

# Articulator Magazine

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2013

**Fall 2013**

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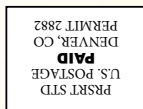
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Volume 18, Issue 1

mddsdentist.com

Fall 2013

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## A Letter From the President

By Mitch Friedman, DDS



As summer winds down, I find myself thinking: "It is an unbelievable privilege living in Colorado." This may be the only place in the world where you can ski on Saturday and then play golf on Sunday.

We have over 300 sunny days a year to enjoy the outdoors.

Whenever we take a vacation outside the state or country, it's always a special treat to return home to Colorado. Not only is this state an awesome place to live, it's also the best place in the country to practice dentistry. Our assistants are allowed to place restorations and our hygienists can administer anesthetic; allowing us to structure our time with patients more efficiently. I've practiced dentistry in Colorado for over 34 years and I can still say that I LOVE my job. I actually look forward to getting back to work in my office on Mondays. Of course, I have a wonderful staff and fantastic patients, so work is usually a rewarding experience for me. At age 61, I am beginning to think about retirement, but still want to practice several more years because I enjoy my patients and the dental profession so much.

I also want to mention that I finally jumped on board with digital x-ray technology by

purchasing a system from Carestream Dental with Logicon caries detection software. The system is truly amazing and has greatly enhanced my practice because the technology detects many areas of decay that I might have missed. Technology definitely enhances our diagnostic capabilities. With viewing monitors in the operatories, our patients are now more actively involved in their own dental care.

It's important to note that 2013 is a tremendous year for MDDS. We opened the Mountain West Dental Institute (MWDI) in September. The grand opening was September 19th and I was happy to see many of you there for the festivities. Construction went very well, and many vendors are stepping up to the plate to sponsor our new educational project. We still need your donations, so please call MDDS and pledge whatever you can. With discounts up to \$300 per course, MDDS members will reap the benefits of member discounts and avoid having to travel out of the state for continuing education. Our younger dentists, who may have incurred high debt in dental school, will be able to maintain their CE credits by attending courses given by world class speakers in a local setting at very competitive rates.

At the same time we are hard at work getting things organized for the 2014 Rocky Mountain Dental Convention which will take

place January 23rd-25th. Save the date for a fantastic lineup of speakers and an interesting array of vendors and products. The Dawson Academy will be providing hands-on courses at the MWDI as well. Our productive MDDS staff members have been concentrating on convention details, so please thank them for their effort if you happen to call the MDDS office. We are very fortunate to have such capable people and an executive director who is so committed to the success of MDDS.

As autumn approaches, many of us start thinking about football, Peyton Manning and the Denver Broncos. I'm predicting a spot in the Super Bowl this season for our home team. As for the CU Buffs... I can say that I really like our new coaching staff. A good season would be winning four games. A great season would be winning five games and a chance to play in a bowl game. I'll be on the sidelines again this year as the CU team dentist, so look for me or call me and I'll take you onto the field for a bit. It's a special experience watching the game from the sidelines. I hope you all had a memorable summer! Please give me a call if you have any questions or concerns about MDDS. ■

## Appletree Dental Grand Opening – July 25, 2013



Drs. Kristin Lere, Carrie Seabury and Erica Derby celebrate at Appletree Dental's open house.

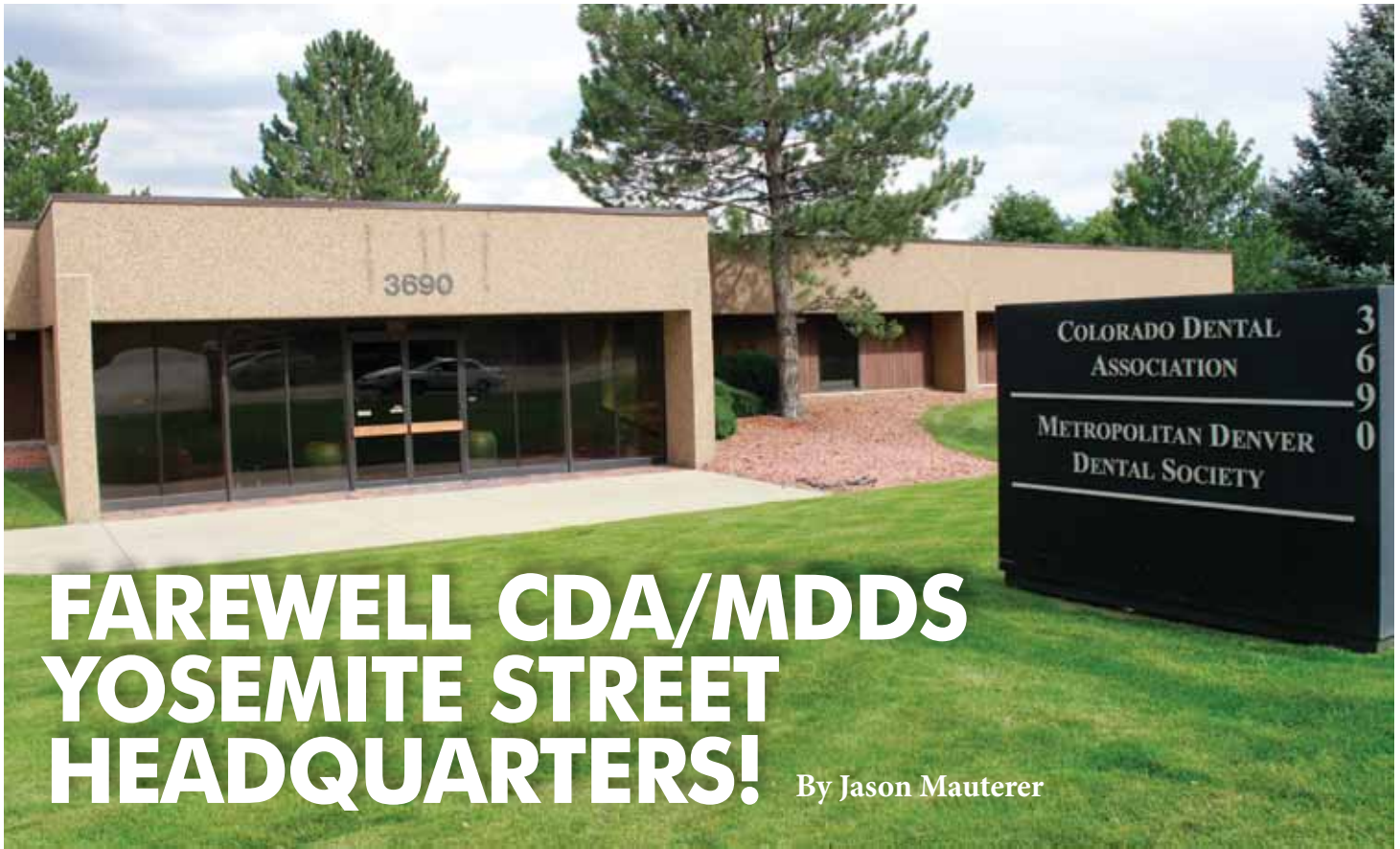


The staff and doctors of Appletree Dental hosted the grand opening of their new building facility built from the ground up.

## New Members, Welcome!

Dr. Christopher W. Barrett	Dr. Dallas D. Kenson
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Dr. Sara B. Boren	Dr. Truska S. Mahmood
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# FAREWELL CDA/MDDS YOSEMITE STREET HEADQUARTERS!

