# FLORIDA FOCUS

# the publication exclusively for the general practitioner

## FLORIDA ACADEMY of General Dent

FLAGD President Dr. Matthew Scarpitti Dr. Harvey Levy on the Treatment of Patients with Severe Anxiety or Special Needs Dr. Joseph Barton, "Changing Lives One Smile at a Time" Sue Boisvert and Jon Pellett, "Patient Safety in Dentistry: Managing Adverse Events"



AGD2022 THE PREMIER MEETING FOR GENERAL DENTISTRY ORLANDO, FL JULY 27 - 30 AGD2022, ORG

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# Meet FLAGD President Dr. Matthew Scarpitti

#### Congratulations again on being the FLAGD President! What are some of your goals for the Florida AGD, Dr. Scarpitti?

I think the overall goal is membership and keeping people interested in the organization, making sure that everyone knows what we do behind the scenes for the organization and the profession. I love to see the membership grow. If we can get younger doctors in and get them to appreciate what the AGD does and how it's super important to their professional careers, then that's the most important thing.

## Could you please tell us about some goals you have for your professional life?

I bought my practice in 2017: single practice, private owner. I've been in this location almost five years. Going forward, the biggest goal would be to grow this practice to its maximum and eventually either expand in the location where I am now, or maybe open a secondary location and have an associate or two. I can see myself being a practice owner of two or three practices. I run a fee for service practice, and we're very patientcentered. We spend a lot of time with our patients. I think the most important thing is making sure that the environment is comfortable. The patients feel like they're appreciated, and I think everything else comes along with that. So, the long-term goal is just to maintain the vision I have now for the practice, to grow it, and then hopefully expand on it and get some other people to join this fee-for-service world, away from some of the everyday rigamarole of PPOs and high production-driven private practices, and get back to the relationship with the patient.



Dr. Matt and Lindsey Scarpitti

# What are some activities that you and the team do to promote that relationship?

We book an hour and 45 minutes with each new patient, so I think every new patient feels like they're being attended to, from the time that the team members talk to the patients on the phone to the time that they get in the office and eventually meet me. They've already made the decision, and that really has to do with the team. I try to center myself with a good team. Without them, I really can't do anything, so having that good dynamic is the most important



Dr. Scarpitti (center) with periodontist Dr. Adrian Abrahams and University of Central Florida student Annie

thing. I think any patient can feel the vibe of the office. I've had those bad dynamics, and they're always easy for patients to see. I'm fairly advanced and do a lot of implants and more advanced procedures. I think it's good that patients come in knowing that they can get all treatment in one office.

#### What areas of dentistry do you enjoy?

I'm big into surgery. My father was a urologist and constantly on call, so one of the reasons I went into dentistry was to stay away from the hospital-based systems and group practices. Dentistry seemed like it was a good fit in the medical field, to be able to run your own practice and be patient centered. I just really took a liking to dentistry. I thought it was a very intimate field where you could really affect people's lives; and I'm very hands on, so I really liked that aspect of it. As a general dentist, you can do everything that you're trained to do and comfortable with, so I spent most of my time in the oral surgery clinic when I was in undergrad dental school. I went to a school, Creighton University in Omaha, where there were no residency programs, so everything that we did in the clinic was from the beginning, all the way from diagnosis to perio surgery, implants, bone grafting, sinus lifts, everything. There couldn't have been a better school for being a well-rounded general dentist.

Then, my wife and I decided to come back to Florida, and I got involved in a fairly large private practice at White Wolf with

"If you take the time and spend the money to grow and better yourself, it's going to be the best investment you'll ever make in your practice."



Drs. Joe Valenzi, John Kulaga, periodontist and Adrian Abrahams. I got a lot of good experience there. That was great. It was like a paid GPR, and we did a lot of advanced stuff, so I learned a lot in the 2  $\frac{1}{2}$ to 3 years that I was there. That's honestly where most of my focus the surgical is,

aspect, implants. I love big cases like full-arch reconstruction. Dr. Valenzi was a very big mentor for me. If I could idealize anybody in dentistry, it would be him.

#### What was it that inspired you about him?

His whole demeanor. I can't think of a better person. He's retired now, but he was just so involved with his staff and his patients. You felt that energy of him just wanting to do the best for his patients, and it made you want to do more yourself and provide those services to those patients to get that gratification. Sometimes, that comes with making yourself uncomfortable and putting yourself in situations where, "Hey, I've never placed an implant before," or "I've never done a full-arch reconstruction before. But I'm going to do everything I can to educate myself, to get the clinical hands-on experience, and then implement it in my practice, if I feel comfortable doing it." I think a lot of what Dr. Valenzi taught me is that you can do whatever you want to do in general dentistry. If you take the time and spend the money to grow and better yourself, it's going to be the best investment you'll ever make in your practice. That's my motto today. I think clinical education is super important.

#### Are there any particular materials or types of equipment that you enjoy working with or that have made a huge difference in your practice?

I'm big into technology. I do a lot of CEREC, and we have two mills, a scanner and everything associated with that, and ovens. We do a lot of 3D printing: all our nightguards, dentures, surgical guides, which I do with the Sprint. CBCT. I honestly couldn't practice without a CEREC anymore. I remember taking that initial jump in this world, thinking to myself, it's a huge investment. If I'm going to be taking physical impressions as well as paying for the loan on this equipment, it might be a terrible investment. But as soon as we got into it, after a couple of months, I found myself not taking any more physical impressions. It's great for our patients; they love it. I would say that the only impressions we take are some alginates for study models or a surgical stent for soft tissue grafting. So, technology is huge.

#### What else would you like to tell us about your practice?

One other thing is, in my office, I think it's important to give back to the future dentists, so I have a lot of students from the University of Central Florida shadowing us. I haven't been able to do it for a while, because of COVID, but now that we're back to normal, I've had some students come in and shadow. I think that's very important as a as a general dentist, and I think that's part of the AGD, too, trying to foster and develop our younger people who are going into the field. I think anytime that I can help the people who we were once, trying to get into dental school, I give them some guidance. I try to get at least one or two a year into the office, and I've had success in helping them get into dental school. I've got one who worked for me for almost a year while she was applying, and now she's at the University of Louisville, going into her third year. It's pretty cool.

Also, once or twice a year, we go to schools and educate the little kids, first, second, and third grades. A patient got me involved in it, and I enjoy it. The kids seem to really get some benefit out of it. It's amazing what these little kids don't know about hygiene. I might be the only dentist that they see for a couple of years, unfortunately, and it's good to give them a little information.

I don't really do any pediatric dentistry. I see kids, but I just monitor the growth pattern and do preventive care; and if they need any treatment, I refer them. Obviously, if they can see a pediatric dentist, they'll have a better experience and hopefully be lifelong dental patients.

