliance is worn every night to help the patient accommodate to keeping the appliance in the mouth all night long. Mouth breathers wear the appliance while sleeping and with consistent nighttime wear, the mouth breathing is eliminated and converted into nasal breathing which promotes healthy habits and maxillary development.

A follow-up sleep questionnaire is filled out after the first three months of treatment. The same parent who initially filled out the questionnaire fills out the follow-up. Figure 3 shows the results of 61 randomly selected follow-up questionnaires providing evidence that out of the total number of symptoms analyzed 88% were corrected: 46% completely eliminated, and 42% reduced.

To correct or modify these sleep symptoms, particularly before a child enters school, can be a life saving procedure and one that can greatly improve the child's well-being in school and their normal social interaction with other children. To alter even a single symptom, such as prolonged bed-wetting, can dramatically change a child's life. It is essential that treatment to alleviate SDB symptoms in children begin as early as possible to set the growing dental/skeletal patterns right. Correction and pro-

motion of proper oral habits puts the child on a path to a long and healthy life.

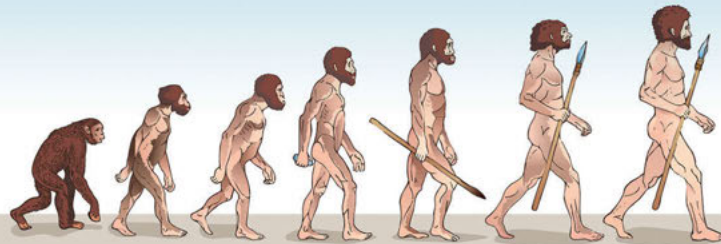
Professionals interested in gaining a greater understanding of SDB and how the Healthy Start System addresses both sleep and skeletal growth conditions can participate in a two-day course. This course provides the necessary information for both the Doctor and staff to identify, evaluate and understand the treatment protocols. Learning is enhanced with a hands-on experience with patients and parents. Please visit www.TheHealthyStart.com for upcoming dates and more information. 

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Earl O. Bergersen, DDS, MSD, taught at Northwestern University for 25 years on growth and development. Dr. Bergersen has lectured throughout Europe, the United States, Canada, Asia, Africa, and South America on growth and development research, as well as at the pediatric post-graduate department of the graduate school of dentistry at Tufts University in Boston, Massachusetts. He has done extensive research and presented many courses on the use of skeletal age assessments of maturity in relation to facial and body growth and its influence on orthodontic treatment and retention timing. Dr. Bergersen's articles on interceptive orthodontics, preventative eruption guidance, habit correction, and breathing disturbances in patients have been published worldwide. He is personally dedicated to improving patient health and treatment experience. His approach is a holistic method to naturally prevent problems where possible through interceptive orthodontics and other practices. Dr. Bergersen says he is committed to supporting his partnering dentists and their patients with his lifetime of knowledge and treatment experience.

Sleep Bruxism:



THE MISSING LINK?

by Dr. Ken Luco

Every doc treating sleep apnea with oral appliances has come across more than one patient who could destroy their device in a week or two or develop severe jaw pain after a night of use. We all know that sinking feeling when you show up for work Monday morning to see Mr. Jones, disgruntled, standing in front of your door with retainer case in hand!

Sleep bruxism is the third most common sleep disorder, occurring in 8% of adults. Yet it is the least commonly considered when treating sleep apnea. A clarification is needed here. Sleep bruxism is not the same as awake bruxism. WHO² and the CDC³ both agree on this point. So does the AASM¹. Google 'sleep bruxism' and you quickly find that most sites refer to both as one in the same – this is an area of great confusion. Sleep bruxism is a sleep disorder, pure and simple, occurring 80% of the time with sleep apnea, synchronizing with each apnea event. It also synchronizes with snoring events in the absence of sleep apnea. The forces generated during sleep bruxism far exceed those generated while awake and are primarily generated by the masseter and temporalis muscles. Sleep bruxism actually is a cascade of physiologic actions:

- There is an increase in heart rate and blood pressure
- There is an increase in EEG activity (a sleep arousal), Epworth Scores 4 to 9
- There is an increase in the suprahyoid musculature muscle tone
- The masseter and temporalis muscles contract in either phasic or repeated movements, tonic or sustained contractions, or mixed, resembling both types, with considerable force

- Often, the sleep bruxism event concludes with a swallowing reflex¹

These events can and do occur hundreds of times each night and can last in excess of 4 to 5 minutes. Although 80% occur with sleep apnea, we cannot overlook the 20% that occur independently. These sleep events together are responsible for most of the dental problems our patients present with. Awake bruxism is not associated with a similar cascade of events¹.

As one would expect, the effects of sleep bruxism are far reaching with chipping, breaking, wearing and cracking of the teeth the most common. Signs and symptoms vary widely between patients; there are none that are found in 100% of sleep bruxism cases. The development of painful muscle spasms and myofascial trigger points is common. Growth of maxillary and mandibular exostoses can occur in longstanding sleep bruxism⁵; teeth under flexing pressure can exhibit painful abfraction lesions. Coronoid elongation (stretching of the coronoid processes) and antgonial notching (bending of the mandible) are seen in chronic cases⁶. Compression of the TMJ can cause TMD, disk displacements, tearing of ligaments and flattening of the condylar heads ("beaking")⁷. Closed locks of the TMJ on waking are very common with sleep bruxism, often lasting for hours¹. Posterior capsulitis and lateral TMJ pain are common findings with sleep bruxism. There are no forces generated while awake during normal function that can produce this type of damage to the masticatory system. Single arch bruxism appliances, while protecting the teeth from damage, do nothing to reduce the sleep bruxism events. Or the sleep disruption. Or the increase in heart rate seen with each event.

A typical tracing of sleep bruxism is seen in Figure 1, showing forces so great that the tops of the peaks are clipped or flattened. The lower red box details a heart rate increase from 55 bpm to 97 bpm (tachycardia). When the heart rate exceeds 90, the left ventricle may not fill completely, lowering pumping efficiency.

This increase in heart rate can go as high as 135 bpm in some individuals and can last minutes. The tracing in Figure 1 was on a 19-year-old male referred for severe TMJ pain.

Until recently there was no treatment available for sleep bruxism. Pharmaceuticals have been studied and, while some showed promise, the side effects were often significant, rendering the treatment unsafe. As sleep bruxism is not psychological in nature, hypnotherapy, psychotherapy, acupuncture and other physical and psychological treatments have all been shown to be ineffective therapy strategies. Botox can reduce the bite force but the clinical benefit wears off; sleep bruxism is a life long illness. There are case studies showing patients who have developed sensitivity to Botox and even some with allergic reactions. The more it is used the higher the risk. Besides, reducing the bite force does not treat the underlying sleep bruxism and its effect on sleep.

In July 2016, the FDA cleared the Luco Hybrid OSA Appliance (Figure 2) for the treatment of sleep bruxism and associated tension/migraine headaches in adults, making it the first FDA cleared treatment for sleep bruxism. A pilot study requested by the FDA demonstrated that this device not only reduced the number and duration of bruxism events, but also reduced the increase in heart rate associated with the events.

There were three areas of study: clinical examination, sleep study with EMG recording and visual analog scales confidentially completed by the subjects. 51 subjects were assessed this way, 26 male and 25 female. The results demonstrated clearly that this device not only treated the sleep bruxism, but reduced TMJ, jaw, neck and shoulder pain more than 90%. It also reduced tension/migraine headaches by over 90%. Tooth thermal sensitivity was eliminated. 19 of the subjects had been in treatment for a mean of 4.1 years. The first home study was without the device and the 2nd with. Although they had been in treatment for years, they completely relapsed with only one night of not using the device. The second study demonstrated a complete recovery.