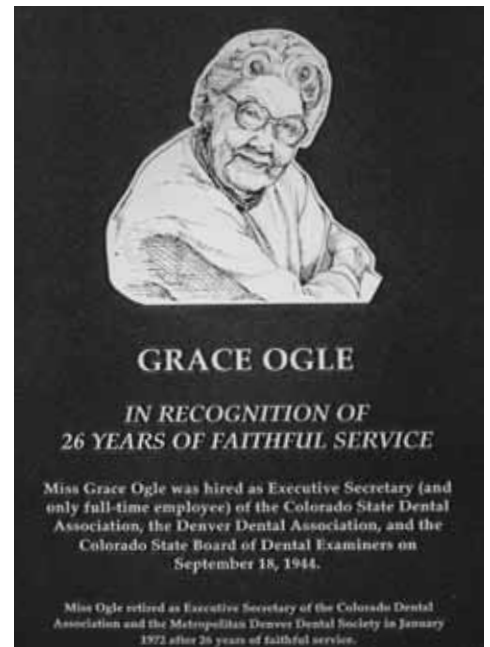
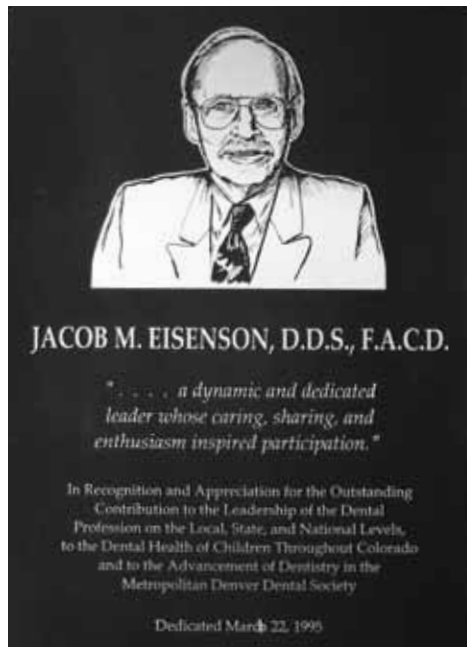
By Jason Mauterer

**A**s we prepared to depart the Yosemite Street building, I reached out to Dr. Ed Leone for a short recount on what he could recall about the acquisition of the property:

"My concern over identifying those who had a part in the planning, acquisition and development of the Yosemite property is that I will certainly leave someone out. This all started over a period of two or three years in the late 1980's and early 1990's. Drs. Pearce, Brown, Spence, Whitmarsh, Heil, Kittleman and Dunn along with others including myself, were interested in purchasing a building since a relocation of office space was imminent. A committee was formed under Dr. Dunn's leadership and utilized a local real estate agent, Tom Lee, to examine opportunities for purchase in the I-25 corridor between Broadway and the DTC. Staff involvement was provided by Jeff Thompson and later Tom Oberle and Jim Towle for CDA and Joe Lory for MDDS. The Yosemite property was identified in late 1991 and purchased in 1992.

This building has served the local and state-wide dental community well for the past 21 years. It is my assumption that the equity build up in the property over these many years has been an asset to MDDS and CDA."

This property certainly has served our



*With the move to the new building, the namesakes for the conference rooms in the Yosemite building have been retired. We would like to take this opportunity to honor them one more time. Thank you!*

community well and MDDS would like to thank everyone that helped make the Yosemite Street property such a successful home for CDA and MDDS over the past two decades. We would also like to thank everyone that made our new

home in the Beauvallon building a reality. We encourage everyone to come tour your new Metro Denver Dental Society home in the Mountain West Dental Institute! ■



# The Hair That Should've Stayed

By Carrie Seabury, DDS



There comes a time in everyone's life when one has to decide: let hope float...or throw in the towel. Hope is a tricky thing to identify. Being "in hope" does not actually require action that can be detected. In fact, when I picture someone who is consumed in the act of being hopeful, I picture someone pausing, waiting or holding their breath. When I feel my most hopeful, I am actually practicing being still. My body may be moving, but my mind is perfectly motionless (in a good way). I'm ready, I'm waiting and I'm at peace because I know it's going to work out (and it always does!). It is only when someone loses hope that you can see a discernible event, motion or action. When hope is lost, panic sets in. When there is no more hope, people do the strangest things. They thrash, bump, and gnaw against what they used to believe in. In the absolute worst cases of losing hope, they do the unspeakable. They cut their hair.

We have seen it time and time again. When Britney Spears lost her noodles, she shaved her entire dome. Miley Cyrus? Same gig. The list of offenders goes on and on...Robert Pattinson (Kristen finally drove him completely batty and off went the anti-gravity vampire' do), Justin Bieber (just when I got my eight-year-old kid's hair long enough to do the Bieber swoosh) and Richard Marx (sniffle – now that was a loss for all of America). But nothing could ever prepare me for the moment when Michael Bolton decided to give up. I just couldn't fathom a man who belted out the lyrics to "Time, Love and Tenderness" ever losing sight of the promise of hope. If only he had consulted me before mangling that

mane of his – I could have brought him sunshine, lollipops and unicorns. We have all heard him crooning about "When a Man Loves a Woman" but why has he never given thought to "When a Woman Loves a Man's Longer Than Shoulder Length Permed Bleach Blonde Hair?"

It is a travesty to lose hope like that. Contrarily, it is a beautiful thing to have hope. It can be just as elating to watch hope. I am so proud of our MDDS staff and Board of Directors. I am currently watching them implement an action plan that was originally hatched half a decade ago and was backed by several of our most recent member surveys. Our members asked for fantastic local CE courses. When we asked our members what they needed most from organized dentistry and MDDS specifically, this was overwhelmingly their top desire. Our top desire. Our hope.

The new MDDS building is a reality that was born from a little egg of hope. It is awe inspiring to watch the exuberance and determination of the members and staff who are building the Mountain West Dental Institute (MWDI) together. Your MDDS leaders have turned the little hope nubbin into a rip roaring double rainbow of hope (and btw, yes it's all the way across). It has been a ton of work and research. I see a little fatigue and weariness in their eyes, but none of that can mask the sparkle of hope that keeps the building moving forward. They just keep sprinkling the unicorn dust on that sweet action.

MDDS is in greater shape than it ever has been before. Our staff and board have trimmed up our next year's budget and are watching our pennies. We came in under budget for our last fiscal year (2013). With a strong financial

foundation under us, and not to mention our sassy swagger, we have been able to attract some very prominent (and smart may I add) sponsors to donate money, equipment and services to the building. Our MDDS members are opening their hearts and checkbooks to support the MWDI because they know that the facility will bring some very big names with some very cool classes to Denver.

Our hope is strong and contagious. It will be amazing to see the end result. We have a home now. We can take incredible classes right here in Denver now. We can host our study clubs here now. We can get our favorite group of specialists and GPs together to do some hands-on training now. We can volunteer our time and see underserved patients at MDDS now. The possibilities are endless and I guarantee this building will become a part of the success of your future career.

So as we march forward with our sleek, waxy, Dapper-Dan Man comb over of hope, we must promise this: Until this building is up and running...until all MDDS members have experienced the power and the super awesomeness that is the new MDDS headquarters...until everyone knows of our inevitable dental CE world dominance...we will never, ever, EVER cut our hair. Seriously. I have an appointment to go get a perm.

I wish you well and encourage you to let hope float in your world. I'm floating along with my fairy dust inner tube and my unicorn arm swimmy. I even found a double rainbow drink umbrella for my MWDI themed smoothie. For reals. It has Mountain West Dental Institute inspired fruit juice. Palisade Peaches and everything. I hope to see you on the lazy river soon! ■





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# YOUR “A” GAME

By **Larry Chatterley and Susannah Hazelrigg**

**"B**ring your 'A' game!" It is a common phrase repeated when golfing or when participating in some other sporting activity. Similar to school grades, bringing your "A" game refers to doing your best and performing at your highest level.

So how do you know if you are bringing your "A" game to your practice? Patient referrals are the ultimate gauge. How "wowed" are your patients? What can you do to "up the wow factor?" Let's explore that.

A doctor and staff who consistently bring their "A" game to the practice are more likely to have a high number of patient referrals. The practice atmosphere creates a patient experience way above average. An "A" game exceeds expectations and motivates patients to go out and tell others about their experience at that practice. Consider the following business advice customized for practice:

*Many practices say that their most important job is satisfying the patients. But satisfying the patient is simply the minimum requirement for staying in business. Therefore, don't seek to just satisfy; seek to "wow" them. Patients are enthusiastic and delighted about their experience. "Wow" means inspiring enthusiasm and delight. It means giving patients dramatically more value than they expect - whether measured by price, performance, quality or service. You are succeeding when your patients are inspired to tell others about your business.*

As the doctor, you need to recognize how you feel about yourself and your performance. "Wowing" patients starts with your attitude and is a continuous process of enhancing your interpersonal, communication and leadership skills.

Generally, most of the "quick fix" systems promoted by management consultants treat

the symptoms but do not cure the problem. Why? Because the heart of the problem lies in attitudes and beliefs—not in circumstances or methods. While it is relatively easy to instruct others on how to do things a different way, it is much more difficult to teach others how to be a different way. Success of this kind comes from changing attitudes and changing perceptions—both of which require sincere effort. A shift of being, rather than a shift of doing is paramount for creating an atmosphere in which patients can be truly "wowed" by being truly cared for. And the bonus? When we change we who are, what we do changes almost automatically.