#### It's very exciting that the AGD scientific meeting is being held in Orlando this year. Could you please tell us a little about the FLAGD's plans?

I'm volunteering for the oral cancer screening on Friday, and I encourage all members, if they can, to do that. There's a new oral pathologist in Orlando, and she's going to help out, as well. Also, we're going to have a hospitality suite, which will be a nice area for people to blow off steam or just come by and meet everybody.

#### **Editor's Note**

In April, I had the pleasure of attending the first Women in Dentistry event sponsored by Patterson Dental. The live meetings were held simultaneously nationwide and featured a Zoom presentation on "Setting and Achieving Personal Goals," by Lyndsay Miller of Fortune Management. Discussions included the staffing shortage, expressing



appreciation to one's team, looking for balance in life, practice growth, and pursuing excellence – crucial topics of interest for any group of dentists. As a retiree who graduated in the '70s, it was heart-warming to hear so much enthusiasm for our profession expressed by so many women dentists!

"Pursuing Excellence" could be the theme for this issue, from our look into the practice of President Dr. Matthew Scarpitti to the clinical knowledge and skills exhibited by Drs. Harvey Levy and Joseph Barton in quite different areas of dentistry. In addition, this issue includes the final installment of Ms. Sue Boisvert's terrific and very informative three-part series on patient safety, "Managing Adverse Events." Thank you, Ms. Boisvert!

I'll close with one more reminder that the AGD Scientific Meeting will take place in Orlando from July 27-30. Please plan to attend in pursuit of your own excellence!

> Wishing you a happy and healthy summer, Millie K. Tannen, DDS, MAGD



Florida Focus Self-Instruction: Special Patient Care, Exercise 6221

# **Imagine There's No Dentist**

#### by Dr. Harvey Levy

magine your child with Autism has an abscessed tooth, and there is no dentist to see her. Imagine your son with Down's syndrome fell on the ice and there is no dentist to treat his fractured incisors. (Figure 1) Imagine your parent with Alzheimer's has not seen a dentist for the bleeding gums for 5 years and is now in pain. These are all typical scenarios for the most vulnerable population in our country - the underserved people with severe anxiety and special needs.

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I can remember when most dentists refused to see patients with HIV/AIDS, mainly because of their fear of the unknown. We now know better. Today, many dentists are either unable or unwilling to treat patients with special needs. They don't want to know better. These patients represent the same unknown threats to the practitioner. Dentists often don't welcome the unfamiliar. This is especially true if the patient demonstrates a behavior the dentist either doesn't know how to manage, or is unwilling to learn or to try.

health crisis issue can be remedied. These people must not be denied dental care, and hospital emergency rooms should not be inundated with what could have been treated electively earlier.

In the over 40,000 visits from patients with severe anxiety or special needs, our office has successfully used a combination of techniques to assure that no patient goes untreated. We invite you to share and partake from our ideas, including our trial and error failures and ultimate successes.

Birds, rabbits and deer maintain a healthy gift of fear of the unknown. Your approaching them constitutes an unknown threat. They flee because they don't want to end up on your dinner plate. It is a survival mechanism. They don't run from their mother. Only from you. We often use familiarization, desensitization and behavior modification to slowly introduce the fearful patient

Whether you consider health care a right or a privilege, millions of Americans are denied access to dental care for two main reasons: fear and finances. Patients with anxiety special needs or fear the dentist, who represents an unknown threat. (Fig. 2) Dentists often do not welcome the unpredictability



Fig. 1: Frightened patient

Fig. 2: Uncooperative patient

of the behavior of the patient with special needs. Most of this



#### Fig. 3a: Prophy on finger. 3b: Prophy on mom's wrist.

#### 3c: Prophy on cheeks. 3d: Prophy incisors.

When that fails, we use oral conscious sedation. Based upon the patient's body weight, level of anxiety and past history, we prescribe a benzodiazepine liquid or pills, such as Valium, Halcion or Ativan. In addition to or instead of that, we use nitrous oxide laughing gas to sedate and relax the patient further.

Many patients, especially those with Autism, Alzheimer's, obesity, amputees, or on portable oxygen tanks, cannot readily be moved into a conventional dental chair. All our operatory chairs are DentalEz airglide or hovercraft, which can be moved in seconds by pushing a button activating a cushion of air. Patients may also remain in their wheelchair or gurney and are treated without making them get out of the chariot they arrived in. (Fig. 4,5).

We use the Porter Silhouette nitrous oxide masks because of their low profile, excellent seal, and non-interference with mustaches, beards or protective glasses. (Fig. 6) We insist that all these patients arrive on an empty stomach (except for medicine with water) and empty bladder (or diaper). The sedative that relaxes them also relaxes their bladder and stomach. To assure we don't see the contents of those organs, we insist they be empty. That eliminates the risk of aspiration of stomach contents into the lungs.

To prevent injurious behavior to both patient and staff, we secure their wrists and legs with a Velcro and mesh wrap. (Fig. 7) We use Rainbow wrap, because it comes in seven sizes, pleasant colors, and washable breathable material. For parents who object to the wrap, we invite them to hold the child on their lap with their arms and legs wrapped around the child. A second parent or caregiver may restrain the feet. (Fig. 8)

Once the mouth is opened, we maintain the opening with a combination of Open Wide Mouth Rests, and Molt Mouth gags or Zyris (Isolite) (Fig. 9a, 9b). Opening the mouth is done by activating any of four facial pressure points I described in my other dental journal articles and online Viva Learning courses. You may access, view or download all of these for free from my drhlevy.com website or google my name.

Since March, 2020, the mandate and precaution to protect everyone with PPE has modified clinical dentistry for everyone. That upgrade is not unique to this population. We are now wearing in the dental operatory what many of us have been using in the hospital operating rooms for decades. More on hospital dentistry later.

I personally like to have adult family members in the operatory during treatment. I find it reduces patient abandonment anxieties, provides additional restraint of patient's arms and legs, and allows for me to modify the treatment plan if I encounter a clinical surprise. It also fosters greater trust and rapport with the family. At any point during the treatment, if anyone utters the word "unsafe" or "not comfortable", we pause to discuss options. Sometimes we have to reschedule the patient with a higher dose of sedation. Other times, we feel that IV sedation may be appropriate and safer to reduce patient thrashing movements. About 4 % of the time, we determine that the only safe route would be via general anesthesia. When we feel the need to abort for safety, we reschedule the patient to have the treatment performed in a surgical center or hospital operating room. About



Fig. 4: Amputee remains in wheelchair. Fig. 5a: Alzheimers patient on gurney. Fig. 5b: Treating patient on gurney.

99% of our 2,100 OR cases were out-patient. Again, more on hospital dentistry in a later paragraph.