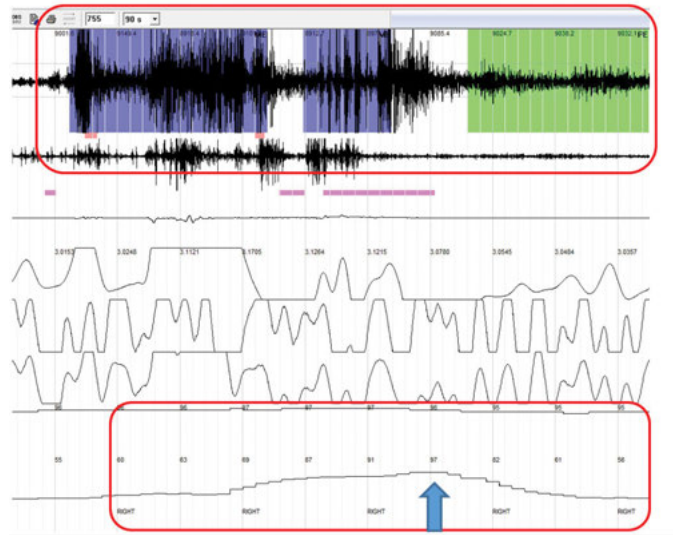
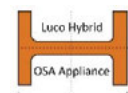


Figure 1: Sleep Tracing of EMG Study of Sleep Bruxism



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Figure 2: The Luco Hybrid OSA Appliance

The Luco Hybrid OSA Appliance (Figure 2) has a unique forward bite (US patent D759,824), distributing the bite force evenly through the skull (Figure 3)⁷. This results in considerable reduction of the damaging effects of sleep bruxism. The only region showing high force is the tip of the cuspid.

When the bite is allowed to contact in the molar regions, there is a very different force distribution (Figure 4)⁸. In this 3D analysis, high stress regions are seen in the molar, ramus, condyle, TMJ and infra-orbital regions (red areas). This is the cause of TMJ pain associated with many OSA appliances. In fact, the FDA⁹ list as a risk with the use of mandibular advancement appliances the development of TMJ Dysfunction Syndrome! With the forward bite of the Luco Hybrid OSA Appliance, the risk of TMJ/muscle problems is eliminated.

Of note, these new indications for this device now allow it to be prescribed by a dentist without medical oversight for the treatment of sleep bruxism and associated tension/migraine headaches. The Luco Hybrid OSA Appliance now has the following indications for use (cleared by the FDA) in adults:


MEDICAL (K130797)

- The treatment of mild to moderate obstructive sleep apnea
- The treatment of primary snoring

DENTAL (160477)

- The treatment of sleep bruxism
- To aid in the treatment of associated tension/migraine type headaches

The Luco Hybrid OSA Appliance is cleared for use in any of these conditions individually or even when they all occur simultaneously. The device requires no modification to existing techniques for the dentist and, with only two points of contact on the forward bite and no acrylic on the lingual, considerably simplifies the insertion process. The Vitallium 2000 framework does not break, reducing costly repairs. With the added benefits of reduced tooth pain, TMJ pain, headache and muscle pain, patients can begin Sleeping in Complete Comfort.

When treating OSA patients, one cannot underestimate the effects of untreated sleep bruxism. It is present in more than one third of OSA patients and failure to recognize it can lead to disaster. Sleep bruxism is truly the missing link in OSA therapy, and possibly the most significant factor in whether or not the patient will be comfortable (and ultimately compliant) in treatment. And now there is an FDA cleared treatment for OSA patients also suffering from sleep bruxism. It is a long term treatment for TMD/OSA patients that is clinically verified and FDA cleared. 

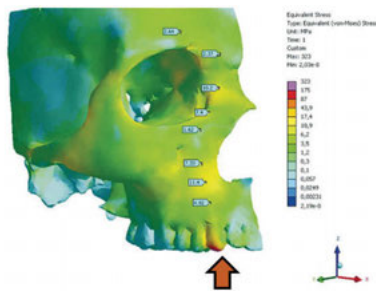


Figure 3: Stress Distribution Cuspid Bite

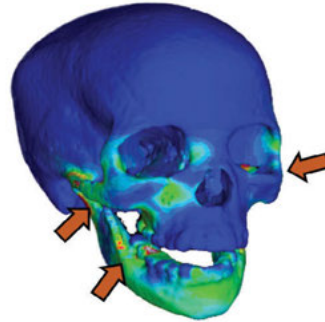


Figure 4: Stress Distribution Molar Bite



Dr. Ken Luco graduated in 1986 from the University of Alberta Faculty of Dentistry. He practiced in Cold Lake, Alberta for 2 years before settling in Kingston, Ontario. He has been involved with the treatment of TMD for more than 30 years. He developed the Luco Splint (lower TMD splint). He has been involved in the treatment of OSA for more than 25 years. He developed the Luco Hybrid OSA Appliance over a 14 year period. In 2013, Dr. Luco obtained the first 510K clearance for sleep apnea and snoring. In 2016, he obtained the second 510K clearance for sleep bruxism/ associated tension/migraine headaches.

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Tongue-Tie

FUNCTIONAL RELEASE

by Paula Fabbie, RDH, BS, COM; Leonard Kundel, DMD; and Peter Vitruk, PhD, MInstP, CPhys, DABLS

The Problem

Ankyloglossia, or tongue-tie, is a common congenital abnormality where the lingual frenum is overly short and tight (posterior ankyloglossia) or aberrantly attached anteriorly to the ventral surface of the tongue (anterior ankyloglossia),¹ “tying” the tongue to the floor of the mouth.

The tongue is an important morphofunctional organ which is largely responsible for orofacial development and growth. Ankyloglossia has been linked to abnormal (deviant) suction swallow pattern in newborns²⁻⁴ and chewing in infants; it frequently leads to speech disorders.⁵ Aberrant lingual frenum results in low tongue position and tongue thrusting which contributes to the formation of high and narrow palatal vault – one of the features favoring collapse of the upper airway during sleep^{6,7} – malocclusion, prognathism, distortion of “harmonic face”⁸ with the mid third of the face smaller than the upper and lower thirds, and, most importantly, mouth breathing.⁹ Mouth breathing may be a factor in tonsillar enlargement – it increases upper airway resistance¹⁰ causing micro trauma to the back of the throat, inflammation and tonsillar growth. Hypertrophic adenotonsils, in turn, obstruct the airflow and exacerbate mouth breathing, and contribute to the abnormal orofacial growth. Therefore, tongue-tie potentially creates a vicious circle with the potential outcome in the form of sleep disordered breathing (SDB) and obstructive sleep apnea (OSA).

The tongue, which has origin and insertion points ranging from the internal portion of the mandible down to the hyoid bone, has many myofascial and muscular attachments to the cervical muscles. ... ankyloglossia is associated with hyperactivity of the suprahyoids and forward displacement of the head. The restricted tongue requires the use of accessory muscles to perform functions such as breathing, breastfeeding, chewing and swallowing. This hyperactivity of the cervical muscles causes shortening of the muscles and induces forward head posture.¹¹

Furthermore, ankyloglossia encumbers the proper function of a temporomandibular joint (TMJ). In the presence of restrictions, movements are compensatory leading to change in bony structure. Such change calls for further accommodations and compensations, which are stressors to the central nervous system. Attaining jaw stability is one of

the most important goals of orofacial myofunctional therapy (OMT). Without jaw stability, proper function may not be achieved and the need for compensations is engaged.

The anatomical changes seen with ankyloglossia lead to development of abnormal anatomic support of the upper airway¹² that is at a higher risk of collapse during sleep.

Frenectomy

Treatments for ankyloglossia include lingual frenectomy.^{2,13-17} This is a surgical procedure that leaves a diamond-shaped surgical wound, the edges of which are approximated and sutured or left to heal by secondary intent.¹⁵ Tongue-tie revision can be performed with a variety of techniques, e.g., frenotomy, z-plasty, y-plasty, and others. The procedure includes the removal of the frenal tissue and sometimes division of muscle fibers at the lingual base, taking care not to involve vascular structures and nerves under the tongue or the sublingual glands located on both sides of the frenum close to where it attaches to the floor of the mouth. When the frenal attachment is fibrous, some form of anesthesia is usually indicated.