In his book, *The Happiness Advantage*, Shawn Achor lays out five simple habits that are proven to make humans happier and more successful. He explains, "Ninety percent of your happiness is predicted not by your external world, but by the way your brain processes your external world."

Here are Mr. Achor's five simple habits:

1 – Write down three new things you are grateful for every day. Doing this for 21 days in a row rewires your brain to retain a pattern of scanning the world not for the negative but for the positive first.

2 – Journal. Journaling about one positive experience you've had in the past 24 hours allows your brain to relive it.

3 – Exercise. This teaches the brain that behavior matters.

4 – Meditate. Meditation allows the brain to get over the cultural ADHD you create by trying to do multiple tasks at once and allows the brain to focus on the task at hand.

5 – Perform random or conscious acts of kindness. Write one positive text or email every time you open your inbox praising or thanking someone in your social support network.

The old idea that "if I work harder, I'll be more successful, and if I'm more successful, then I'll be more happy," is backwards. Positive psychology researchers have found that if, instead, you raise your level of positivity then your brain experiences what's known as a "happiness advantage" – intelligence, creativity, energy all rise and every business outcome improves. Success doesn't bring happiness. But happiness is much more likely to bring success. In that case, another key characteristic of playing your "A" game is to sincerely strive for positive attitude in and about your practice.

The next key characteristic of your "A" game is your relationship with your teammates, otherwise

known as your staff. In order to "wow" patients, you need to have staff that are committed to doing that as well. You have surely heard the saying "the customer comes first." And if practice success was solely determined by a single star player, this would hold true. But a dental practice more effectively operates as a team. To do this, the doctor needs to create a culture in which the staff feels appreciated and trusted. In essence, they need to be "wowed" by you first, before they will be motivated to "wow" patients. As such, technically the customer comes second. To you, as the team leader, your staff should come first. When you and your staff work together with a positive attitude, your team can focus most effectively on patients.

To help you and your staff in understanding best how you can "wow" your patients, consider a comment card with the following questions:

■ On a scale of 1 to 10, how likely are you to refer a friend or family member to our office? (With 1 being not at all likely and 10 being extremely likely.)

■ What is one thing you would like to see us change or do differently?

■ What is the one thing you appreciate most about our practice, i.e., what keeps you coming back to see us?

Once you have reached a point where a majority of your patients have become advocates of the practice, you will begin to see substantial growth and prosperity in your practice. By "advocates" we mean patients that actively refer to you and promote you to others as "the best dentist in the world." Once that happens, your patients will be bringing their "A" game to you. ■



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DENTAL LABORATORY



*By Jeremy Kott, DDS and Jenn Thompson, DDS*

As fall approaches and the weather turns chilly, children and adults of all ages begin gearing up for their fall and winter sports seasons. With contact sports such as football and even non-contact sports like basketball and soccer, there is an increased incidence of traumatic dental injuries. A 12-year review of the literature reports that 25% of all school children experience dental trauma and 33% of adults have experienced trauma to the permanent dentition, with the majority of injuries occurring before age 19.<sup>1</sup> In the primary dentition, luxation injuries are the most common while crown fractures are the most common injury in the permanent dentition.<sup>1,2,3</sup> Now is a great time to refresh yourself on the treatment guidelines for the various traumatic dental injuries.

By the age of 5, 40% of boys and 30% of girls have experienced traumatic injuries to their teeth. The peak age is 2-4 years old when the child is developing mobility skills.<sup>4</sup> A thorough history, intra/extra-oral exam and radiographic study are needed to assess the course of treatment. Treatment differs between injuries to the primary and permanent dentition, so following the guidelines will ensure optimal care:

For primary teeth, assess full risk of treatment and potential sequelae to permanent tooth versus functional benefit and always advise the parent of permanent tooth injury possibility. For permanent teeth, luxation injuries, particularly avulsions, dictate emergency treatment as positive outcomes diminish with time delay.

While this subject is too large for a comprehensive review here, we will refer you to three excellent, free, reviews and treatment guidelines on dental trauma on the International Association for Dental Traumatology's website: [iadt-dentaltrauma.org](http://iadt-dentaltrauma.org). Another excellent reference to have at your office is *Traumatic Dental Injuries* by Dr. Jens Andreasen.

It is important to remember that early evaluation and treatment is critical to not only maintaining pulp vitality, but also to increasing the likelihood of retaining the tooth. Multiple radiographs from different angulations help to determine the extent of the injury. Early pulp sensibility testing, with both cold and electric pulp testing, establish an early baseline so as you follow these teeth long term you are better able to determine a definitive pulpal diagnosis. And maybe the most important point is the need for regular, long term follow-up of traumatized teeth because negative changes can take place quickly, and at any time. ■

1. Glendor U. Epidemiology of traumatic dental injuries – a 12 year review of the literature. *Dent Traumatol* 2008;24: 603–11.
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4. Andreasen JO, Andreasen FM: Textbook and color atlas of traumatic injuries to the teeth, ed 4, Copenhagen, 2007, Blackwell Munksgaard.





## CU Connections: *Kamran Pirastehfar*

*Kamran Pirastehfar is a 3rd year dental student at the University of Colorado School of Dental Medicine. This fall he just completed his term as the ASDA 1st delegate/Chapter President. He served at the 2013 Colorado Dental Association House of Delegates as our student member.*

*What is the tone for commitment to organized dentistry in your class? Are students interested in serving with ASDA and ADEA or is there generalized apathy?*

I believe that during dental school there is a wide range of interest and commitment to organized dentistry. A lot of students have a strong interest from day one. I think that most students would love to be more involved in ASDA, ADEA, and all organizations that play a role in organized dentistry, but there just isn't a lot of time outside of school to dedicate to these activities. There is so much to learn during the four years that I think most students get overwhelmed with the idea of adding more responsibility. With that being said, I think as students get into fourth year and closer to graduation, they start thinking about their futures outside of the dental school setting and begin to look to these different organizations for guidance and support throughout their careers.

*How was your experience in your first CDA House of Delegates? How did it compare to serving in the ASDA House of Delegates?*

My experience at the CDA House of Delegates was amazing. Being the only student, I was a little nervous at first because I only knew a few dentists from the dental school and the Board of Trustees meetings but everyone I met at annual session was incredibly welcoming which really helped eliminate any nerves. I was really appreciative of Dr. Sessa, Dr. Morrow and Dr. Setterberg for helping answer questions I had about certain resolutions and for encouraging me to get up to the microphone to speak about the live patient resolution. I thought the debates were very interesting because they really allowed me to see both sides of the argument and changed my perspective on several of the resolutions. This was very different than the ASDA House of Delegates because there is very little debate over most issues and voting is usually unanimous. I think the differing opinions really made the CDA House of Delegates more interesting and added to the overall experience.

*What were your feelings on the live patient resolution? What did you say when you approached the microphone?*

Regarding the live patient resolution, I was in favor of the CDA taking a stance against live patient licensure examinations. I can barely even remember what I said at the microphone because as I approached it my breathing became very irregular and I began to realize I wasn't as comfortable with public speaking as I had previously thought. As I began to speak I was almost sure that I would be the first person ever

to pass out in front of the entire House of Delegates so I remember ending my speech very quickly. What I hope I touched on during those few minutes is that I believe it is unethical to have live patients during examinations due to the process patients must endure. Board lesions must fit specific criteria and it is difficult to find patients with these specific lesions so what ends up happening is a patient's treatment is postponed and saved for board examinations. Patients also have to sit with their mouths open for hours as treatment is performed, checked off and graded which can be detrimental to the patient's health. Not only is it unethical to the patient, but it is also unfair to the students. Students spend a great deal on boards and licensure exams and on top of these expenses, end up paying their patients a great deal of money just to show up. If a patient does not show up, the student fails. It is also very difficult to standardize live examinations. No two lesions are the same and one student could end up having to perform a much more difficult procedure than another which could result in failing.

*As a third year student, do you see yourself continuing to be involved in organized dentistry when you graduate? What do you see as potential barriers to this?*

I definitely see myself continuing to be involved in organized dentistry throughout my entire career. After seeing how many benefits organized dentistry offers to the profession, I really can't imagine not being a part of dental societies and organizations. I think there can be some potential barriers at a local level, depending on where you live, but I think this also provides opportunity for you to be a leader and improve or build a local organization.