We found the family to be helpful when obtaining x-rays in the office. Whether it is intraoral x-rays (Fig. 10) or panoramic (Fig. 11), they all wear lead aprons and perform as the dental team directs them. In addition to our size 2 sensors, we offer size 1 for patients with small mouths or tori.

With multiple people in the dental operatory, the single overhead light is often obstructed. That's is why we prefer additional overhead lighting and/or head lights, so we can rotate our head to mirror the patient's movements (Fig. 12). OR's always have two or three ceiling lights, in additional to wheeledin portable lights and/or headlights.

We are using more clinical digital technology than ever before to reduce failures or remakes. We now use iTero in the office and expect to be using it in the OR's by the time this is published. We also make great use of hand-held x-ray units (Fig. 13). We cannot always expect the patient to hold their head still while we place the film or sensor and step out of the room. So we don lead aprons and hold the film or sensor in place while our other hand or another assistant presses the button on the handheld unit. In the OR, the patient is too far from the wall to use a wall mounted x-ray unit. Many



institutions wheel in a unit but cannot always get close enough to the patient's bed. The safe, light weight, hand-held units are our best bet for good images (Fig. 14). Our office computer or the OR laptop processes the images within seconds and provide our best digital images on a non-moving patient.

Many of our patients with special needs do not allow excellent oral hygiene at home. They generally have professional cleaning and visit with our hygienists every 3 months. The insurance benefits may be an issue, so the family and/or people holding the purse strings must agree to this. I would rather do a preventive prophylaxis cleaning four times a year than struggle with deep and unpleasant scaling once a year. Scaling and root planning is far more likely to trigger an adverse patient response than a simple prophylaxis cleaning. This is in addition to the hygienist's recommendations for alternatives to conventional oral hygiene. In particular, we often recommend an electric toothbrush held by a caregiver, so the bristles can move even if the hand or head is not. We recommend water pick or water flosser for those who don't do well with conventional flossing techniques. Chlorhexidine

on a toothette helps, even if it is only applied to all the labial/ facial surfaces on patients who will not open their mouth.

Some patients are too combative or wiggle too much in the dental chair. For many of them, we paint on Silver Diamine Fluoride (SDF) to buy us time (Fig. 15). We may restore or do more later on but are eager to stall the decay from advancing. This is used a lot on primary teeth, on hospice patients, or for people who have little concern for esthetics. This also reduces the financial burden of more expensive restorations.

Dentists who reject seeing these patients fearing medical emergencies should know this: Patients who have had recent physical exams and whose medical issues are well monitored are less likely to become an emergency in your office. It is the normal, regular patient who has not had a history & physical for years or who does not disclose their complete medical history and withholds vital information who is the real threat. You cannot prepare for what you are unaware. It is safer treating someone whose full medical history you have in your

> Fig. 6: Porter Sillouhette nitrous mask. Fig. 7: Rainbow Wrap. Fig 8: Parent limiting patient's movements.

records in front of you than someone whose vital information is hidden. We urge annual CPR certification for all staff, ACLS for all doctors, and semi-annual in-office drills to identify areas that need practice and review.

There are patients for whom even maximum oral conscious sedation using both benzodiazepine plus nitrous oxide are not adequate to permit safe and complete treatment in an office setting. This is when we consider IV sedation. Dentists with proper training and certification may perform this service in their own office. We use a surgical center where a nurse anesthetist or anesthesiologist relaxes the patient enough for us to perform our procedures. They often use Versed liquid and/or ketamine IM injections prior to the IV and gas to render the patient noncombative to allow the case to be successfully completed (Fig. 16). We do our finest quality work on non-moving targets. Surgical centers help make that happen. Short cases may not even require intubation, as long as the patient is carefully monitored by the qualified person providing the IV sedation or general anesthesia.

When routine dental care in a dental office is not safe, and a surgical center is not possible or not available, then the hospital OR using full general anesthesia is always an option (Fig. 17). Working in a hospital does not require the treating dentist to obtain a conscious sedation certification or permit. No special anesthesia training is required. You and your dental assistant or dental hygienist perform the same tasks you do every day in your office. The patient is completely asleep, and cannot possibly hamper you from performing your usual excellent dental care. We always ask for nasal, not oral, general anesthesia intubation, since we are working in the mouth and do not want another object like a breathing tube occupying precious work space (Fig. 18). We still use the same mouth props that we do in the office to maintain the patient's mouth open. We prop one side while we are working on the other, then switch when needed (Fig. 19). Upon completion of the case, we remove the protective throat pack we placed in the beginning of the session. The anesthesia team then wakes up the patient, and we give postoperative instructions to the family or caregiver of the successfully treated patient.

We always see the OR patient in our office for follow up a week or two later. If we extracted teeth, we want to assure normal postoperative healing. If we placed restorations, we need to assure



Fig. 9a: Mental foramen MHN-18 pressure point opens mouth. Fig. 9b: Open Wide Mouth Rest follows chin CO-24 acupressure point. Fig. 9c: Molt mouth gag with finger on hinge.

no high spots. If we prepared a crown, bridge or implant, we need to cement the prosthesis. If we prepared and took impressions for a removable appliance or space maintainer, we need to deliver it. If we inserted an appliance in the OR, we may need to adjust it. This follow up visit is a great time for oral hygiene education and review (Fig. 20). In 99% of our OR cases to date, we were able to perform the follow up necessary dental care in our office using oral conscious sedation. The few remaining cases had to be performed under outpatient IV sedation or general anesthesia for the few minutes needed to complete the case. This allows us to complete every case we start and happily place the patient on "recall" or "recare" with a clean bill of dental health.

Now, can you imagine yourself being the dentist or the dental team member who provides these valuable services? It would set you apart from the others, provide a renewed energy in the office, be a source of pride for the team, and know that you are treating the most underserved population of all; the people with anxiety



Fig. 10: Size 1 sensor for x-rays. Fig. 11: Parents assist with pan. Fig. 12: Headlights follow head movements of parentally restrained patient. Fig. 14: NOMAD-Pro 2 hand-held x-ray.

or special needs. If you have the motivation, you can easily obtain the skills from available courses and be the best compassionate professional team imaginable. This is an opportunity to use your gift, the gift of compassionate care and healing. Can you imagine that?

Photos without current standard PPE were taken prior to March, 2020. Any ungloved hand is the patient's family member or caregiver.

Personal note: I would consider it a privilege to share my lessons with any interested dental professional via my writings, online video courses, lectures, or in person. Start or continue your journey by visiting our site drhlevy. com.



Fig. 15: Silver Diamine fluoride

**Dr. Harvey Levy** practices general and hospital dentistry in Frederick, Maryland, where he emphasizes comprehensive dental care for individuals with anxiety or special needs. Dr. Levy has earned a Mastership and six Lifelong Learning Service Recognitions from the AGD, along with eleven fellowships, five Diplomate certificates, and board certification in Integrative Medicine.