Surgical Modalities for Lingual Frenum Revision

A number of surgical modalities have been utilized for tongue-tie revision, such as scissors, scalpel, and electrosurgery. Most up-to-date techniques involve lasers.¹³⁻¹⁷ The disadvantage of a conventional tongue-tie revision with a scalpel is intra-operative bleeding (which entails poor visibility of the site and creates the potential for scarring), need for sutures, post-operative discomfort, and the risk of infection. Use of electrocautery is not recommended in patients with old pace makers and in close proximity to orthodontic devices or implants; the thermal injury may prolong healing. Special attention must be paid to avoid thermal injury to the underlying periosteum and bone.

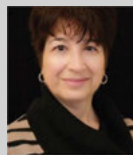
With CO₂ laser frenectomy, patients reported less post-operative pain and discomfort than with the scalpel.¹⁴ Erbium lasers have been effectively used for lingual frenectomies, but the clinician needs to manage intra-operative bleeding, because erbium laser is not an efficient coagulator.

CO₂ laser cuts while coagulating capillaries and small blood and lymphatic vessels; this creates a clear surgical site and helps minimize post-surgical edema. Typically, tongue-tie revision with the CO₂ laser does not involve suturing of the wound, and usually there is no scar. Minimal to no scarring is critical for post-operative OMT exercises that involve the tongue. Most of the time, patients quickly return to everyday routine immediately after the tongue-tie revision procedure, and are advised to follow the prescribed OMT program.

Tongue-Tie release in combination with OMT

The area to be operated on is much better defined when muscles are toned, therefore myofunctional therapy is a must before release of the frenum. Once restriction is removed, post-frenectomy OMT is also necessary in order to re-establish the swallowing, chewing, speaking and breathing patterns acquired as a result of the tongue-tie¹⁸. Repetition of the pattern entrains behavior which helps to establish jaw stability. Length of time of therapy before and after the release is established by the myofunctional therapist depending on the overall goals of the patient. Without such

With CO₂ laser frenectomy, patients reported less post-operative pain and discomfort.



Paula Fabbie, RDH, BS, COM, consults, lectures and has written articles on Orofacial Myofunctional Disorders for dentists, physicians, SLP's and other healthcare professionals. She operates Paula Fabbie LLC and is a certified orofacial myologist.



Leonard Kundel, DMD is a 1999 graduate of Tufts Dental School. He is a member of American Academy of Craniofacial Pain, International Academy of Oral medicine and Toxicology, American Academy of Physiological medicine and Dentistry, and Academy of Sleep Disorder Disciplines. Dr. Kundel's practice has always been focused on treating his patients as a complete system. He collaborates with medical professionals from various disciplines to bring about the best result possible.



Peter Vitruk, PhD, MInstP, CPhys, DABLS, is a founder of Light-Scalpel, LLC. He is a Member of the Institute of Physics, UK and is Diplomate of and Director at the American Board of Laser Surgery, USA. He is also a Member of the Science and Research Committee, Academy of Laser Dentistry, USA. Dr Vitruk can be reached at 1-866-589-2722 or pvitruk@lightscalpel.com

therapy, the incorrect swallow, speech impediments and compensatory posture and breathing habits remain, which can eventually lead to the relapse of OSA and a return of pre-operative sleep disordered breathing and other disorders.

Understanding the continuous interaction between muscle activity of the tongue and other oral-facial muscles, as well as the development of normal anatomic structures supporting the upper airway may lead to expansion of myofunctional reeducation as a therapeutic tool.¹⁹

Tongue-Tie FUNCTIONAL RELEASE

Surgical goals of tongue-tie release are different for infant and adult. Infant lingual frenectomy^{14,20} pursues proper eating/breast-feeding and nasal breathing. Adult needs are much more diverse. Constant, repetitive,

and incorrect use leads to deformation and damage done to orofacial structures that needs to be corrected. Therefore, the release is more extensive than for the infant, and it also involves the mandatory pre- and post-frenectomy myofunctional therapy.

Authors’ technique for the adult Tongue-Tie FUNCTIONAL RELEASE, includes the following steps:

1. Pre-surgical OMT exercises to prepare and re-pattern tongue function once released;
2. SuperPulse CO₂ laser frenectomy, preferably under topical anesthesia and combined with Tongue Movement Assessment for ideal Release to achieve optimal function;
3. Post-surgical OMT exercise program to ensure long-lasting functional results.

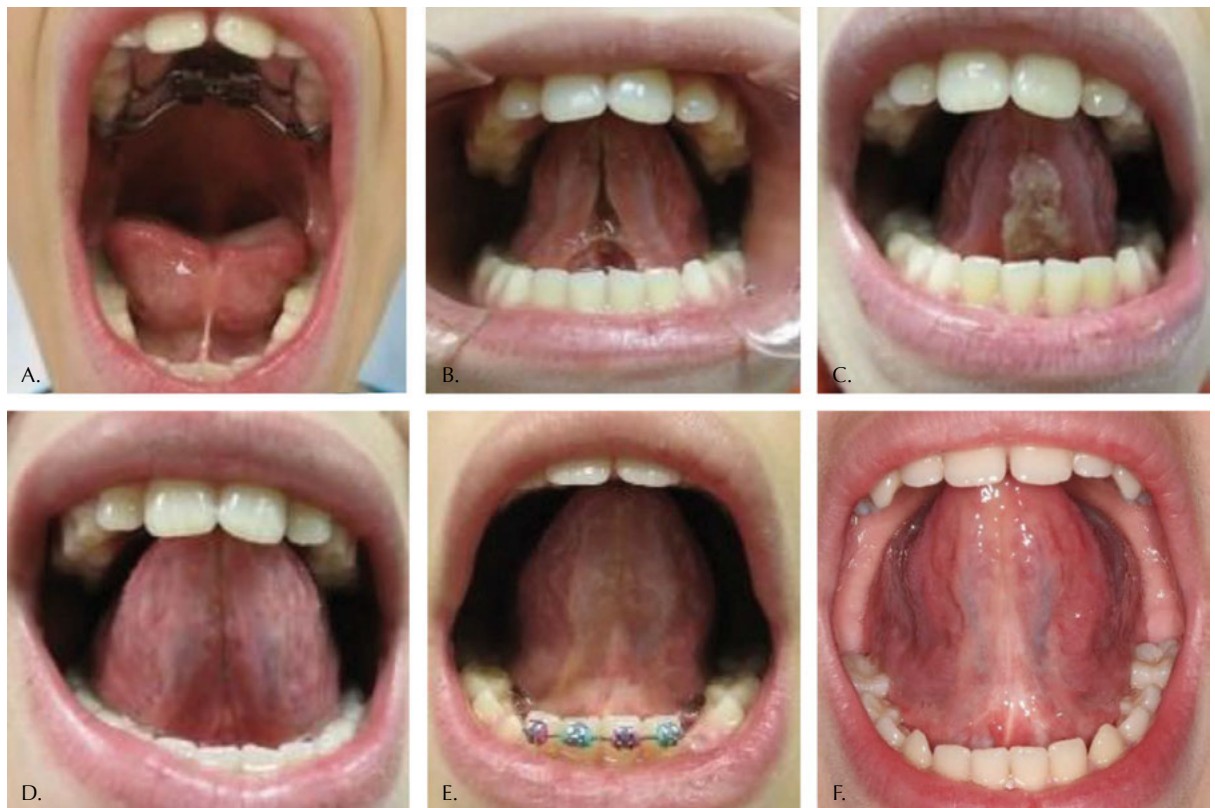


Figure 1: Photos courtesy of Paula Fabbie. (1A) Pre-op assessment of an 8 y.o. patient with OSA, snoring, persistent thumb sucking, anterior open bite. The patient had high narrow palatal vault and was diagnosed with ankyloglossia. Tongue was notched at the tip. Patient was unable to use his tongue for food bolus management and optimal oral phase of swallow in spite of expansion orthodontics. (1B) Immediately after the tongue-tie revision with the SuperPulse CO₂ laser. No sutures were placed. Note the immediate improvement in tongue mobility. (1C) One week post-operatively. No complications were noted. The surgical site is covered with a layer of fibrin. (1D) One Month post-operatively. Note the drastically improved mobility of the tongue. (1E) One year post-operatively. Note the drastically improved extension of the tongue. (1F) Two years post-operatively. Patient has jaw stability and ideal tongue function, which assisted with orthotropic orthodontic appliance therapy. Airway size and patency have improved.