*Do you feel enough support from your local community dentists while you are in school? Is there anything MDDS members can do more of to support our dental students?*

At the dental school there are several part time faculty members who have practices in the community and dedicate a great deal of time to bettering our education. With that being said, I think there is no such thing as too much support. The more one on one time our students have with experienced dentists, the greater our scope of knowledge and experience will be. If any MDDS members are interested in helping out at the dental school part time or full time, there knowledge and experience would be greatly appreciated by all the students.

*What happens in your fourth year of dental school at CU? Do students still serve in the underserved areas of Colorado on rotations? Is all of your clinical experience in the school or do you rotate through any clinics?*

During our fourth year of dental school at CU we begin the ACTS program (Advanced Clinical Training and Service Program). The program allows students to practice at different clinics in the community, most of which are in underserved areas of Colorado. Students rotate between different clinics and practice two weeks at

an ACTS clinic site and then two weeks back at the school's clinic. Students love the program as it allows them to see many more patients a day and really helps increase their hand skills and speed.

*How affordable is a dental education in Colorado? Nationwide?*

Dental education is incredibly expensive in the state of Colorado and nationwide. According to the ADEA, the average dental student graduates with over \$203,000 in student loan debt. Being an Arizona resident, this has made dental school even more expensive as there are no public dental schools in the state of Arizona. This forces residents to pay out of state tuition at other states public schools. After four years, my total cost of dental school will be more than the ADEA's predicted average and even Colorado residents will end up paying close to the national average.

*How do ASDA students feel about a mid-level provider?*

Discussion on mid-level providers is a definite concern to ASDA students. As mid-level providers could serve to benefit underserved populations, ASDA's stance is that only dentists should be able to perform examinations, diagnosis, treatment planning, prescribe work authorizations, perform irreversible dental procedures and prescribe drugs and other medications.

*Do you think you will be prepared once you graduate school to practice dentistry?*

After talking to several CU graduates, I feel I will be prepared to practice dentistry after graduation. However, I think the profession offers a never ending learning opportunity and my scope of knowledge will be exponentially greater after practicing for a few years.

*What has been your favorite course in dental school?*

I really have enjoyed the esthetics course that I am currently in. I like the artistic aspect of esthetics and the satisfaction of seeing how much it can change a patient's life. Learning different preparation techniques and ways to manipulate materials to make them look more natural has been very interesting and it is something I want to continue to educate myself with after dental school.

*Are there any topics you would like better preparation in? What type of continuing education classes do you see yourself signing up for once you graduate?*

As I stated earlier, I think the dental profession offers an endless learning opportunity and I plan to take full advantage of this during my career. I definitely can see myself taking several esthetics and implant courses in the future. Also, because the profession is constantly changing I am sure there will be several new technologies and procedures that I will want to stay up to date with through continuing education courses. ■

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# GINGIVAL LESION

*By Dr John McDowell, DDS*

**T**his 10 year-old boy presents with a chief complaint of, “My front gums are really red. My friends make fun of me because my gums look like I have a gum infection. The red spot doesn’t hurt much but I don’t want to look like this any more.”

His parents complete his histories and give informed consent for diagnosis and treatment of their child. The parents state that their child’s “red and swollen gums” began approximately 2-3 weeks ago as a small red bump and have grown to the size it is now. They report the child has never had anything like this before.

His medical, social, family and drug histories are non-contributory. His parents report that he has no drug allergies. He has not been examined or treated by a oral health care provider in more than one year. In the past, he has never had any dental treatment other than “cleanings and fluoride.” There is no history of perioral or dental trauma.

The child’s vital signs are within normal limits. The head and neck exam is within normal limits with the exception of slight bilateral submandibular and submental lymphadenopathy. All nodes are freely-movable, soft and not particularly painful to palpation. The neck is supple and the trachea is in the midline.

The intraoral exam is significant for mixed dentition that will likely need orthodontic care. No dental caries are visible upon visual and radiographic examination. Radiographic exam reveals no bony pathology in the area of the maxillary left lateral incisor (tooth #10). Plaque is visible on all surfaces of his teeth and is especially heavy on the labial surfaces of the maxillary and mandibular anterior teeth.

There is visible staining and supragingival calculus on the labial and mesial interproximal surfaces of the maxillary left lateral incisor (# 10). When probed, there is significant bleeding on the mesial, labial and distal surfaces of tooth #10. Probing indicates no attachment loss around tooth #10.

The lesion related to the chief complaint is soft and slightly painful to palpation. There is no mobility noted on tooth #10 when compared to the other maxillary permanent teeth.

1. The most likely diagnosis for this gingival lesion is:
  - a. leukemic infiltrate
  - b. peripheral giant cell granuloma (giant cell epulis)
  - c. pyogenic granuloma
  - d. squamous cell carcinoma



2. After receiving informed consent from and appropriately counseling this child's parents, the treatment plan with the highest utility is to:

- provide oral hygiene instructions
- immediately provide a thorough dental prophylaxis (debridement) with special emphasis on removing any calculus or potential subgingival foreign objects in the area of #10
- wait 1-2 weeks following choices "a" and "b" to determine if the lesion has resolved or significantly reduced in size
- if the lesion has not totally resolved following choices "a" and "b", perform an excisional biopsy of the lesion (or, since the lesion is in the aesthetic zone, refer to a periodontist for excisional biopsy)
- All of the above

Based on the history, the results of the physical and radiographic examination and the relatively common occurrence of this lesion, pyogenic granuloma (choice "c" on question #1) should be your working diagnosis.

Pyogenic granulomas are not uncommon "tumor-like" gingival lesions in children, adolescents and young adults. Although not as common in males, these lesions are frequently seen in young women and pregnant women. They often occur in the maxillary region and can range in size from "small

red gum bumps" to very large lesions that can be frightening in appearance. Pyogenic granulomas are not true infections but are thought to be a tissue response resulting from local irritation often caused by plaque, calculus or a subgingival foreign object.

For question #2, choice "d" is the best treatment option for this child. Because of the highly vascular appearance of this lesion, there can be some (but not likely total) resolution of this lesion following debridement and oral hygiene instructions. If the lesion reduces in size following hygiene procedures as anticipated, this expected tissue response allows for more conservative excisional biopsy and gingival therapy to preserve the aesthetic zone.

Histologic examination will confirm the final diagnosis. The tissue examination will usually show a variable inflammatory response with a highly-vascular stroma mainly composed of blood vessels arranged in "lobules." On microscopic examination, pyogenic granulomas also show significant infiltration with neutrophils, lymphocytes and plasma cells. The thin, often ulcerated epithelial surface and the large number of intralesional blood vessels results in the bright red appearance.

The parents should be informed that these "reactive, non-malignant" lesions can recur depending upon the child's hygiene efforts. ■

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# NEW BEGINNINGS

By Amy Boymel, MDDF Executive Director



**F**all brings new beginnings: the start of a new school year, the arrival of a new season, and for the Metro Denver Dental Foundation, a move to a new home! Along with colleagues at MDDS, MDDF packed up its belongings and is settling into its new digs. We are thrilled to be part of the first-ever facility of its kind – a hub of dental learning, outreach and camaraderie for the Denver area – owned and operated by MDDS, a component society of the ADA.

MDDF looks forward to continuing its connections for our community – both the community of MDDS members and the population we serve. The Smile Again Program will maintain its commitment to offering no-cost restorative dental care to survivors of domestic abuse; and the Presentation

Center is available to MDDS members and their associates, filled with learning tools you can borrow to help educate children and adults about how important oral health is for a healthy life. We are also exploring ways we can fully utilize all that MWDI has to offer by providing dental care to those in need.