He is the recipient of the ADA Access to Care Award, the AGD

Humanitarian Award, the Maryland Governor's Doctor of the Year Award, Tufts University Distinguished Alumni Award, and many additional awards. He had the honor of running the 2002 Olympic Torch in honor of Maryland patients with special needs.

Dr. Levy has authored over forty dental journal articles and book chapters and has presented over 150 lectures and workshops on treating patients with special needs. He is also a martial arts master and three-time inductee into the U.S. Martial Arts Hall of Fame.





Fig. 16: Surgical Center OR. Fig. 17: Hospital OR.



Fig. 18: Nasal intubation and Molt mouth gag. Fig. 19: Throat pack on nasally intubated propped patient in OR. Fig. 20: Parents shown improved oral hygiene.

Florida Focus Self-Instruction: Occlusion, Exercise 6222

# Changing Lives One Smile at a Time

#### by Dr. Joseph Barton

The following clinical case was presented to the Las Vegas Institute (1) for Mastership Accreditation. The treatment used follows the Las Vegas Institute's Core Course Protocols for Temporomandibular Disorder Patients. There is a wide range of how TMD patients can be treated from minor occlusal adjustments, orthodontics, posterior restorations, full arch restoration, full mouth restoration, or a combination of these. The decision of how this case was managed was determined utilizing computerized EMGs (2) in combination with a TENS unit and T-Scan (3). The final Physiologic occlusal relationship of the arches required and the aesthetics requested by the patient resulted in restoration of the full dentition.

Linda presented with an array of physical symptoms that did not initially appear related to mandibular positioning. Upon further questioning and visual examination, the following was discovered.

#### **Initial Findings**

- Extremely large buccal tori
- Canted plane of occlusion
- Abfractions
- Loss of vertical dimension (Over closed)
- Limited range of motion (Wide opening 34 mm; Right 6.9mm; Left 5.7 mm)
- (Normal range of opening: Wide opening 45-60 mm; Lateral 10-15 mm)
- Worn dentition
- Forward head posture and postural symptoms
- TMD symptoms uncovered after through exam and questioning



#### Figure 1: Pre-Op.

#### Figure 2: Profile.

#### **Chief Complaints**

- Pain in jaw joints
- Pain in ears
- Pain around eyes
- Pain in neck, shoulders, forehead, templates, and facial muscles.
- Hearing loss
- Popping –right side
- Grating right and left joints
- Vertigo
- Ringing in ears, fullness, and congestion
- Tension headaches and occasional migraines

#### **Symptoms**

- Limited Opening
- Occasional difficulty swallowing
- Difficulty breathing thru nasal passage
- Mouth breathing and nighttime snoring
- Awakens with dry mouth
- Clenching nighttime and daytime
- Previous night guard flat plane maxillary
- Equilibration in the past resulting in wear pattern and decreased vertical



Figures 3 and 4: Pre – Operative Photos

Diagnosis included lower arch crowding with deep bite. Abnormal jaw closure – posterior posturing was confirmed with Computerized Jaw Tracking and EMG's. Protective Muscle splinting with muscle spasms was noted and finger pressure opening obtained at only 32 without pain and 42mm with pain.

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Linda has a clenching profile confirmed with Computerized Clench Scan EMG's.

The decision was made to include co-therapy including physiologic trigger point due to the strong postural component and level of pain Linda was experiencing. Weekly visits with the Neuromuscular Massage Therapist were scheduled and subsequent visits with an acupuncturist and AO chiropractor.

Computerized scans were performed, and a physiologic bite was obtained. A TENS unit was used for neural innervation of Cranial Nerves: CN V Trigeminal, CN VII Facial, and CN XI Accessary. This was used to achieve muscle relaxation of all muscles associated with those nerves. The physiologic bite was obtained based on Shimbashi Measurements, and LVI Vertical Index was then used to mount the models for a lower arch wax up and to fabricate a physiologic orthotic. The physiologic mandibular position was confirmed with EMG's, Scans, and Tomograms. The decision was made to provide Linda with a lower fixed orthotic using Integrity temporary material (6) for compliance and aesthetics. Also, Linda felt the size of her tongue was making the use of a current removable orthotic difficult. Orthotic adjustments as needed were done over a three-month period.

After 3-4 months of orthotic wear, symptom resolution was confirmed using Computerized EMG scans and T-Scan to move forward toward long term stabilization: Full mouth restoration of the upper and lower arch dentition using laboratory fabricated EMAX (4) restorations.

A transfer bite appointment to segmentally remove the lower fixed orthotic and capture a bite using bite registration material (5) and a bite stint in the current physiologic jaw position was performed.

Maxillary and mandibular arches were waxed up to create proper form and aesthetics to be used in temporary fabrication (6).

Preparations were done following the Las Vegas Institute's Full Mouth Reconstruction Course Protocol. The models mounted from the transfer bite appointment were used to obtain segmental bite registrations during preparation of both the upper and lower arches. Impressions of upper and lower arches obtained using Kettenbach PVS (7). Temporaries using Integrity shade bleach white (6) were done one arch at a time and the vertical dimension confirmed. Twenty-four hours later, follow-up adjustments were done with TENS and T-Scan to check occlusion. Vertical numbers were confirmed.

The final restorations were treated for bonding with ceramic etch (8) and porcelain silane (9) and were seated as outlined in the

Las Vegas Institute Full Mouth Reconstruction Course protocol. Tooth bonding protocol included selective etching (10), bonding agent (11), and a light cured cement (12). Adjustments were done 24 hours later using TENS, EMGs, and T-Scan and again after one-week post-operative. One month later, physiologic scans were captured, and minor adjustments were performed.

Figure 5: Pre-Op Scans



Width of Central	Ideal Length	LVI Golden Index	
7.0 mm	9.00 mm	14.50 mm	LVI VERTICAL
7.5 mm	9.75 mm	15.75 mm	INDEX
8.0 mm	10.50 mm	17.00 mm	HEIGHT TO WIDTH
8.5 mm	11.00 mm	17.74 mm	RATIO =
9.0 mm	11.50 mm	18.50 mm	77.5% length equals 1.29 x the width.
9.5 mm	12.25 mm	20.00 mm	GOLDEN
10.0 mm	13.00 mm	21.00 mm	PROPORTION = 1.618
10.5 mm	13.50 mm	22.00 mm	



Figures 6 and 7: Full Mouth Temporaries





Figures 9,10,11: Final Restorations

Figure 8: Final EMGs. Rest teeth apart vs. final restorations in occlusion show an excellent physiologic bite position.

Treatment for Linda resulted in elimination of her headaches immediately after orthotic therapy, and resolution continues to this day.