The Tongue-Tie FUNCTIONAL RELEASE is illustrated by clinical cases in Figures 1-3. Note both the immediate and the long-term improved mobility and lift of the tongue. The highly controlled hemorrhage, sealed lymphatics and significantly reduced zone of thermal impact result in less edema and discomfort to the patient. Magnification during the frenectomy is highly recommended as large blood vessels and nerves are in close proximity to the surgical site. Authors prefer to use topical anesthesia to increase the reliability of tongue function during the release. Topical anesthesia does not restrict tongue movement during the procedure when real-time assessment takes place.

In order to rebuild the necessary orofacial function in adult patients, it is not always sufficient to stop at just removing the extra connective tissue that is the aberrant frenum. Once the frenum is removed, the clinician should reassess the function. The clinician must take into account the jaw range of motion, the floor of the mouth flexibility, and the tongue's ability to elevate, protrude, and achieve lateral functions. This will assist in determining if a full release was achieved. Therefore, the clinician should proceed slowly and cautiously in the middle of the site and to release tension thus allowing for full movement of the tongue.

It is important to remember that full range of motion is not always possible due

to other limitations, i.e. clinician needs to know when to stop to achieve the maximum benefit. Frenum that restricts proper lingual motion feels tight to finger pressing in. Unrestricted tongue feels soft. To feel for restrictions one can grasp the tip of tongue with gauze and gently pull the tongue upwards.

The patient typically returns to the dental office for healing assessment and myofunctional therapy weekly. The team then reviews and re-evaluates the benefits achieved. This is necessary for evaluation



Figure 2: Photos courtesy of Paula Fabbie. (2A) 24 y.o. Female Patient presented with OSA, cataplexy, bruxism (jaw instability), muscle bracing, GERD, nasal insufficiency, anxiety and excessive daytime sleepiness. Tongue movement was restricted by a tight posterior frenum. Note large torus palatinus. Mandibular tori were also present. Maxillary torus was removed to prepare for Homeoblock orthodontic appliance. (2B) Two weeks after SuperPulse CO₂ laser lingual frenectomy. The surgical wound was left to heal by secondary intention. Weekly sessions of myofunctional therapy took place pre- and post-operatively to improve oral rest postures, jaw stability and to assist with compliance during homeoblock orthodontics for treatment of airway dysfunction. (2C) One month post-op. Note complete healing of the surgical site and excellent mobility of the tongue. Improvements in breathing/sleeping. Bruxism and jaw instability improved. Patient had improved tongue space after expansion, CPAP compliance improved. Sleep quality and overall wellbeing improved. Patient then elected specific nasal and soft palate and base of tongue surgery to improve sleep and eliminate need for CPAP.



Figure 3: Photos courtesy of Paula Fabbie. (3A) 15 y.o. female; Class 3 crossbite/openbite; moderate OSA, lack of mandibular stability/ hyperlax ligaments; severely restricted lingual frenum, decreased function of tongue/hyoid complex during sleep, needs to use CPAP while waiting for DISE, and prescribed orthodontic/surgical treatment for OSA, mandibular prognathism. Pre-operative aspect of short inelastic frenum. Note limited tongue movement. (3B) Immediately following the SuperPulse CO₂ laser revision. Note the clean precise incision and immediate improvement in the tongue mobility. (3C) Two weeks after SuperPulseCO₂ laser frenum revision. Note lack of inflammation or swelling.

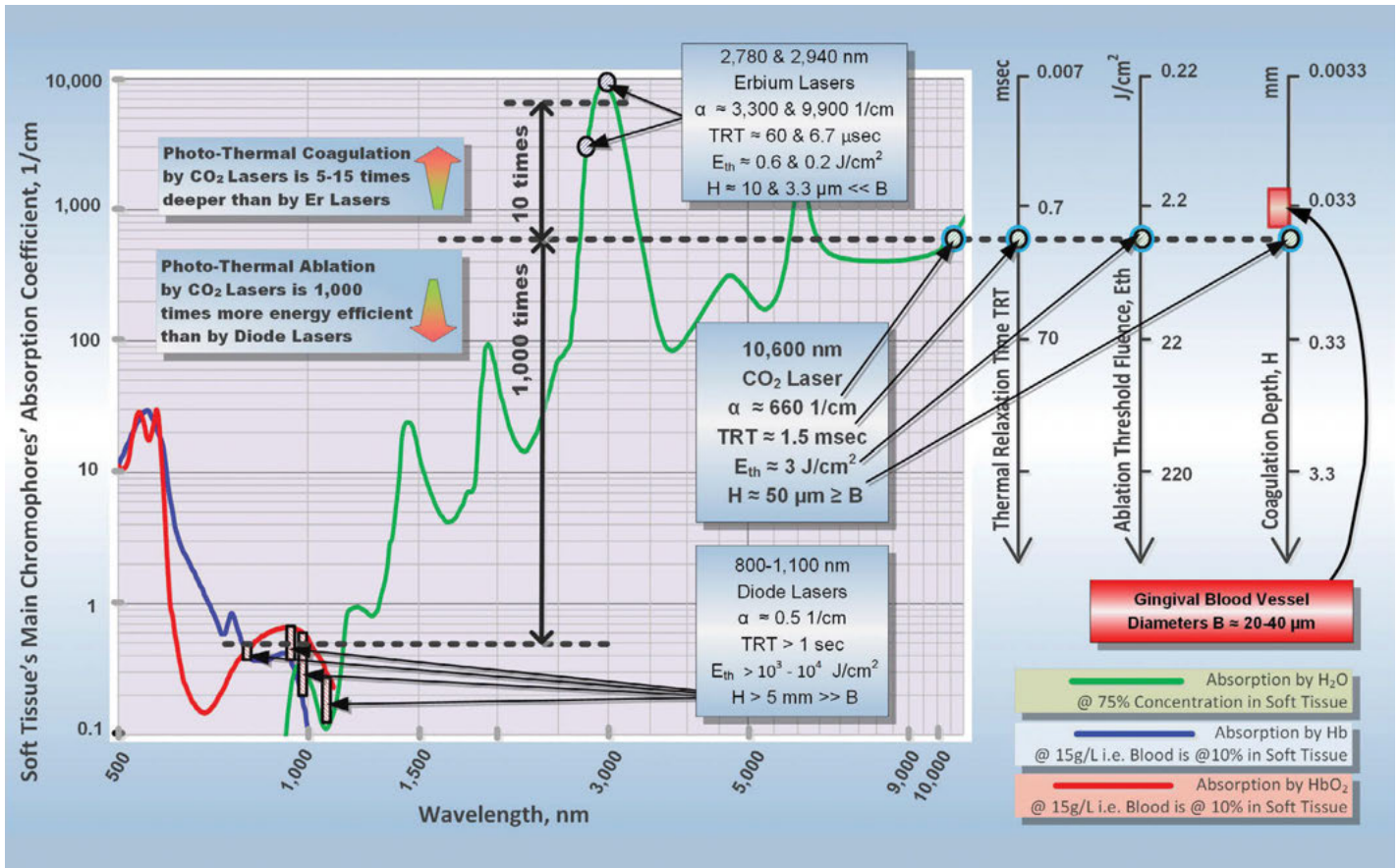


Figure 4: Spectra of Absorption Coefficient, 1/cm, at histologically relevant concentrations of water, hemoglobin (Hb), oxyhemoglobin (HbO₂) in sub-epithelial oral soft tissue, and: Thermal Relaxation Time, TRT, msec; short pulse Ablation Threshold Fluence, E_{th} , J/cm²; and short pulse Photo-Thermal Coagulation Depth, H, mm. B is gingival blood vessel diameter. Logarithmic scales are in use. Graph courtesy of LightScalpel LLC.

of the performance of the tongue, the tone and function changes of the lingual muscles and the suppleness of the healing tissue at the surgical site.