We couldn't serve our community without the more than 200 MDDS members who volunteer their time and share their passion with others. But as the needs for dental care and education grow, so does MDDF's need for volunteers. If you are already volunteering with us, thank you! And if you're not, please get in touch with me at [aboymel@mddf.org](mailto:aboymel@mddf.org) or visit us online at [www.mddf.org](http://www.mddf.org) to learn more. ■



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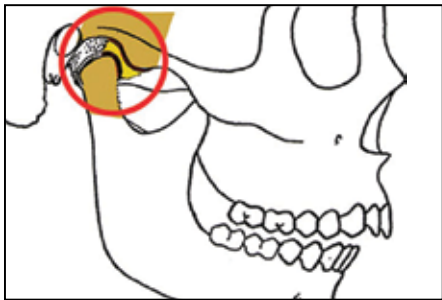
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# THE HIGH COST OF A MISSED CENTRIC BITE

By Peter E. Dawson, DDS

Centric Relation is the single most important concept that must be understood by every dentist who works on teeth, and the ability to determine, verify and record CR are the most important skills a dentist must master to achieve perfected occlusions. Recording of an accurate centric relation is critical for the most cost-effective, time-effective, trouble-free restorative or prosthetic dentistry. *Figure 1*



*Figure 1: Centric relation is the only condylar position that permits an interference-free occlusion.*

Unfortunately, there is too much misinformation mixed with a total lack of information regarding why centric relation is so important. Even when centric relation is understood, there is still the essential step of learning how to find it and verify that you got it perfectly. I say perfectly, because even the slightest error in locating this specific condylar relationship can negate the value of a perfected occlusion.

The definition of centric relation is frequently misrepresented as being “most

retruded” which was its original definition. Today’s accepted definition is:

Centric Relation is the relationship of the mandible to the maxilla when the properly aligned condyle-disk assemblies are in the most superior position against the eminentiae irrespective of vertical dimension or tooth position.

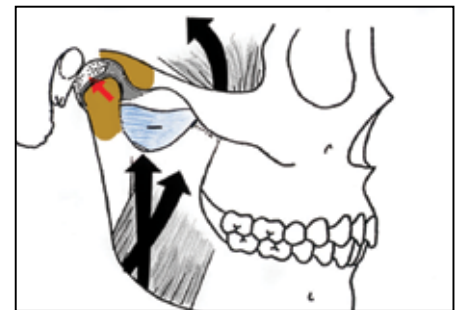
As the most superior position, the condyle-disk assemblies are braced medially, thus centric relation is also the midmost position.

A properly aligned condyle-disk assembly in centric relation can resist maximum loading by the elevator muscles with no sign of discomfort.

Centric relation is a dynamic relationship. It is an axial position, which means the condyles can rotate to open or close the jaw without moving out of the fully seated position in their respective fossa. Consequently the mandible can be in CR even when the teeth are separated. This hinge axis can move down the eminence from the fully seated position permitting the jaw to open or close at any position from centric relation to most protruded.

Why is centric relation so important to achieving a stable occlusion? Because when the teeth are in centric relation they meet in equal intensity contact around the full arch at the fully seated position of the condyles

resulting in coordinated muscle function. *Figure 2*



*Figure 2: In coordinated muscle function, the triad of strong elevator muscles pulls the condyle-disk assemblies up the slippery posterior slopes of the eminentiae. The inferior lateral pterygoid muscles release and stay released through complete closure if there are no occlusal interferences to complete upward seating of the condyles into centric relation.*

If there are no tooth interferences to centric relation, the condyle-disk assemblies are free to brace against bone and ligament so the lateral pterygoid muscles can release contraction and do not have to resist the strong elevator muscles. Thus there is no stimulus for hyperactivity.

Any occlusal interference activates the lateral pterygoid muscles which then must hold the condyle down the eminentia and becomes the sole resistance to the more powerful triad of elevator muscles.

Any bruxing, clenching or prolonged use of the elevator muscles has the potential for fatiguing the lateral pterygoid muscles, causing lactic acid buildup, spasm and pain. *Figure 3*

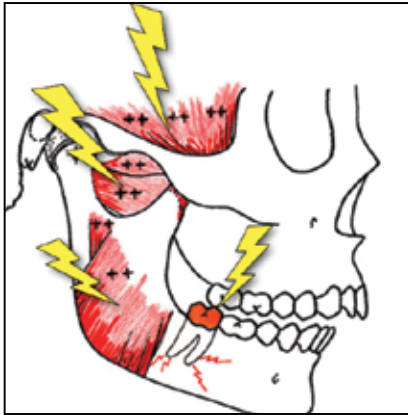


Figure 3: A) If the condyles must displace forward and down the slope to achieve maximal intercuspation, there is disharmony between the occlusion and the TMJs. B) When the elevator muscles pull the condyles into centric relation, which they do repeatedly, all forces are loaded on to the molars. This is especially problematic if the patient clenches and bruxes during sleep. It is a major factor in posterior attritional wear. C) The net effect is overload on the 1st molar and hyperactivity of the masticatory muscles. This is the scenario that is always present in occluso-muscle pain which is the most common type of TMD and very treatable by the general dentist.

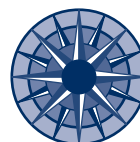
The reason centric relation is so important is because it is the highest possible position of the condyle-disc assemblies that is achieved by coordinated muscle activity when the jaw is closed. At this uppermost position, the jaw joints are seated firmly against a bony stop so they cannot go higher. The goal is to coordinate this uppermost condylar position at the most closed jaw relationship with contact of the anterior teeth. This provides a stopping point for both the back end of the mandible and the front end of the mandible. The goal then is to make sure that the posterior teeth do not interfere with either the condyles in the back or the anterior teeth contact in the front. This is the goal of a perfected occlusion. When it is achieved, it virtually guarantees a comfortable jaw relationship with a peaceful neuromusculature.

When centric relation is missed, it is always missed downwardly because centric relation is at an apex of force, superiorly placed in the fossa. The walls of the fossa do not permit the condyle-disc assembly to move in any direction from CR without moving downwardly. So if teeth are harmonized to a missed centric, they will always interfere when the condyles are seated, as they will be during coordinated muscle closure. The net result is overload of the posterior teeth that interfere as each condyle is seated upwardly. This is the major cause of excessive wear, tooth hypermobility, sore teeth, painful muscles, fractured restorations, and discomfort.

Dentists who learn the rules for a harmonious, comfortable occlusion are light years ahead of "usual and customary dentistry." It is the first essential in becoming a "go to" dentist in your town. ■

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# EVIDENCE-BASED DENTISTRY: PRACTICAL TOOLS FOR BEST PRACTICE

By Roopa P. Gandhi, BDS, MSD



A busy day at the Children's Hospital Colorado Dental Center is buzzing with clinical questions. Concerned parents second guess the recommendations of our pediatric dentistry residents, who in turn present the attending faculty with clinical conundrums. These challenges in our busy 20-chair pediatric dental practice and residency program are not unusual to any dentist, particularly in our digital age where patients can have access to websites such as "Google" anywhere and at any time. So, when we are confronted with these questions, how do we answer them expeditiously for the best interests of our patients?

I found some answers at the ADA's 2013 "Evidence-Based Dentistry (EBD) Champions" conference. This conference is an annual training course in evidence-based dental practice for our daily professional lives. I was amongst the 100 dentists chosen to participate and my colleagues came from diverse backgrounds including private practice, academia, and the military. As "champions" we were responsible for promoting the transfer of evidence-based practice to peers in our local dental communities. The conference involved interactive presentations given by EBD experts, hands-on evidence-searching sessions, and panel discussions about the dissemination of EBD. The pearls I want to share with you are the initial steps that will help you to practice EBD in 15 minutes or less in a busy practice.

## What is Evidence – Based Dentistry?

Evidence-based dentistry is a treatment approach that involves applying the best available scientific evidence to a patient's oral condition. EBD not only accounts for

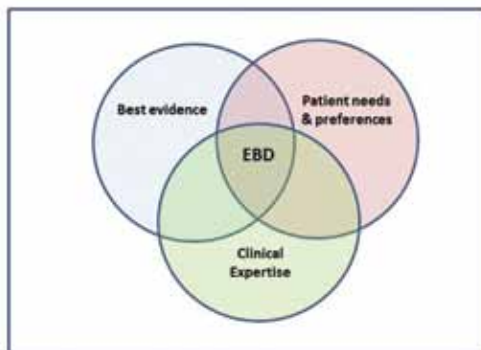


Figure 1: The EBD approach involves an interplay of the best evidence, the patient's needs and preferences and the dentist's clinical expertise

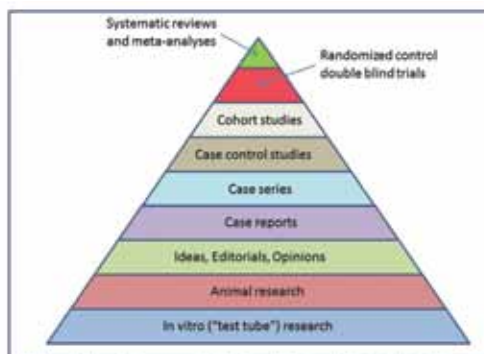


Figure 2: The evidence pyramid outlining the hierarchy of scientific evidence

the evidence, but also considers the patient's treatment needs and preferences and the dentist's clinical expertise (Figure 1). The first step in this process is creating a well-constructed clinical question that can lead to more relevant answers while filtering out the irrelevant information.