Elimination of her vertigo was probably the most substantial change as well as reduction of joint noises. Her right shoulder issues are being addressed under the care of the neuromuscular massage therapist and orthopedic surgeon. The changes made to Linda's smile with the canting correction, golden proportions, and symmetry have resulted in a very comfortable, natural, and gorgeous smile.

#### References

- 1. Las Vegas Institute; www.lviglobal.com, Las Vegas, NV USA
- BioPak BioEMG III; BioResearch Associates, Inc. Milwaukee, WI, USA
- 3. T-Scan III; Tekscan, Inc. S. Boston, MA USA
- 4. EMAX Ivoclar Vivadent, Liechtenstein
- 5. Futar Bite Registration Material; Kettenbach, Huntington Beach, CA USA
- 6. Integrity Temporary Material; Dentsply Sirona, USA
- 7. Panasil Impression material; Kettenbach, Huntington Beach, CA, USA
- 8. Ceramic Etching Gel; Ivoclar Vivadent, Liechtenstein
- 9. Bis-Silane Porcelain Silane; Bisco Inc, Schaumburg, IL USA
- 10. Ultra-Etch Tooth Etch; UltraDent, South Jordan, UT USA
- 11. All Bond Universal; Bisco Inc, Schaumburg, IL USA
- 12. Choice 2 Light Cured Cement; Bisco Inc, Schaumburg, IL

Joseph M. Barton, DMD, LVIM, grew up in Jacksonville, Florida, and received his Doctor of Dental Medicine degree from the University of Florida in 1986. He chose to remain in Jacksonville and has been in private practice ever since with Admira Dentistry. As an avid triathlete, Dr. Barton has a deep appreciation for a healthy lifestyle, and this appreciation extends into his practice. Beyond creating



and maintaining beautiful, healthy smiles, addressing signs and symptoms of TMD disorders, and sleep apnea, there is a strong focus on total health. This focus assists people with lifestyle changes, including areas of nutrition, exercise, physical and medical concerns. He has dedicated his practice to help his guests achieve a sense of Beauty • Health • Balance in their lives.

In addition to his Doctor of Dental Medicine degree, Dr. Barton is also an esteemed Fellow and Instructor at the Las Vegas Institute for Advanced Dental Studies (LVI Global) and earned his LVI Mastership Award in 2005. This year Dr. Barton was awarded the LVI Alumni of the Year Award for his dedication and leadership through teaching at the Las Vegas Institute.

### **Patient Testimonial**

"Initially I was very concerned about how I would deal with the length of the preparation and seat appointments. Being a dental care provider for over thirty years, I have watched people receiving oral injections and their reactions to them. I even spoke with Dr. Barton about going to the hospital to be treated on an outpatient basis.

"Dr. Barton's and his assistant's enthusiasm for helping people face their fears enabled me to have all appointments at our office. Neither appointment was anything like what I had anticipated.

"I also had a long history of moderate-severe tension type headaches (over thirty years). After placement of the fixed orthotic I did not have any more headaches!



"About five years ago, I noticed my teeth were starting to chip, my lower jaw position had shifted, and my upper and lower front teeth were becoming more translucent, making them more sensitive to hot and cold.

"To say I am very pleased with my completed dental treatment, is an understatement. Elimination of the sensitivity, no more pain from headaches, and the dramatic change of the appearance of my teeth has been phenomenal!!! I feel like a new person. I catch myself laughing and smiling so much more now!"

Linda, RDH

#### APPOINTMENT SEQUENCING

Phase 1: Pre-Operative Records and Physiologic Bite Obtained

- Comprehensive musculoskeletal exam
- Referral to neuromuscular massage therapist to address postural component
- Radiographic series including Panorex and Pre-Operative Tomograms
- Computerized Scans to aide in TMD diagnosis and to establish working mandibular position.
- Records mounted on Stratos Articulator to confirm HIP (Hamular Notch Incisal Papillae) plane as hard tissue representation of occlusal plane. Confirmed with symmetry bite.
- Pre-Op measurements for vertical noted:
- o 1st molars on right side (# 3-30) 9.90mm
- o 1st molars on left side (#14-19) 10.40mm
- o Anterior left centrals (#. 9-24) 14.50mm
- Physiologic bite was used to mount models at new vertical position.

**Phase 2: Orthotic Placement and Symptom Resolution** 

- Measurements for vertical noted:
- o 1st molars on right side (# 3-30) 13.40mm
- o 1st molars on left side (#14-19) 12.30mm
- o Anterior left centrals (# 9-24) 18.30mm
- Fixed orthotic fabricated at physiologic position and delivered using TENS.
- Orthotic adjustments done first week and monthly vertical position confirmed.
- Muscle comfort was confirmed using TENS and computerized scans.
- Neuromuscular massage therapy continued and done in conjunction with orthotic adjustment appointments.
- Decision made to make vertical and AP changes with restoration of upper and lower arches.

#### **Phase 3: Preparation Appointment**

- Restorative procedures performed using Sil-Tech as bite stint to transfer bite.
- Bite registration added to occlusal surface of Sil-Tech bite stint as preparations done in segments and vertical confirm with digital calipers. This follows the LVI Protocols of segmental reline maintaining the physiologic bite position and utilizing posterior stops.
- Final Impressions obtained of Maxillary arch and Mandibular arch, using Kettenbach PVS impression material
- Symmetry Bite obtained to assist lab in aesthetics
- Maxillary temporaries placed
- Mandibular temporaries place
- Slight adjustments made using T-Scan
- Vertical measurements confirmed using digital calipers
- 24-hour adjustments done after 55minutes of TENS and using T-Scan
- Vertical measurements confirmed

Bite was managed in the lab at each corresponding step. Finished crowns were verified on the models prior to seating

#### **Phase 4: Cementation Appointment**

- Maxillary arch temporaries removed, and upper porcelain restorations tried in, and margin integrity, contacts and aesthetics confirmed on try in.
- Rubber dam placement on upper arch and restorations seated using bonding protocol taught at LVI Global using Bisco Choice light cured resin cement.
- Mandibular arch temporaries removed; lower arch porcelain restoration tried in; margin integrity, contacts, occlusion and aesthetics confirmed on try in.
- Rubber dam placement on lower arch and restorations seated using bonding protocol taught at LVI Global using Bisco Choice light cured resin cement.
- Final Measurements for vertical noted:
- o 1st molars on right side (#3-30) 13.20mm
- o 1st molars on left side (#14-19) 12.10mm
- o Anterior left centrals (#9-24) 18.20mm

## Patient Safety in Dentistry Part 3: Managing Adverse Events in the Practice Setting

by Sue Boisvert, BSN, MHSA, DFASHRM Senior Patient Safety Risk Manager, The Doctors Company and Jon Pellett, Attorney, Pennington, PA

This article, the final installment of a three-part series on patient safety in dentistry, will address the management of adverse events in a dental practice.

he Agency for Healthcare Research and Quality (AHRQ) L defines an adverse event as "harm from medical care rather than an underlying disease."1 Adverse events are typically divided into three categories: preventable, ameliorable, and negligent. Preventable adverse events are those in which the harm may have been lessened or prevented had patient safety risk mitigation strategies been applied. An example of a mitigation strategy is checking for allergies before administering medication. When a clinician administers or prescribes medication despite a known allergy, the patient's allergic response is considered a preventable adverse event. An ameliorable adverse event is one that, while not entirely preventable, may have resulted in less harm if the care had been provided differently, such as observing and monitoring a patient after administering anesthesia or sedation to ensure a rapid response to any complication. A negligent event involves a breach in the standard of care resulting in harm, when the breach is the direct cause of the harm. Determination of negligence often involves a judicial or regulatory process or both.