Why CO₂ laser?

Not all lasers are equally efficient at both tissue vaporization (i.e., ablation or cutting) and coagulation. The difference is illustrated in the absorption spectra for main soft tissue chromophores²¹⁻²³ in Figure 4. The advantages of CO₂ lasers in oral soft tissue surgeries include:

- Combination of the CO₂ laser wavelength and SuperPulse settings, which allows for a char-free and bloodless surgery. It allows, as seen in Figure 4, for approximately 1,000 times more cutting efficiency than dental diodes, and for approximately 10 times more coagulating efficiency than erbium lasers;
- Controlled, repeatable and reproducible speed of tissue removal;

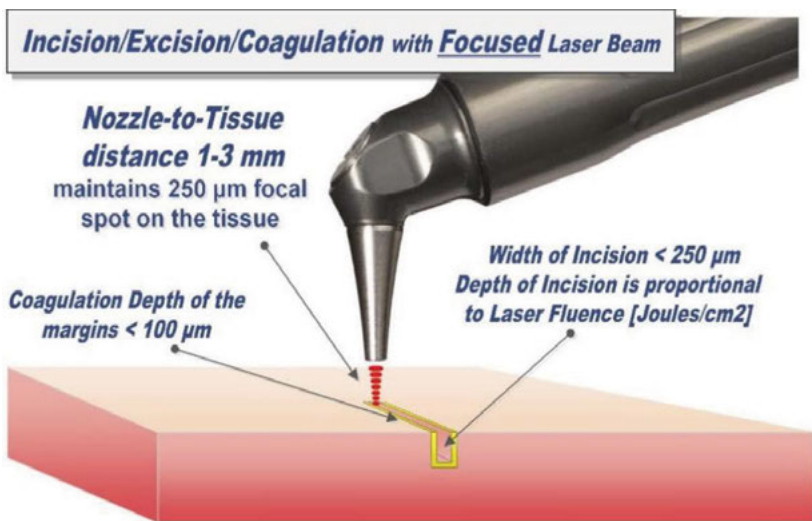



Figure 5: Laser-tissue incision with focused (0.25 mm spot size) laser beam. Defocused beam (approx. 0.8 mm spot size at 9 mm nozzle-to-tissue distance) with reduced fluence coagulates the tissue. The handpiece is pen-sized, autoclavable and uses no disposables. Graphics courtesy of LightScalpel LLC.

- *Coagulation depth of SuperPulse CO₂ laser closely matching the blood capillary diameters*^{20,22,24} as illustrated in Figure 4. It allows, unlike with erbium lasers, for an instant hemostasis during high speed ablation/cutting. It affords the clinician improved visibility of the surgical field and therefore allows for more precise and accurate tissue removal;²²⁻²⁴
- *Highly controllable depth of incision* with dynamic range from micrometers to millimeters. It is proportional to laser power and inversely proportional to laser beam spot size and the surgeon's hand speed;^{23,25}
- *Laser beam focal spot diameter* determines the quality of the laser cut. For cutting, the LightScalpel SuperPulse CO₂ laser handpiece is maintained 1-3 mm away from the tissue and is moved at a hand speed of a few millimeters per second as illustrated in Figure 5. For a rapid switch from cutting to just photo-coagulation, the laser beam can be defocused by simply moving the handpiece away from the tissue (by approximately 5-10 mm for LightScalpel tipless laser handpieces from Figure 5), and "painting" (sweeping/scanning/"painting" motion) the "bleeder" for enhanced hemostasis;
- *Minimal post-operative swelling and edema* due to the intraoperative closure of lymphatic vessels on the margins of the CO₂ laser incision;^{25,26}
- *Reduced post-operative pain and discomfort*, as reported with the CO₂ laser surgery;^{25,26}
- *Significantly reduced post-surgery production of myofibroblasts, diminished wound contraction and scarring.*^{25,26} As observed in our surgeries, healing with the CO₂ laser is markedly different from the other surgical modalities; it is uncomplicated and predictable.

Summary

In order to rebuild the necessary orofacial function in children and adult patients, an extensive **Tongue-Tie FUNCTIONAL RELEASE** includes the mandatory pre- and post- frenectomy myofunctional therapy and the SuperPulse CO₂ Laser frenectomy, preferably under topical anesthesia and combined with Tongue Movement

Assessment for Ideal Release to achieve optimal function.

The choice for the CO₂ laser wavelength and pulsing settings is based upon its unique absorption coefficient by the water-rich soft-tissue. Decreased wound contraction combined with minimal lateral tissue damage, less traumatic surgery, precise control over the depth of incision, and excellent hemostatic ability make the SuperPulse CO₂ laser a safe and efficient alternative to scalpel, electrosurgery, electrocautery, diodes and erbium lasers. 

Acknowledgments

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Cyber Security and Compliance

How to protect your practice, your patient's information and your reputation

by Scott Pope, DDS

The dental profession is rapidly changing with the influx of new digital technologies and the conversion and reliance on electronic data to run your practice. With obstructive sleep apnea and oral appliance therapy, we are now involved with medical billing which increases the transfer of patient private information outside the practice. With these changes to our office infrastructure, we become more vulnerable to cyber security threats. The growing volume and sophistication of cyberattacks targeting the health care industry is of great concern. As practice owners, we are at a point where we need to increase our data security efforts to ward off these threats. A cybersecurity breach can be very costly, both financial and reputational, which can wreak havoc on a medical or dental practice.

Many doctors believe that cyber criminals are not a threat to their small offices. However, when choosing between a large corporation or bank with large security teams and significant investments in information security devices vs. a medical or dental office with no firewall or security team, the doctor's practice is the easy target. In addition, many hackers specifically target small dental and medical offices because we have the crown jewels – protected patient information which is worth 10 fold that of credit cards in the black market.

As medical and dental practices become more frequent targets for cyber criminals, this puts the practice owner at great risk. These offices hold a vast amount of data, including names, health histories, addresses, birthdates, social security numbers, and even banking information of hundreds or thousands of patients. The threat of this information being stolen by a staff member or


a cybercriminal is great, and practice owners must address this concern before a theft creates a legal nightmare for the practice.

In this year's California Data Breach Report, recently published by the state's Attorney General, showed that data breaches affected over 49 million records of Californians. The number of data breaches continue to increase at an alarming pace along with the federal Department of Health and Human Services' Office for Civil Rights (OCR) increasing audits and fines for non-compliance. The bottom line is that we need to take action.

If a data breach were to occur, a letter needs to be sent notifying all patients affected by the data breach, credit monitoring would need to be provided, along with a press release issued to prominent media outlets informing the public of the data breach and posting the incident on practice website. In addition, event notification must be sent to the US Dept. of Health and Human Services (at which point, a notice would be posted by HHS on the "Wall of Shame") and state agencies. An audit by the agencies would likely ensue with the potential of fines being levied by state and federal agencies and the state attorney general. Civil lawsuits by patients are also a possibility.