## Asking the right questions...

PICO is an acronym that stands for Patient, Intervention, Comparison and Outcome, which are the four components of a good clinical question. Let's suppose your patient is a 5 year-old girl with disto-occlusal caries of tooth #K that extends beyond the bucco-lingual line angles. You are considering whether a composite restoration is the best long-term treatment option or if a stainless steel crown would be a better choice. The parents prefer an aesthetically pleasing restoration but also want one that is least likely to fail. In this example, the components of your PICO question would be:

Patient = 5 year old with large DO caries of #K extending beyond the bucco-lingual line angles

Intervention = Composite restoration

Comparison = Stainless steel crown

Outcome = High success rate

Question: Is a composite restoration as clinically successful as a stainless steel crown in this patient?

With this good question in mind, the search for answers can begin.

## Seek and you shall find...

Each year, multitudes of articles are published relating to more than 500 human clinical trials in dentistry. The evidence pyramid (Figure 2) is a helpful reference to evaluate the tier of evidence to which an article can be ascribed. Typically, systematic reviews, meta-analyses and randomized control trials are at the highest tier because

the stringent criteria of these studies yield the highest quality of evidence.

To provide the highest quality of care based on the best evidence, each of us would have to critically evaluate more than one article per day, 365 days per year for the rest of our professional lives! Fortunately the ADA has made this task much easier via their EBD website ([ebd.ada.org](http://ebd.ada.org)). At this site, your first stop might be the database of systematic reviews. Here, systematic review articles are available under various topic headings. Once you find a review that could answer your clinical question, be sure to look for the “critical summary” of that article. Critical summaries are 1-2 page easy reads provided by an expert panel that has critically evaluated the article. Such summaries can be valuable time savers. You may also find a plain language summary which is a useful tool for patient education.

If you have more than 15 minutes to spare, there are other useful resources such as PubMed ([ncbi.nlm.nih.gov/pubmed](http://ncbi.nlm.nih.gov/pubmed)), the Database of Abstracts of Reviews of Effects (DARE), ([crd.york.ac.uk/crdweb/](http://crd.york.ac.uk/crdweb/)) and the Cochrane collaboration ([cochrane.org](http://cochrane.org)). PubMed has helpful online tutorials ([nlm.nih.gov/bsd/disted/pubmed.html](http://nlm.nih.gov/bsd/disted/pubmed.html)) to maximize the efficacy of your search.

#### *Now what?*

The EBD approach also considers the patient’s or parent’s preferences and the dentist’s expertise. Suppose in our previous example that the best evidence-based treatment for the 5 year-old is a stainless steel crown. What if the parents do not want this option for aesthetic reasons? A discussion of the pros and cons of placing a composite and other available treatment options would be part of the next steps. Another consideration is whether the

dentist’s clinical expertise includes placing stainless steel crowns. If not, referral to a specialist (e.g., pediatric dentist) would be in the best interests of the patient.

#### *Why not try it today?*

We live in a period of time when technology has made it possible to easily access the most up-to-date clinical knowledge. In addition, our patients themselves are technologically savvy, curious and committed to the improvement of their health. Given the ease of information accessibility, wouldn’t it be in our best interests to know the highest quality of evidence in our field, rather than have our patients beat us to the punch? As advocates of our patients’ health, shouldn’t we know how to access and appraise the best evidence to help guide their care? The EBD approach might be the key, so why not try it today? ■

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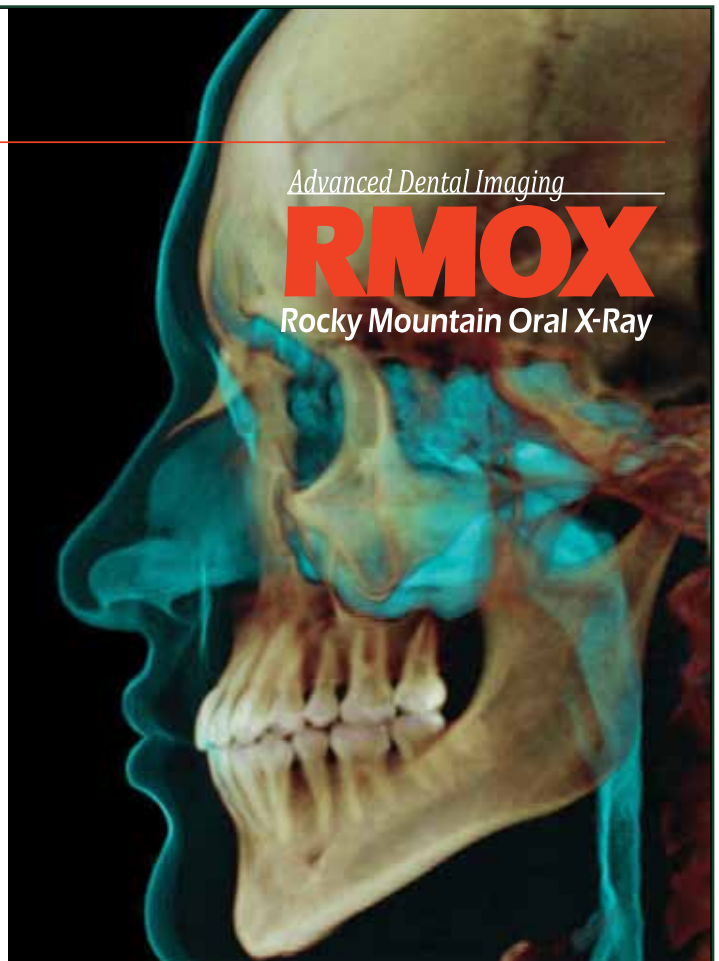
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# THE HIDDEN CHALLENGES OF DENTAL SLEEP MEDICINE

By Barry Glassman, DMD

I want to bring some reality to the economics of dental sleep medicine, an area for dentists that is being promoted by many as a new profit center in the dental practice. There is no question that adding this service to your armamentarium has the potential not only to improve the quality of life for many of your patients, but also provide increased income.

Along with the ability to increase services and income, dental sleep medicine provides many new challenges to the dentist, which are often ignored or underestimated. The dentist will only be in a position to provide a therapy that could be essential to the patient's quality of life if the challenges are recognized and conquered.

## What is Sleep Medicine?

Sleep medicine is a relatively new specialty of medicine. In a 2005 article, Shepard, et al. stated "the history of the development of sleep medicine in the United States is relatively short and most of the individuals involved with its development are still living."<sup>1</sup> They go on to state: "Until 1975 sleep medicine was deemed 'experimental' and medical insurance companies routinely denied reimbursement claims." In discussing the development of the specialty of sleep medicine, they conclude that "sleep is viewed as a basic biologic process that affects all individuals and has significant impact on the function of all organ systems."

The International Classification of Sleep Disorders is a 400 page, stand-alone document that was written in 1990 and revised in 2005.<sup>2</sup> Sleep medicine deals with sleep and arousal disorders that include all conditions encountered clinically. It deals with dyssomnias, which are those disorders that involve initiating and maintaining sleep, as well as with parasomnias, which are movements and behaviors that occur during sleep.<sup>3</sup> Obstructive sleep disorders are classified as dyssomnias and represent those disorders resulting from airway obstructions that occur during sleep. They are relatively common syndromes and by conservative estimates affect five percent of the Western world,<sup>4</sup> but they are often under-recognized despite having substantial morbidity and mortality rates associated with them. Treatment for obstructive sleep disorders ranges from the extremely conservative measures

of weight loss and sleep position training to variations of continuous positive airway pressure (CPAP), oral appliance therapy and surgery. Many patients prefer the concept of oral appliance therapy to either the use of CPAP or surgery.<sup>5</sup> A dentist should then be involved with patient evaluation, insertion and appliance maintenance as well as managing post-appliance insertion complications.<sup>6</sup> Consequently, one might think that oral appliance therapy would be a considerable portion of many dentists' general practices. But this is not the case.