Florida dental regulations use two different terms, defined almost identically, for an adverse event. They use *adverse incident* and *adverse occurrence*:

Section 466.017(14) of the Florida Statutes includes the term *adverse incident* and defines it as "any mortality that occurs during or as the result of a dental procedure, or an incident that results in a temporary or permanent physical or mental injury that requires hospitalization or emergency room treatment of a dental patient which occurs during or as a direct result of the use of general anesthesia, deep sedation, moderate sedation, pediatric moderate sedation, oral sedation, minimal sedation (anxiolysis), nitrous oxide, or local anesthesia."<sup>2</sup>

The Florida Board of Dentistry uses the term *adverse* occurrence, which it defines as "any mortality that occurs during or as the result of a dental procedure, or an incident that results in the temporary or permanent physical or mental injury that requires hospitalization or emergency room treatment of a dental patient that occurred during or as a direct result of the use of general anesthesia, deep sedation, moderate sedation, nitrous oxide, or local anesthesia."<sup>3</sup>



These definitions focus on events in which a patient dies during or as a result of a dental procedure and any condition that requires patient hospitalization or emergency room treatment *as the result of the use of any anesthesia, including local anesthetics.* The opportunity for patient harm in dentistry is not limited to patients who have received anesthesia and sedation. This article will examine dental patient safety from the broader perspective of adverse event.

When an adverse event occurs in a dental practice, providers and staff must be prepared to respond appropriately. Preparations include developing response plans for the different types of emergencies that may occur, maintaining emergency equipment and supplies, role-specific training for staff members, and conducting periodic drills to identify process gaps. A wellmanaged adverse event response includes caring for the patient, investigating what happened, taking corrective action where needed, and reporting the event appropriately as required.

#### **Take Care of the Patient**

If an adverse event occurs, patient care takes precedence. Dentists and clinical staff must be prepared to manage the clinical situation. Involve emergency services as necessary. Consider conducting a brief huddle once the patient is stable for discharge or transfer. Assign someone to take notes and ask each participant to describe the event from their perspective. When time permits, consolidate the notes and initiate the investigation step. Keep the notes in an incident file that is separate from the patient's record.

Sometimes an adverse event is discovered after treatment has occurred and the patient has left the office. Consider the following example:

> Dr. Jones' office received a request for records from a patient scheduled to see an oral and maxillofacial surgeon (OMS). As was customary in the office, Dr. Jones was made aware of the request and looked over the records to ensure that the office staff had pulled everything the OMS would need. Dr. Jones had seen the patient for an infected tooth and performed a root canal and crown placement. The patient healed well and had not called the office or returned for additional care. When Dr. Jones re-reviewed the initial radiography image files taken before the root canal, she noted a finding not previously appreciated. She saw a hairline fracture of the mandible from the area below the treated tooth into the mandibular angle.

> Dr. Jones contacted the OMS immediately to discuss the findings. She and the OMS suspected infection and nonunion of the

mandibular fracture. The patient had been scheduled for a nonurgent examination to assess pain and reduced jaw movement. The OMS office contacted the patient and rescheduled an earlier appointment.

In this case, both the delayed diagnosis of the fractured jaw and the infection were adverse events. The pain and decreased jaw mobility from the infection may have been preventable. If Dr. Jones had noted the fracture, she would likely have delayed surgical management of the infected tooth to treat the mandibular fracture.

Dr. Jones recognized the necessity of communicating the missed finding to the OMS. Admitting professional errors to a colleague, though challenging, demonstrates integrity. Notifying the downstream provider also reduces the risk of nonprofessional communication (refer to Part 1 of this series).

Dr. Jones must also advise the patient of

the missed fracture. Communicating adverse events to patients and families, or *disclosure*, is an ethical obligation. Disclosing represents the principle of respect for autonomy. In the case above, disclosure to the OMS represents nonmaleficence. Although the OMS would likely have noted the fracture, contacting the OMS and discussing the context are essential to ensure patient safety.

Trust is a vital component of the provider-patient relationship. Anything that erodes this trust puts both parties at risk. While it may seem counterintuitive at first, notifying patients and families when an adverse event occurs may improve the provider-patient relationship if it is done well.<sup>+</sup> From a professional liability perspective, it is unclear whether disclosure prevents claims, primarily because it is difficult to measure something that does not happen. Subjective evidence suggests that patients may be more forgiving when providers offer an honest and sincere disclosure and apology. Literature supports the notion that providers with poor communication skills who appear insensitive or untruthful are more likely to be sued by patients and families.<sup>5</sup>

In Florida, as in many states, disclosure is a legal obligation:

Every licensed health care practitioner shall inform each patient, or an individual identified pursuant to s.765.401(1), in person about adverse incidents that result in serious harm to the patient. Notification of outcomes of care that result in harm to the patient under this section does not constitute an acknowledgment of admission of liability, nor can such notifications be introduced as evidence.<sup>6</sup>

Also known as the "Duty to Notify," this statute applies to all licensed healthcare practitioners, including dentists. Providers who fail to disclose are at risk for professional board disciplinary action.

At some point, every dentist will face the difficult decision about disclosure. When making treatment decisions, use an objective, rational, and patient-centered decision-making process, much like every provider's risk-benefit analysis. The following simple guidelines may also be helpful: Disclose an adverse event if it (1) causes or has the potential to cause harm, (2) requires additional treatment or monitoring, or (3) would affect your desire to know if it happened to you or a relative. Disclosure is usually

#### ADVERSE EVENT MANAGEMENT



best managed face to face. Ideally, the patient would come to the practice; however, it is possible to have an effective disclosure discussion virtually using telehealth. Plan ahead for questions that the patient might ask and for possible emotional behaviors. Avoid becoming defensive. Explain objectively what happened, avoid blaming others, and do not speculate. Be honest and sincere.