We as healthcare professionals can no longer put our head in the sand and ignore what is required by law. HIPAA compliance and moreover, good data security practices need to be proactively addressed in the dental profession. The good news is there are solutions available, like Data Guardian Pros (DGP) that was specifically designed by doctors in healthcare and some of the top leading security professionals to help address these challenges. Join us today to help protect the information of your patients and the reputation of your practice.

Data Guardian Pros provides a turnkey solution for the dental practice with four facets of defense. The DGP platform provides an online HIPAA compliance portal designed to provide up to date doctor/employee training, ongoing security and awareness web training. Risk assessments are done yearly for HIPAA privacy and security requirements, compliance guidance for the office with gap analysis and remediation steps to bring the office into compliance. DGP provides 24/7 network security monitoring with real time

alerting, monthly reports and support for incidents. With HIPAA compliance achieved, the practice will receive a Certification of Compliance that can be displayed illustrating the practice's desire to protect their practice, their patient's private information and their reputation. 



Dr. Scott Pope is a graduate from Northwestern University and has over 20 years of private practice experience in Walnut Creek, CA. He is an advanced CEREC CAD/CAM and Cone Beam CT trainer and a beta tester with several dental companies. Dr. Pope is a co-founder of CAD3D Academy. Dr. Pope is also on the Board of Advisors for Data Guardian Pros, protecting your patients, your practice and your reputation. Dr. Pope has achieved Fellowship status with the Academy of General Dentistry and the International Congress of Oral Implantologists.



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Sleep Appliances and TMDs: Are You Ready?

by Samuel J. Higdon, DDS

If it hasn't happened to you, the odds are that it will! What am I referring to? The development of TMD symptoms associated with the delivery of a Mandibular Advancement Device (MAD) for the treatment of snoring or sleep-disordered breathing. Through a series of articles in 2017, DSP readers will learn how to predict, identify, and manage these unwanted side effects.

What are those odds? At this point we don't have sufficient data to make predictions. However, as more dentists are undertaking treatment of OSA, it is being reported with increasing frequency. If you haven't heard about it, it's only because of the difficulty of getting the information to dentists who should know about it. Our series is an attempt to reach the dentists who are providing services in this evolving area of health care.

Who are the patients who might represent a risk of TMD? We do have data that provides important clinical clues related to this risk. This is the information that you need and we will be discussing these in future articles. However, if you are not

doing routine screening for TMDs in your practice, the odds are that you will not recognize risk factors your patients may have.


Can the development of this problem be predictably avoided? There are specific precautions that will minimize the risk, always the first step. However, it isn't enough to have a well-worded informed consent. If, in spite of you having taken reasonable precautions, your patient does develop TMD symptoms, they will want to know what happened and what can be done to correct this problem. More than that, the patient will want and need reassurance, and will quite properly look to you for answers and support. And, if you choose not to treat TMDs in your practice, you need to have a resource to whom you can refer.

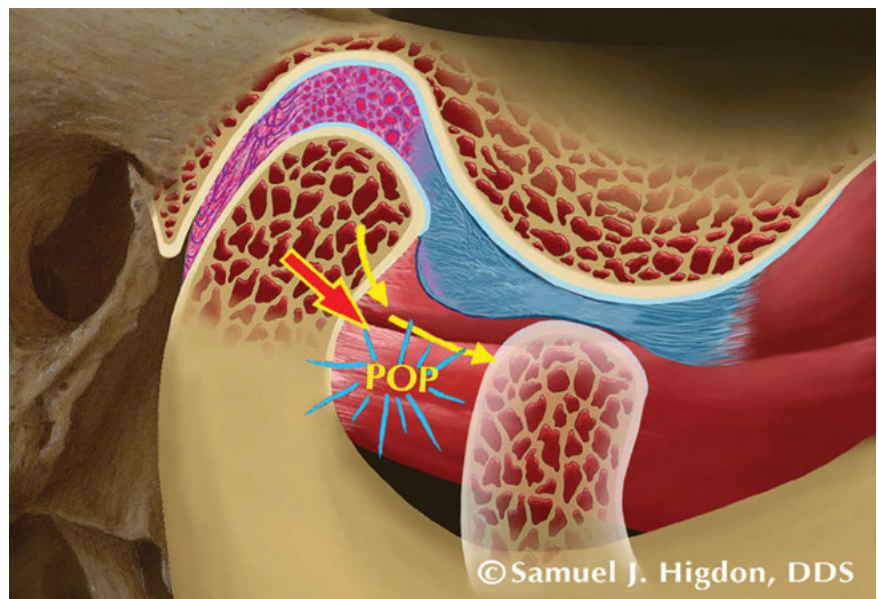
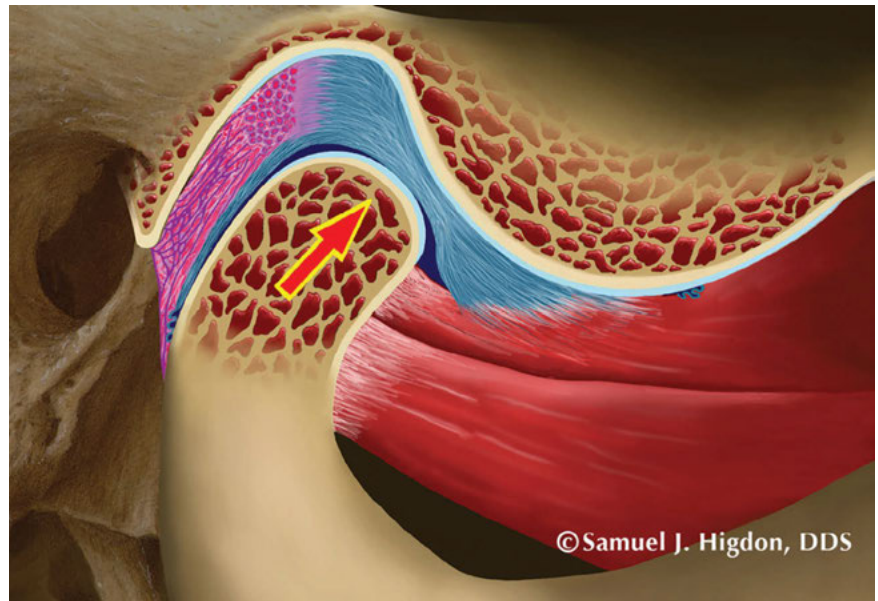
How much do you need to know about TMDs to inform and reassure your patient? Like most dentists, you probably didn't get much information in dental school about TMDs. The following is a list of several essentials that need to be part of your dental sleep practice protocols:

1. You **MUST** screen your patients for occult evidence of potential TMD

problems. We will be discussing this extensively in future articles.

2. You must discuss the potential for the development of a TMD problem with every patient for whom you are providing MAD treatment, regardless of the findings from a screening history and exam. It is possible for TMD symptoms to develop, even when a TMD screening history and exam is entirely negative. We will be discussing this in a future article.
3. In patients who may not be aware of any TMD symptoms but who have positive findings on a TMD screening history or exam, not only should you discuss the potential for the development of TMD symptoms in response to MAD treatment, you must decide if this is a patient who you feel comfortable treating and/or you should consider a treatment approach that does not involve mandibular advancement. There are other options. This decision must be made in conjunction with the patient's sleep physician.
4. You do, of course, need to have a well-worded Informed Consent. If you have taken all necessary precautions to identify and avoid the development of TMDs, and have explained the potential for such development, in spite of negative findings on screening, with a well-worded Informed Consent you will be at minimal risk of any legal issues developing.
5. You need to feel confident in your knowledge of TMDs (even if you choose not to treat them) to be able to explain to any patient who may develop TMD symptoms what has occurred and the options for addressing these developments. This may be the biggest challenge. We will provide an overview of this body of knowledge in future articles. However, taking one or more CE courses just to expand that level of understanding is highly recommended.