*"Silber states that 30 to 50 percent of the population older than 50 snores."*

## The Carrot of Economic Success

It isn't unusual to see an advertisement refer to the potential economic boom that a course will provide for the participant. Silber states that 30 to 50 percent of the population older than 50 snores.<sup>7</sup> This is often interpolated to 40 percent. So, if 40 percent of your adult population snores, and you have a practice with 2,000 active adult patients, 800 of your patients snore. If you treat only 25 percent of them, and you bundle the workup and appliance fee to a moderate charge of \$3,000, then your gross income should increase by \$600,000 the first year. Unfortunately, that is an unrealistic computation. The literature ignores the many challenges that face dentistry. Let's examine some of those challenges.

## The Physician's Bias

The past few decades have seen the line between dentistry and medicine continually blur, as dentists have made significant contributions to the care of patients with chronic daily headache, migraine and facial pain. There was a bias among sleep physicians against early attempts at oral appliance therapy. Pantino reports that when he began treating with oral appliances it was not only considered experimental, but with limited data, research, no consideration of coverage from the insurance industry and with limited physician support, he may as well have been "practicing witchcraft."<sup>8</sup> The 1995 landmark

study by Schmidt Norwara<sup>9</sup> opened the door to the need for dentistry and medicine to work synergistically and pointed out that as health-care providers, we are challenged to acknowledge the necessity for interdisciplinary communication.<sup>10</sup> This early bias is complicated by the fact that obstructive sleep disorders are indeed a medical disorder. Obstructive disorders are a continuum of disorders that start with snoring. Therefore, snoring should not be treated without a medical diagnosis, and that diagnosis should be done by a physician.<sup>6</sup>

In spite of the tremendous improvements in oral





appliance therapy, the fact that oral appliances are usually preferred by patients over the alternatives of CPAP or surgery, and the fact that the Academy of Sleep Medicine has mandated by policy that some patients not only can, but in some cases should, be treated or given oral appliance therapy, physician bias against oral appliances still exists.

It isn't enough for dentists to know just the basics of sleep medicine and oral appliances. Dr. Schmidt Norwara wrote that "dentists who offer this service need to become acquainted with the multi factorial nature of sleep medicine to serve their patients better and to facilitate their interaction with other sleep medicine clinicians."<sup>11</sup> A high level of mutual respect and open communication is required for the medical and dental professions to properly triage and treat patients. In a position paper on practice parameters by Kushida, et al., it is stated that oral appliances should be delivered and followed by qualified dental personnel "who have undertaken serious training in sleep medicine and/or sleep-related breathing disorders with focused emphasis on the proper protocol for diagnosis, treatment, and follow up."<sup>16</sup>

### Challenges Beyond the Science

In order to be successful in incorporating dental sleep medicine into your practice, understanding the science of sleep medicine and possessing the ability to insert oral appliances is not enough. The art of implementing the science requires a different skill set than was required to develop a general dental practice.

In order to be successful, dentists must have strong communication skills. For the most part, general dentists can work within their own office walls and choose those specialists with whom they would like to work. In sleep medicine, dentists must immediately work to develop relationships of trust and mutual respect with physicians with whom they might have no past relationship and with whom they have had limited contact. Furthermore, because many physicians hold the bias discussed earlier in this paper, they will often have to be educated and motivated to refer patients for oral appliance therapy.

There is also the matter of "management" and the potential for failure. The dental model of practice doesn't usually involve "managing" disease; we treat it and cure it. Obstructive disorders can't be "cured," a concept I have found not readily accepted by some dentists. Dentists need to develop a new mindset and a new definition of success for the practice of dental sleep medicine. They must learn that success cannot be determined with an

explorer or depend totally on the polysomnogram results. They must also realize that some patients will be unable to wear their appliances. Dentists must quell their disappointment and acknowledge that although they have rendered the best possible care, there are factors beyond their control that impact the success of oral appliance therapy. This potential for failure should not dampen their enthusiasm. Fear of failure should not prevent them from helping many other patients. Making this realization and sharing this information with the patient prior to treatment is a total change in the model that dentistry routinely utilizes.

There is also the obstacle of post-insertion management. The oral appliance helps maintain the airway during sleep by creating an external splint, resulting in an increased tonic tone to the

*"Pantino reports that when he began treating with oral appliances it was not only considered experimental...he may as well have been 'practicing witchcraft.'"*

relaxing pharyngeal musculature.<sup>12</sup> In order to do this, there is a strain placed on the muscles of mastication, as well as the temporomandibular joint itself.<sup>13</sup> General dentists are not well trained in joint anatomy, physiology or in the treatment of joint dysfunction.<sup>14</sup> These common complications will sometimes frustrate the dentist who might not be trained in the ability to diagnose, treat or manage these adverse effects on the joints or muscles. This frustration has the potential to cause the dentist to stop treating with oral appliances. Training in these areas of treatment is readily available, and will allow the dentist to manage these complications and make wise risk/benefit decisions concerning the continued use of the oral appliance. The most common adverse effect is occlusal changes.<sup>13</sup>

Dentistry has long emphasized the role of occlusion, and it is difficult for the dentist to make an informed risk/benefit decision if that role is considered more important than the resolution of the patient's obstructive disorder. Ferguson states, "This presents a clinical dilemma when the patient is unconcerned about the occlusal changes and refuses to abandon the appliance citing that

the perceived benefit of treatment outweighs the dentist's concern with the altered occlusion."<sup>13</sup> Dental malocclusions created by oral appliance therapy might have limited or no effect on the patient's aesthetics or function, and it might be much more beneficial for the patient to continue to wear his or her appliance despite the occlusal changes. It is counterintuitive for the dentist to do anything that creates a malocclusion, and yet this might be in the patient's best interest. This is a difficult concept for dentistry.

### Why the Hidden Agenda?

This is, no doubt, an exciting and new field. We are all aware of today's economics, and the need for general dentistry to find new income potential. On the surface, an argument can be made about how successful dentists can be by adding dental sleep medicine to their regimen. It is clear that challenges exist, and that we are more likely to be successful and conquer the challenges if we are aware of them from the beginning. The rosy picture that is often painted isn't real, and many dentists who take their initial course in dental sleep medicine are soon disenchanted by the unexpected roadblocks to success.

Is the promise of economic gain, then, a conspiracy? The answer is simple. Yes, it is a conspiracy if there is some implication that implementing dental sleep medicine is as simple as finding patients in your office who snore and treating them with oral appliances that you fabricate easily with impressions and bite registrations sent to a lab. There are real challenges that face dentistry in the field of dental sleep medicine.

### These challenges include:

- Becoming a serious student of sleep medicine.
- Educating your medical colleagues about the potential service you can provide their patients who might benefit from oral appliance therapy.
- Understanding the need to manage your patients and understanding their role as key players on the treatment team.
- Learning how to communicate with local sleep labs and physicians by keeping them in the loop and referring patients back to them for post-treatment evaluations.
- Establishing reasonable fee structures and understanding the need to process claims through medical insurance in order to get the most coverage for your patients.

*Continued on page 24*

■ Learning more about the craniomandibular structures that you are compromising in order to support a compliant airway.

■ Carefully reconsidering some of your occlusal concepts that will prevent your potential bias from keeping patients from treatment for this serious disorder that is associated with substantial morbidity and mortality rates.<sup>15</sup>

Barsh, in a recent editorial, stated that because of dentistry's unique place in our health care system, it has the responsibility to screen patients for OSA.<sup>16</sup> Ninety percent of OSA remains undiagnosed.<sup>17,18</sup> Our patient load would be well served if all dentists had a better understanding of sleep disorders. Our profession and our patients would benefit if all dentists were taught the basics of sleep medicine and consequently screened their patients. But more intensive study on many levels and a commitment to consider the model changes discussed are required before the dentist can provide oral appliance therapy and create another income source in his or her office.