An empathetic apology may be very helpful to both parties. Because disclosure is required and so many healthcare professionals are concerned about liability, most states—including Florida— protect disclosure discussions from discovery and use in a malpractice claim:

> The portion of statements, writings, or benevolent gestures expressing sympathy or a general sense of benevolence relating to the pain, suffering, or death of a person involved in an accident and made to that person or to the family of that person shall be inadmissible as evidence in a civil action. A statement of fault, however, which is part of, or in addition to, any of the above shall be admissible pursuant to this section.<sup>7</sup>

At some point, admitting fault and offering compensation may be appropriate. To protect the practice, involve an attorney or your professional liability carrier before doing so. Document the discussion objectively in the dental record. Include date and time, location, a brief description of the discussion (including questions and answers), and patient and family responses.

Often, patients and families also want to know why the event happened to them and what will be done to prevent similar occurrences. Depending on the timing of the initial disclosure, these questions may not be answerable. After the event investigation, follow up with the patient and family to discuss actions taken. Keep the discussion at a high level and do not address confidential human resource actions.

#### **Investigate the Event**

Investigating an adverse event is very similar to making a diagnosis. Review the dental record information available at the time of the incident. Gather the staff members present during the incident (as appropriate) and walk through the process of care. Depending on the severity and complexity of the incident,

it may be helpful to create a timeline. Look for factors and gaps that may have contributed to the adverse event and think about mitigation strategies that could have helped reduce the extent of or prevent the event. This process is called a root cause analysis (RCA). Use standardized tools (such as the Five Whys tool, a "fishbone" diagram, or a cause and effect tree) to ensure that you identify the root causes. Adverse events are rarely entirely attributable to a single individual. Do not use the RCA process to shame or blame an individual. Instead, look for system issues that may have led the individual to make a poor selection or forget a step. Typically, system factors contribute to an error-prone environment. Common contributing factors include distraction and interruption, overly complicated processes, lack of training, poor teamwork, and time pressure. Evidence-based tools and guidelines are available to assist in the process. See the resource list at the end of the article.

Use the investigation to identify the main contributing factors (root causes), prioritize them, and develop an action plan. Plans have better outcomes when specific team members take responsibility and have accountability for each corrective action. In the case example, Dr. Jones missed a mandibular fracture. Reduce the chances of missing a significant finding by ensuring that the most recent images are on a viewing screen in the treatment room. Add a second layer of patient safety by including a final image review on a preprocedure checklist. Assign responsibility for ensuring the images are up in the treatment room and review the checklist with the treatment team prior to proceeding with the treatment.

Once the plan is developed, circle back with the family. Thank them again for their patience and understanding and give a highlevel overview of the plan. In the case example, Dr. Jones might state that, in the future, images will be placed in the treatment room for every procedure and the practice will use a checklist.

#### **Report the Event If Required**

Not all events that happen in a dental office require regulatory reporting. Patient deaths that occur during or as a direct result of a dental procedure must be reported to the Florida Board of Dentistry regardless of when the patient expires. It must also be reported to the board if a patient suffers a temporary or permanent physical or mental injury that requires hospitalization or treatment in an emergency department and the injury occurred during the use of anesthesia or as a direct result of the use of anesthesia.

Here is an example: A patient suffers a cardiac event in the office during a dental procedure and is transferred to a hospital. If the patient recovers and no form of anesthesia was used during the dental treatment, the transfer of the patient to the hospital does not meet the specific criteria for reporting. On the other hand, the event must be reported if the patient expires. If any form of anesthesia was used—including a local anesthetic—the event must be reported, regardless of whether the patient recovers.

The dental statute and rule concerning adverse events are very specific, and they apply to dentists (and any dental hygienist registered to administer local anesthesia) when administering local anesthesia. If an event is required to be reported, an initial report is due within 48 hours of the incident, with a follow-up report due within 30 days of the incident. A failure to timely report an adverse event can form a basis for discipline.

When a dentist is in doubt about whether to report an event to the Florida Board of Dentistry, the dentist should consult with legal counsel or a qualified risk manager.

Any event reported to the Florida Board of Dentistry should also be reported to the dentist's professional liability carrier. It is essential to read insurance policy documents and be familiar with the requirements, including reporting. Although every insurance policy has nuances, patient harm that can result in a claim (sometimes known as a *potentially compensable event*, or PCE) is always reportable. PCEs in a dental office include but are not limited to death, diminished life expectancy, loss or impairment of an organ or sense, and disfigurement. Other actions by the patient or family or communications from an attorney or regulatory body are also reportable. These include written or verbal demands for money or threats of legal action by a patient or family, notices of legal action from a court or law firm, and requests to participate in a legal activity such as arbitration or a deposition. Failure to report an occurrence according to the policy terms may affect coverage if the event is litigated.

Most professional liability carriers have a patient safety or risk management department that can provide guidance on adverse events, reporting, and other patient safety topics.

Patient safety in dentistry is just as important as it is in any other field of medicine. Though dental patient safety science is still emerging, dental associations and regulatory boards have recognized and addressed the importance in the form of guiding principles and regulations. The rest is up to you.

As the authors of "Safety in Dentistry" note:

Ultimately, patient safety, like politics, is local. Leaders of individual practices must not only decide to allocate resources to patient safety activities within a dental practice, they must also cultivate an environment in which individuals feel that talking about patient safety concerns is valued.<sup>8</sup>

The guidelines suggested here are not rules, do not constitute legal advice, and do not ensure a successful outcome. The ultimate decision regarding the appropriateness of any treatment must be made by each healthcare provider considering the circumstances of the individual situation and in accordance with the laws of the jurisdiction in which the care is rendered.

#### Resources

National Patient Safety Foundation. RCA2: Improving Root Cause Analyses and Actions to Prevent Harm. Boston, MA: National Patient Safety Foundation; 2015. (Registration required.) http://www.ihi.org/resources/Pages/Tools/RCA2-Improving-Root-Cause-Analyses-and-Actions-to-Prevent-Harm.aspx

Minnesota Department of Health. Root Cause Analysis Toolkit. See Graphic Organizers/Diagrams. <u>https://www.health.state.</u> <u>mn.us/facilities/patientsafety/adverseevents/toolkit/</u>

#### References

- Agency for Healthcare Research and Quality. Patient safety 101. Adverse events, near misses, and errors. PSNet. September 7, 2019. Accessed March 30, 2022. <u>https://psnet.ahrq.gov/ primer/adverse-events-near-misses-and-errors</u>
- 2. Florida Statutes. 2021. §466.017(14). Accessed March 30, 2022.
- Florida Administrative Code. 2022. Chapter 64. Rule 64B5-14.006 Reporting Adverse Occurrences. Effective March 10, 2020. Accessed April 8, 2022.
- Chamberlain CJ, Koniaris LG, Wu AW, Pawlik TM. Disclosure of "nonharmful" medical errors and other events: duty to disclose. *Arch Surg.* 2012;147(3):282–286. Accessed March 30, 2022. doi:10.1001/archsurg.2011.1005

**Resources continued on page 18** 

#### **Florida Focus Self-Instruction:** Exercise 6221, 1 CEU Subject 750, Special Patient Care

#### 1. Causes of lack of care for special needs patients include all except \_

- A. Patients' fear of the unknown
- B. Dentists' fear of the unknown
- C. Lack of properly-equipped facilities
- D. Finances

2. Techniques for overcoming patients' fear include familiarization, desensitization, and behavior modification. The presence of the patient's family practice physician can increase success.