The purpose of the series of articles that will follow in *Dental Sleep Practice* in 2017 will be to provide the information you need regarding TMDs related to MAD treatment. I look forward to helping you on that journey! 



Dr. Samuel J. Higdon's practice, for over 30 years, has been devoted to the non-surgical management of TMDs and other problems related to the function of the jaw system. He practices in Portland, Oregon. He is the author and illustrator of, "Illustrated Anatomy of the Temporomandibular Joint in Function/Dysfunction", an education aid for both patients and dental professionals regarding the unique functional anatomy of the TMJs. It is available at TMJAnatomy.com. He is also the co-author of an educational website related to temporomandibular disorders for professionals and patients, at DrawbridgeDDS.com.

What you need to know about online reviews for your practice

by Ian McNickle, MBA

Imagine you've just arrived in a city you're not very familiar with, and it's dinnertime. What do you do? Well, if you're like most people these days, you'll pull out your smartphone and search online review sites such as Yelp for nearby restaurant reviews. In fact, over 90% of consumers now read online reviews to help them decide where to go and what to buy.* While it is true the most commonly searched category for online reviews is restaurants, most people don't realize the second most commonly searched category for online reviews is dentists/doctors.* The days of ignoring your online reviews are over.



Why do reviews matter?

There is a major trend toward patients researching their healthcare providers before visiting an office, even if they were referred by a friend or another healthcare provider. In fact, recent surveys have found that 80% of consumers trust online reviews just as much as personal recommendations from someone they know.* For many people, this is an amazing statement, but the reality is our society is changing at a rapid pace, and dental practices simply must focus on their online reviews and online reputation.

The "Big Four" review sites for dentistry

In the dental industry, the most important review sites are Google+, Yelp, Healthgrades®, and Facebook®.

Google represents about 65% of all online search traffic and features its own re-

views from Google+, so those reviews will generally attract more readers than other review sites. Reviews on Google+ have the added benefit of helping your website SEO perform better in online searches related to dentistry.

Yelp has become one of the leading review sites in the country and regularly ranks highly in local search results when people search for dentists. In addition, the Bing search engine displays Yelp reviews as its primary reviews shown in search results.

Healthgrades is the largest healthcare directory and review site in North America and has over 1,000,000 visitors per day. As with Google+ and Yelp, a solid Healthgrades profile helps both online reputation and website SEO.

Over the last few years, Facebook reviews have become increasingly important since Facebook is the dominant social media site. Facebook has over 1.7 billion regular users, and most of them look at reviews on Facebook business pages when researching a business.


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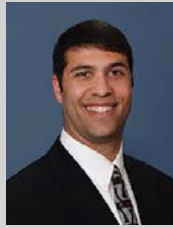
To get the maximum benefit from these review sites, we recommend the following strategies:

1. Completely fill out your review site profile pages with business information, photos, videos, office hours, specials, and any other relevant information about your practice.
2. Link to your review sites from your website to encourage existing patients to write reviews, and potential new patients to read your reviews.
3. Implement a proactive strategy to generate more patient reviews on these review sites. However, we highly recommend you contact your state dental association or Dental Board to make sure you understand the rules for soliciting reviews from patients in your state.
4. Embed your positive patient reviews directly into your website.

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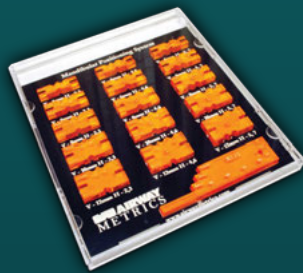
If you have questions about your website, social media, or online marketing, you may contact WEO Media for a consultation to learn more about the latest industry trends and strategies. The consultation is FREE if you identify yourself as a reader of this publication. 

* Bright Little Light, Ltd. Local consumer review survey 2015. BrightLocal. <https://www.brightlocal.com/learn/local-consumer-review-survey/>. Accessed September 22, 2016.



Ian McNickle, MBA, is a national speaker, writer, and marketer. He is a co-founder and partner at WEO Media, winner of the 2016 Cellerant "Best of Class" Award for Dental Marketing and Dental Websites. If you have questions about any marketing related topic, please contact Ian McNickle directly at ian@weomedia.com, or by calling 888-246-6906. For more information, you can visit WEO Media online at www.weodental.com.

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Short Stuff II: E-Codes



by Ken Berley, DDS, JD, DABDSM and Rose Nierman, RDH

In this edition, I continue with the discussion of questions posed to me at the American Academy of Dental Sleep Medicine (AADSM) annual meeting last June. I admit that I have struggled with the questions pertaining to “E” codes, so I asked Rose Nierman of Nierman Practice Management to help me write this very important article.

E codes are level II Healthcare Common Procedure Coding System (HCPCS) codes in the medical coding system that are used primarily to identify products, supplies, and services not included in the CPT codes, such as ambulance services and durable medical equipment, prosthetics, orthotics, and supplies (DMEPOS).

The questions: I was asked by Adam with Slumberbump™ about using E-codes to bill medical insurance for positional therapy used as a conservative or adjunctive treatment for snoring and Obstructive Sleep Apnea (OSA). Additionally, I was asked by Stacy with Go-Go Billing about the usage of E codes to bill medical insurance for lab-fabricated morning repositioners. We will look at both questions in this article.

E-codes for Positional Therapy

When we think about E codes for positional therapy, a number of issues immediately come to mind. Who will be the prescribing physician? Will the patient’s physician prescribe the positional pillows for insurance

purposes or will the treating dentist be the prescriber? Legally, the protocol would be easier to defend if the patient's sleep physician's signature was on a prescription with a statement of medical necessity.

The positional pillow may well be considered medically necessary for the treatment of OSA. We have an Explanation of Benefits (EOB) from Tricare, as well as from a private carrier, for reimbursement for a positional pillow. Therefore, we know that some carriers are providing coverage. However, can the dentist distribute these? Obviously, what a dentist can or cannot do is determined by the state board of dental examiners in their respective states. So ultimately each state could be different. However, the one state that I am concerned about is Georgia. With the new statute on Dental Sleep Medicine (DSM), positional therapy might **not** be within the scope of practice for a dentist. The Georgia Statute states:

*Depending upon the diagnosis of the type and severity, one possible treatment option for obstructive apnea is the use of oral appliances. The design, fitting and use of oral appliances and the maintenance of oral health related to the appliance falls within the scope of practice of dentistry. The continuing evaluation of a person's sleep apnea, the effects of the oral appliance on the apnea, and the need for, and type of, **alternative treatment do not fall within the scope of dentistry.***

Does the dentist need a written order from a physician for a positional pillow? The answer to that depends on the individual policy. Medicare, for example, does not provide reimbursement. On the other hand, some private insurers may reimburse, without a prescription, for the code, **E0190; "Positioning cushion/pillow/wedge, any shape or size, includes all components and accessories,"** Not all Durable Medical Equipment (DME) requires a prescription or a written order. Also, positional pillows are not on any published list stating that a written order is required. Medicare and some commercial carrier have published lists of DME that require written orders, while some insurers state in their DME policies that ALL DME requires a prescription from a physician.

Morning Repositioners

As a brief history, prior to July of last year, I was using a hard lab-fabricated morning

repositioner. My lab cost was approximately \$150, and I was charging \$400 for this appliance. I was filing medical insurance using HCPCS code S8262 with a letter of explanation/medical necessity. I was relatively successful in getting reimbursement for morning repositioners. In July of last year, CMS removed the S8262 code and we stopped billing medical insurance for these devices. I began using an AM Aligner (non-lab fabricated device) and included that service in the cost of oral appliance therapy (OAT). However, upon request, Rose and I revisited this issue.

To begin this discussion, be aware that some dentists are using code E0485 for the morning repositioner. That code is for a prefabricated device: "Oral device/appliance used to reduce upper airway collapsibility, adjustable or non-adjustable, prefabricated, includes fitting and adjustment." This description does not adequately describe how a morning repositioner functions, so we do not suggest the use of that code to represent morning repositioners. Additionally, if you are using a simple non-laboratory fabricated AM Aligner, do not file medical insurance for that service. That is just WRONG! Give that to the patient, don't be greedy.

