INSIDE THIS ISSUE: Implant rescue • CE: Drug management • Office Visit

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JUNE 2025

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JUNE 2025 VOL. 26, ISSUE 6

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Inside the American Dental Association:
A Call for Transparency and Reform

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What to do Regarding a Difficult Patient That Throws the Word 'Lawsuit' Around?

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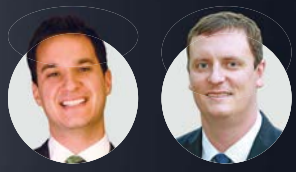

Drs. Danny Domingue and Cory Glenn share an implant restoration case

CE COURSE

Dr. Elfatih Eisa discusses drug-induced bruxism management

Drs. Clint and Kelly Euse

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Drs. Clint and Kelly Euse

Drs. Clint and Kelly Euse share how they built a high-tech, team-driven practice focused on patient care, work-life balance and intentional growth—together.

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HOWARD SPEAKS

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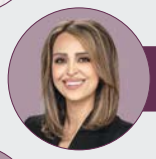
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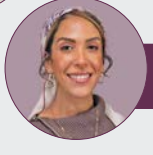
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DR. HOWARD FARRAN, DDS, MBA
Founder and CEO

Inside the American Dental Association: A Call for Transparency and Reform

Over the past five years, the American Dental Association has quietly transitioned from a financially stable nonprofit with deep reserves to an organization teetering on the edge of fiscal crisis. By early 2025, what had been whispered in private channels broke open into public view thanks to a powerful editorial posted on LinkedIn by Dr. Bob "Dee" Dokhanchi. What he exposed wasn't mere mismanagement—it was a systemic breakdown of financial oversight, transparency, and accountability at the highest levels of organized dentistry.

The facts

Here's what the facts show: between 2020 and 2025, the ADA's reserves plunged from more than $144 million to less than $50 million, excluding one-time proceeds from selling its Chicago and Washington, D.C., headquarters. The ADA has since confirmed these numbers in its own communications, and that should concern every dues-paying member.

At the core of the collapse was a $50+ million technology gamble: the implementation of a Salesforce-based membership software (Fonteva) that failed spectacularly at launch. The fallout disrupted dues collection nationwide and contributed to a severe shortfall in revenue just as the association's expenses were peaking. What was sold as a modernizing step forward quickly

To read the post by Dr. Bob "Dee" Dokhanchi's scan the QR code below.

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PK-5767300-060125_DTown

became a cautionary tale in project overreach and poor execution.

Simultaneously, ADA leadership pursued a series of high-cost strategic initiatives, including an ambitious merger with the Forsyth Institute and increased global engagement through international travel and conferences. While these initiatives were presented as "visionary," they were funded with money drawn directly from the reserves—money that once represented a safety net for the entire profession.

Perhaps most galling to longtime members was the decision in 2021 to eliminate the traditional Life Member dues waiver. Dentists who had dedicated 30+ years to the profession suddenly found themselves paying full dues while watching that money spent on failed systems, executive retreats, and opaque business ventures. The optics alone eroded trust: the lack of transparency in decision-making fueled deeper outrage.

The findings

When questioned, ADA leadership largely deflected. But Dr. Dokhanchi—armed with facts, insider input, and a clear moral compass—refused to back down. His editorials sparked an unprecedented wave of attention across the profession. They weren't rumor-laden rants; they were substantiated, measured critiques. He named names. He cited policies. He demanded a forensic audit.

In response, ADA leadership finally acknowledged the gravity of the situation. Executive Director Dr. Ray Cohlmia abruptly resigned in February 2025. In May, ADA President Dr. Brett Kessler and President-Elect Dr. Richard Rosato issued a letter to members confirming a $29 million emergency budget cut and the formation of a long-term financial recovery plan. Still, many of those who oversaw the years of decline remain in leadership, including long-tenured senior executives and board members.

The key question now is whether the ADA has the institutional will to learn from its mistakes. A forensic audit has not yet been commissioned. No public personnel accountability beyond the executive director's resignation has occurred. And the system of closed-door executive sessions that kept critical information from the House of Delegates remains in place.

> **This isn't just about numbers. It's about governance. It's about credibility.**

Today, the ADA's total reserves include a newly created "quasi-endowment" funded by the sale of its headquarters buildings. But those funds are not legally protected. Without structural reforms and aggressive oversight, there's nothing stopping future leadership from dipping into that pot again.

The future

This isn't just about numbers. It's about governance. It's about credibility. It's about whether the ADA can regain the trust of its members—or if it will continue down a path of eroded influence, declining membership, and eventual irrelevance.

Dr. Dokhanchi deserves credit for his courage and clarity. He didn't call for the destruction of the ADA—he called for its redemption. His message is clear: this is our organization. We pay for it. We elect our leaders. And if we want it to endure, we must demand transparency, accountability, and reform—not someday, but now.

If the House of Delegates fails to act decisively, if leadership continues to circle the wagons instead of opening the books, organized dentistry will suffer. But if this crisis becomes a catalyst—if the profession uses this moment to rebuild with integrity—then history will look back on 2025 not as the beginning of the end, but as the year the ADA finally remembered who it serves. **DT**

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Creating a Remarkable Dental Practice: How to Thrive!

by Fred Joyal

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Navigating the Dental Insurance Landscape: Optimizing Benefits Reimbursement

by Dr. Dominique Fufidio

This course delves into the intricacies of the dental insurance claim review process. Gain insights into how benefit determinations are made, discover the common criteria that are reviewed and explore the significant role of artificial intelligence in the dynamic dental market.