- A. Both statements are true.
- B. The first statement is true; the second is false.
- C. The first statement is false; the second is true.
- D. Both statements are false.

#### 3. Factors to consider when using oral conscious sedation include the patient's \_\_\_\_\_.

- A. past history
- B. body weight
- C. level of anxiety
- D. All of the above.

#### 4. Including adult family members during treatment reduces patients' abandonment anxieties but limits restraint of the patient. The presence of family members allows for the clinician to modify the treatment plan as needed.

- A. Both statements are true.
- B. The first statement is true; the second is false.
- C. The first statement is false; the second is true.

6. Approximately \_\_\_\_\_% of Dr. Levy's hospital

operating room cases have been outpatient.

C. 75

D. 99

D. Both statements are false.

#### 5. Dr. Levy has found that general anesthesia is the only safe route for patient treatment approximately \_\_\_\_% of the time.

The ten questions for this exercise are based on the article, "Imagine There's No Dentist" on page 5. Reading the article and successfully completing the exercise will enable you to:

- understand the barriers to the treatment of patients with special needs and severe anxiety;
- appreciate the various options available for the treatment of these patients and when it is appropriate to select them;
- understand the techniques, equipment, and materials which faciliate treatment of these patients.

Please email your answers with your name and AGD number to flagdeditor@gmail.com. 80% of the answers must be correct to received credit. Answers for this exercise must be received by December 31, 2022.

- 7. Advantages of hand-held x-ray units include \_\_\_\_
- A. enabling patients to hold their heads still more easily
- B. allowing accurate positioning close to the patient
- C. faster speed compared to wall-mounted units
- D. All of the above.
- 8. Treatment with IV sedation
- A. always requires the dentist to be trained and certified
- B. permits treatment on a non-moving patient
- C. often uses Halcion, Versed, or ketamine prior to the IV
- D. always requires intubation

#### 9. Hospital dentistry requires the treating dentist to obtain a conscious sedation certification or permit. Specialized mouth props and throat packs are used for oral intubation.

- A. Both statements are true.
- B. The first statement is true; the second is false.
- C. The first statement is false; the second is true.
- D. Both statements are false.
- 10. Follow-up appointments \_\_\_\_\_\_.
- A. are scheduled one month after treatment
- B. usually require IV sedation
- C. are only necessary following surgical treatment
- D. None of the above.

#### **Resources continued from page 17**

- Levinson W, Roter DL, Mullooly JP, Dull VT, Frankel RM. Physician-pa-5. tient communication. The relationship with malpractice claims among primary care physicians and surgeons. *JAMA*. 1997;277(7):553–559. Accessed March 30, 2022. <u>https://pubmed.ncbi.nlm.nih.gov/9032162/</u> Florida Statutes. 2021. Title XXXII, §456.0575 (1) Duty to notify patients.
- 6. Accessed March 30, 2022.
- Florida Statutes. 2021. Title VII, §90.4026 (2) Statements expressing sympathy; admissibility; definitions. Accessed March 30, 2022.
- Ramoni RB, Walji M, Kalenderian E. Agency for Healthcare Research and Quality. Safety in dentistry. PS Net. August 1, 2016. Accessed April 5, 8. 2022. https://psnet.ahrq.gov/perspective/safety-dentistry

A. 2

B. 4

C. 5

D. 7

A. 25

B. 45

Florida Focus Self-Instruction: Exercise 6222, 1 CEU Subject 180, Occlusion

1. The initial case managment decisions were determined with the aid of all except \_\_\_\_\_.

- A. a CBCT scan
- B. a TENS unit
- C. EMGs
- D. a T-Scan

2. According to the article, the normal range of motion of the mandible is \_\_\_\_\_ mm for wide opening and \_\_\_\_\_ mm for lateral movement.

- A. 60-70, 10-15
- B. 45-60, 10-15
- C. 60-70, 20-30
- D. 45-60, 20-30
- 3. In addition to her dental care, the patient was treated by
- A. an acupunturist and an orthopedic surgeon
- B. a neuromuscular massage therapist and an otolaryngologist
- C. a chiropractor and an orthopedic surgeon
- D. an allergist and a neuromuscular massage therapist

4. Prior to obtaining the physiologic occlusal record, a TENS unit was used stimulate all the following cranial nerves except \_\_\_\_\_.

- A. CN V, Trigeminal
- B. CN VII, Facial
- C. CN XI, Accessory
- D. CN XII, Hypoglossal

### 5. The patient was provided with a \_\_\_\_\_ \_\_\_ physiologic orthotic.

- A. maxillary removable
- B. maxillary fixed
- C. mandibular removable
- D. mandibular fixed
- 6. The Golden Proportion is \_\_\_\_\_
- A. 1.254
- B. 1.338
- C. 1.618
- D. 1.812

The ten questions for this exercise are based on the article, "Changing Lives One Smile at a Time" on page 10. Reading the article and successfully completing the exercise will enable you to:

- follow the use of computerized EMGs and TENS in the restorative treatment of a TMD patient;
- understand the use of a physiologic orthotic;
- understand the appointment sequence in the treatment of a TMD patient.

Please email your answers with your name and AGD number to flagdeditor@gmail.com. 80% of the answers must be correct to received credit. Answers for this exercise must be received by December 31, 2022.

#### 7. Pre- and post-op EMGs were recorded with the mandible

- A. in protrusion
- B. in heavy centric occlusion (clenching)
- C. at rest
- D. at maximum opening
- 8. Prior to restoration, the patient wore the orthotic for
- A. 2 weeks
- B. 4 weeks
- C. 2 months
- D. 3 to 4 months

9. Following the period of orthotic wear, resolution of symptoms was confirmed using EMG scans. The orthotic was temporarily cemented prior to treatment.

- A. Both statements are true.
- B. The first statement is true; the second is false.
- C. The first statement is false; the second is true.
- D. Both statements are false.

10. The final restorations were bonded and adjusted \_\_\_\_\_ hours later using \_\_\_\_\_.

- A. 8, EMG scans
- B. 24, TENS
- C. 48, CBCT
- D. 72, T-Scan



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