Some insurers state that ALL DME requires a prescription from a physician.



Dr. Ken Berley is a practicing general dentist with over 30 years of private practice experience focusing on complex reconstruction and 20 years of experience as an attorney licensed to practice law in Arkansas and Texas. He has extensive experience as a litigator and was a full partner in Travis, Borland and Berley, Attorneys' at Law before moving to Northwest Arkansas. Dr. Berley is a Diplomate of the American Sleep and Breathing Academy and a

Diplomate for the ABDASM. He lectures in the area of sleep medicine risk management. He has provided TMD treatment for many years and has incorporated Sleep Medicine in his office for the last 3 years.



Rose Nierman, RDH, is the Founder and CEO of Nierman Practice Management, an educational and software company (DentalWriter™ and CrossCode™ Software) for Medical Billing for Dentists, TMD and Dental Sleep Medicine advanced treatment, and co-founder of the SCOPE Institute, a non-profit educational organization dedicated to the advancement of sleep apnea, craniofacial pain treatment, and medical billing within dentistry.

Rose and her team of clinical and medical billing experts can be reached at Rose@Dentalwriter.com or at 1-800-879-6468.

In our opinion, the best code for a **Lab-Fabricated** morning repositioner seems to be E1399. E1399 is a code which is billable and sometimes payable for “Miscellaneous DME”. One commercial carrier states that this code is to be used; “For any other devices without a specific code, claims should be filed with the applicable unlisted code.”

As far as whether a morning repositioner requires a prescription, you should know that the Medicare policy manual contains the following statement: **“A prescription or physician written order is required within 6 months of the physician Face-to-Face appointment for DME.”** Similar language is seen in private insurer’s DME policies and is also referenced in the Affordable Care Act (ACA). The Affordable Care Act addresses this; displayed in the screenshot below:

Section 6407 of the Affordable Care Act established a face-to-face encounter requirement for certain items of DME. The law requires that a physician must document that a physician, nurse practitioner, physician assistant or clinical nurse specialist has had a face-to-face encounter with the patient. The encounter must occur within the 6 months before the order is written for the DME.

Notice the Act states “certain types of DME.”

When a dentist provides DME, such as an oral appliance, a prescription or Detailed Written Order (DWO) is required from one of the physician categories listed in the screenshot above. The accepted physician categories for the DWO are a licensed MD, DO, nurse practitioner, clinical nurse specialist, or physician’s assistant working within their scope of practice.

While Medicare considers a DDS & DMD to be in the “physician” category for Part B services, that is not the case when we are treating OSA. When we are providing oral appliance therapy (OAT) for Medicare

beneficiaries, we are no longer physicians (due to the requirement to enroll as a DME supplier for custom made OSA devices). Therefore we cannot prescribe them under Medicare guidelines. The term “physician” does not include a dentist (DDS or DMD) per the Medicare Local Coverage Determination LCD for Oral Appliance Therapy. Although many carriers do not reference Medicare’s guidelines, in the past year, increasingly more insurance companies now follow Medicare’s guidelines for OAT. Given that, it is my opinion that a Rx should be obtained with a letter of medical necessity for positional therapy from the patient’s sleep physician. This Rx could then be used on an “as needed” basis. This Rx will be in addition to your prescription for the mandibular advancement device. It is my legal opinion, that if we have the Rx from the patient’s sleep physician for the positional therapy, we are certainly within our scope of practice to determine when and if positional therapy should be employed during the OAT titration/calibration process of our patients.

Prescriptions and Detailed Written Orders (DWO)

The big issue is who can prescribe positional pillows? It goes without saying that a physician could order and prescribe positional pillows in conjunction with a custom made oral appliance for OSA (E0486). It also appears that the morning repositioner needs to be part of the sleep physician’s treatment plan and a prescription written for the appliance in addition to the E0486. BCBS’s policy on covered DME states that they may cover other items per the physician’s plan of treatment:

When Durable Medical Equipment and Services are covered

Durable medical equipment may be covered when All of the following criteria are met:

1. The equipment provides therapeutic benefit to a patient in need because of certain medical conditions and/or illnesses; **And**
2. The DME is prescribed by a licensed provider; **And**
3. The DME does not serve primarily as a comfort or convenience item; **And**
4. The equipment does not have significant non-medical uses (e.g., environmental control equipment, air conditioners, air filters, and humidifiers).

Items that do not meet the definition of DME may be covered when it is clearly established that the items serve a therapeutic purpose in an individual case. To establish medical necessity for this type of item, there must be documentation of the physician’s plan of treatment, predicted outcomes, and physician’s involvement in supervising the use of the prescribed item. Examples include: gel pads, pressure mattresses, or water mattresses when prescribed for a patient who has decubitus ulcers (pressure sores or bedsores), or there is medical evidence indicating that there is a high susceptibility to significant decubitus ulcers.

Another question to answer is whether a morning repositioner could be considered an accessory to a MAD appliance or is it a totally unrelated item for billing purposes. This is from Noridian which addresses accessories:

Detailed Written Orders


A detailed written order (DWO) is required before billing. Detailed written orders are used to confirm what was ordered by the treating physician following the supplier's receipt of a verbal or written dispensing order. Detailed written orders must include separately billable options, accessories or supplies related to the base item that is ordered. Detailed written orders must not be used to add unrelated items, whether requested by the beneficiary or not, in the absence of a dispensing order from the physician for that item. Someone other than the ordering physician/practitioner may produce the DWO. However, the ordering physician must review the content and sign and date the document. It must contain:

From our research, it appears that DME suppliers have a reputation of adding unnecessary items to physician's prescriptions. These "add-ons" alter the prescription and make it invalid. So the question is, could a morning repositioner be considered an add-on to a prescription for an E0486, making the Rx invalid? The answer could be yes! Therefore, the prudent approach is to get a separate Rx for the morning repositioner if you're going to bill for it.

Sadly, morning repositioners are not addressed anywhere in any insurance policy that we are aware of. Therefore we do not know whether a morning repositioner is considered a part of the treatment of OSA with E0486. It possibly could be considered part of the "fitting and adjustment" or it could be considered an accessory of the E0486.

Therefore, since morning repositioning is not addressed in policies, the insurer could say that any payment made for morning repositioning was made in error and ask for recoupment.

In conclusion, I think it is possible to file both positional therapy and morning repositioning to medical insurance using the codes indicated in this article. However, I think it is prudent to obtain a prescription and letter of medical necessity for both items from the patient's sleep physician. We would suggest that you charge no more than three times the cost of the item in question to prevent a claim of overbilling.

You should understand we are now in uncharted waters and it is certainly possible that an insurance company could ask for all their money back for either item in the future. The act of recoupment is used any time an insurance company pays for an item for a period of time and then changes their mind. At that point, you could be asked to come up with a lot of money. Be aware and forewarned! 

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Sleep Apnea

by Ted Kooser

Night after night, when I was a child,
I woke to the guttering candle
of my father's breath. It made a sound
like the starlings that sometimes
got caught in our chimney, a chirping
that would gradually, steadily build
to a desperate, flat slapping of wings,
then suddenly drop into silence,
into the thick soot at the bottom
of midnight. No silence was ever
so deep. And then, after maybe
a minute or two, I would hear
a twitter as he came to life again,
and could at last take a breath for myself,
a sip like a toast, lifting a chilled glass
of air, wishing us courage, those of us
lying awake through those hours,
my mother, my sister and I, who each night
listened to death kiss the fluttering lips
of my father, who slept through it all.

Credit: Ted Kooser, "Sleep Apnea" from *Splitting an Order*. Copyright © 2014 by Ted Kooser.
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