The conspiracy is on the part of those who might gain economically in the short run by having

dentists construct snoring appliances for those patients who snore (even if it means without proper diagnosis) or by encouraging dentists to take courses because of the perceived economic gain without recognizing the obstacles to that end. Furthermore, the conspiracy often encourages the front-end purchase of equipment that is not required to perform dental sleep medicine; again, in the long run, this frustrates the general dentist who is not aware of the obstacles that prevent the successful implementation of dental sleep medicine in his or her practice. Many well done studies have now been completed to demonstrate over and over again the potential of oral appliance therapy to be successful in mild, moderate and even severe sleep apnea.<sup>13</sup>

Certainly, oral appliance therapy has been implemented into many dental practices successfully. Some dentists around the country have actually limited their practices to dental sleep medicine. The obstacles can be overcome. But before they can be overcome, they have to be recognized and acknowledged. It is essential, then, that the "conspiracy" not result in frustration and the dentist deciding not to pursue dental sleep medicine. Those who have accepted the challenges

and overcome the obstacles have placed themselves in a position to provide a potentially life-altering and life-saving treatment modality. The diligent dentist has the opportunity to add not only a new stream of income for his practice, but also a new quality of life for his or her patients. ■

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## OCTOBER 2013

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**MD D S** Metro Denver Dental Society:  
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Protective Stabilization  
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October 31

**ADA Annual Session**  
New Orleans, LA  
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## NOVEMBER 2014

November 1

**Colorado Dental Lab Association**  
Mountain West Dental Institute  
925 Lincoln Street, Unit B  
Denver, CO 80203  
8:00am – 5:00pm  
(303) 488-9700  
For more info go to: cdlanow.com

November 7

**MD D S** Metro Denver Dental Society:  
Frontline TMJ, Headaches, Facial Pain; Botulinum  
Toxin and Dermal Fillers Training  
Mountain West Dental Institute  
925 Lincoln Street, Unit B  
Denver, CO 80203  
8:30am – 5:00pm  
(303) 488-9700  
For more info go to: mddsdentist.com

November 14

**Denver Implant Study Club**  
Mountain West Dental Institute  
925 Lincoln Street, Unit B  
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6:00pm – 9:00pm  
(303) 488-9700  
For more info go to: knowledgefactoryco.com/discschedule

November 15

**Straumann USA**  
Mountain West Dental Institute  
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8:00pm – 12:00pm  
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## DECEMBER 2014

December 6

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Friday: 7:30am – 5:00pm  
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December 13,14

**MD D S** Metro Denver Dental Society:  
Nitrous Oxide/Oxygen Administration Training  
Mountain West Dental Institute  
925 Lincoln Street, Unit B  
Denver, CO 80203  
Friday: 8:00am – 5:00pm  
Saturday: 8:00am – 12:00pm  
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## JANUARY 2014

January 23, 24, 25

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# SEAL IT WITH A RESIN

By Sheldon Newman, DDS

Pit and fissure sealants are a simple and easy caries prevention procedure, but may not be as simple as some would like to advertise. The awareness of oral disease prevention is heightened by the initiative, "Caries Management by Risk Assessment" (CAMBRA).<sup>1-5</sup> One of the most important methods of caries prevention is the use of pit and fissure sealants. Not to deny the value of fluoride varnish, but the use of sealants in pits and fissures may be at least as valuable a method of caries prevention.<sup>6</sup> The ADA Council on Scientific Affairs recommends the use of sealants in caries prevention,<sup>7</sup> as does the Center for Disease Control (CDC).<sup>8</sup> Though the long history of success is abundant, not all materials are equally effective or all popular techniques appropriate.

As early as 1968 the use of sealants was promoted for caries prevention.<sup>9</sup> Richard Simonsen deserves credit for many publications over more than a decade supporting the use of sealants,<sup>10,11</sup> with one study showing retention and effectiveness of caries decrease for up to 15 years with one sealant application.<sup>12</sup>



The use of sealants in these early studies, and promoted in the current recommendations, are for application to non-cavetous pits and fissures. It has been shown that bacteria do not grow under these effectively placed sealants.<sup>13</sup> Eva Metz-Fairhurst in a 10 year study found that sealed restorations placed over radiographically evident lesions arrested caries growth.<sup>14</sup>

The technique of choice for pit and fissure sealants is the application of a properly polymerized resin after acid etching, washing and drying.<sup>7,15</sup> Glass ionomer based sealants are not retained as effectively as the resin systems.<sup>15,16</sup> Sand-blasting, or air-abrasion may offer less retention,<sup>15,17</sup> and using a bur to cut the surface<sup>15,18</sup> does NOT help with retention of the resin-based sealant.

Trying to simplify the technique by using a self-etching pit and fissure resin sealant undermines the retention of these sealants. The ability to bond to enamel with even self-etching bonding systems is severely limited.<sup>19-23</sup> The clinical examination of a self-etching system has shown poor retention rates.<sup>24</sup> Self-etching systems are also more hydrophilic which undermines their mechanical properties.<sup>25</sup> This type of material is currently evolving and there may be improvements in the future, but claims of improved performance still need independent clinical proof.

There have been lab studies suggesting the use of a bonding agent before the application of the sealant could improve bond strength, especially with contaminated enamel,<sup>26</sup> the additional step in the simple pit and fissure application complicates the technique and increases the potential for just such contamination to take place clinically.

One side issue is the concern about bisphenol-A (BPA). The use of most pit and fissure sealants does not pose a risk.<sup>27</sup> The ADA has made such an announcement.<sup>28</sup> The impact of the BPA scare can be discussed in one article by itself. The parental concern exists, and manufacturers' claims of BPA-free are based on the fact that the amount in the original material is undetectable, but that is not a guarantee for any product with BisGMA, or worse BisDMA.<sup>27</sup> The market place is beginning to respond to this concern by eliminating those components.<sup>29,30</sup>

Sealants should be placed, in accordance with CAMBRA guidelines, in those patients at risk for caries. We mostly think of children, but we also have an older population with xerostomia from Sjogren's syndrome, cancer treatment, smoking or medications. Elderly populations, who currently have teeth that have survived due to improved dental health care, may be in need of sealants due to compromised home care compliance issues. ■

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- Product ad: <http://www.prweb.com/releases/2010/09/prweb4499164.htm> (accessed July 2013).

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## MEDICAL MINISTRY INTERNATIONAL-JAMAICA

*By Michael P. Cosby, DDS, MD*

**A**s I look back on our mission trip to Jamaica, it isn't the long, bumpy bus rides nor the camp beds or the cold showers that we remember. It is the joyful expectation in the faces of those waiting at the rural health clinics for the medical/dental teams to arrive. It is the smile, handshake or hug of the person whose aching tooth has been extracted, after a year of pain. It is the prayers that were lifted up by the beautiful voices singing their praises. These are just a few of the things that made our trip to Jamaica so worthwhile.

Our numbers show that it was a very busy week. The doctors treated 1,136 adults and 233 children. The dentists removed 815 teeth and 1799 prescriptions were donated and distributed. Health educators talked to approximately 1,200 individual patients regarding their oral hygiene and oral care. We discussed the importance of smiling, eating and talking—all the result of a healthy mouth and cared for teeth.

Overall, the rural Jamaican people have few, if any, resources for oral

hygiene or oral care. Over 1,200 toothbrushes were handed out along with instruction on regular brushing and oral health care. These are a simple people with poor water supply, remote access and no funds for food, let alone dental care.

Many people, ages 12-90, would congregate around 8:30am to get on the daily dental clinic docket. Each patient paid approximately \$0.50 and waited hours to be seen by the dentists; often, without food or water for 8-10 hours. A patient was allowed 2-6 extractions each depending on the time frame and the number of patients to be seen each day. Every patient was humble, kind and grateful for the medical and dental services offered, only one time per year. They came from far and wide to get to these rural health clinics.

This was a remarkable experience: to give such a simple gift, the gift of no more pain, for now. ■

# Fusion-ONE<sup>TM</sup> Zirconia



## “Creating a Whole New Category of Dental Lab”

- Specializing in life-like Zirconia Restorations
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- High Performance life-like appearance
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*“Fusion-One is my solution  
to reducing chair time and  
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**Dr. Cotton**



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- 16 Vita shades
- Predictable fit
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- CADform<sup>TM</sup> life-like anatomy
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- Ceramist layered porcelain
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Custom Blended Zirconia Powders







# CARR

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We provide experienced representation and skilled negotiating for dentists' office space needs.

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Every lease or purchase is unique and provides substantial opportunities on which to capitalize. The slightest difference in the terms negotiated can impact your practice by hundreds of thousands of dollars. With this much at stake, expert representation and skilled negotiating are essential to level the playing field and help you receive the most favorable terms.

If your lease is expiring in the next 12 – 18 months, allow us to show you how we can help you capitalize on your next lease or purchase.

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- Identification and evaluation of desirable properties
- Negotiation of lease rate or purchase price
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- Negotiation of business terms such as: purchase, renewal and expansion options; parking and signage rights; exclusivity; assignability and more
- Guidance on lease vs. purchase scenarios
- Demographic information
- Assistance with the organization of ground-up construction

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