Testing Your HR Armor: How to Identify and Avoid Common Compliance Traps

by Grace Godlasky

Every year, lawmakers change dozens of employment laws and regulations at the state, federal, and local levels. As an employer, you must be compliant with all the hundreds of laws that apply to you all the time—or risk lawsuits, fines and penalties.

The Psychology Behind Why the Patient Says Yes or No to Diagnosed Treatment

by Sean Field

Get your entire team on the same page by building their case presentation confidence and skill level with this in-depth treatment coordination training. This course focuses on how to easily increase your practice case acceptance rates by exploring the patient's human nature when dental treatment is being presented to them in your office.

Improving Case Acceptance

by Dr. Mark Murphy

This course explores effective patient communication strategies that lead to higher case acceptance and improved treatment outcomes. Learn how to enhance the educational value of exams, navigate insurance entitlement behaviors and implement practical techniques that can be applied immediately in your practice.

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by Dr. Parul Dua Makkar

NEW COURSE

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What to do Regarding a Difficult Patient That Throws the Word 'Lawsuit' Around?

Thread summary (AI-generated): A dentist is dealing with a difficult patient who has threatened to sue a referred endodontist, refused to see an associate, and made discriminatory remarks. Though the office only performed a limited exam and referral, the patient now wants further treatment. Most dentists in the thread advise dismissing the patient professionally, documenting everything, and avoiding further involvement to minimize legal risk and protect mental well-being. **Read the whole thread and join the conversation—scan the QR code to dive into this hot topic with your fellow Townies.**

aapl *Post: 1 of 62* 4/16/2025

I'll make this as short as possible. This patient arrived at our office for a limited exam. An associate dentist saw her, and the patient was referred to an endodontist for an RCT. After this limited exam, the patient said she never wants to see that doctor in our office again and wants to see the other doctor, me. The patient went to an endodontist, and he did the RCT and told the patient her crown was ok (even though it has an open margin), according to the patient.

The patient comes back to our office, and we tell her we recommend changing the crown due to an open margin. The patient begins to state how she's going to sue the endodontist for "poking her a bunch of times" and because he said, "the crown was OK." She also said the experience there was terrible (although every patient has told me he's amazing).

So, several red flags. Complaining about our associate dentist, complaining about the endodontist, and saying she will sue him. And now, she has a pending crown with us and a tooth with a cavity in it.

We haven't done any treatment on her, simply a limited exam and have referred her to endo. How would you proceed with this type of patient? Would you simply bite the bullet, and do it? I unfortunately also found an error on our part. The assistant made an error when they put my name at the top as the treating doctor, but the associate doctor signed the treatment plan paper and did the exam. I'm not sure if this is a big deal. ■

Tangibleorange210 *Post: 2 of 62* 4/16/2025

How bad is the open margin? Lots of crowns have slightly open margins and do just fine. You could easily fill the crown with composite and put a watch on it, and inform the patient if decay happens at the margin, that you will change the crown out. You save the patient 1000$ by doing a filling- put a watch on it- the patient is happy and hopes that the patient dismisses themselves. You could also just fill it and dismiss them later. Open margins don't all need to be replaced unless there is a huge open margin and decay. Post the X-ray. ■

mistall *Post: 3 of 62* 4/16/2025

Openly litigious patients are all treated the same in my office, with my referral pad. ■

Hot Topic

More than 1,700+ views in under 30 days!
60 replies and counting!

Denverdds *Post: 4 of 62* 4/16/2025

Same. Openly litigious patients are referred for all treatment. And my fees double or triple to encourage them to move on. ■

shap *Post: 5 of 62* 4/16/2025

Why would anyone treat this patient? You will just be the next in line; she is not happy with that. Nip it in the bud. I fired two patients like this, and they both showed up demanding to see me right then. (at separate times). The front desk said he won't see you for anything to discuss. They went off saying how they will destroy me on social media. Joke's on them. I literally don't give a damn about that. I never check my reviews because it will only piss me off. But the way they acted made my decision look even smarter. Like most dentists you are prob busy enough so why deal with this. ■

markshek *Post: 6 of 62* 4/16/2025

I would be inclined to simply do the core and see how it goes before getting involved in crowning, unless you have very good radiographic/phot evidence of the crown needing replacement. You certainly have an "out," being that the patient complained in your office and threatened your referral doc. If you have a bad feeling, just patch her and send her a letter. I have a good friend (dentist) who would have no issue telling her to her face. Not me. ■

shap *Post: 7 of 62* 4/16/2025

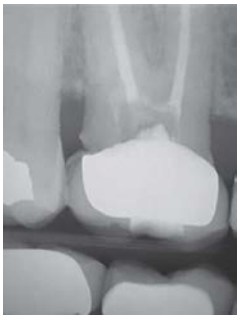
How long before she finds something wrong with your office? In the first visit, she had already bashed the ops associate and the referred endodontist. How long before you are next? ■

eeznogood *Post: 8 of 62* 4/16/2025

I agree about not wanting to treat a patient who speaks badly of your associate, as well as of your endodontist, especially if they are typically well-liked.

I would dismiss them. ■

aapl *Post: 9 of 62* 4/16/2025



This is the crown. Keep in mind that the tooth was vital beforehand and developed an abscess. So, I think if we're talking about lawsuits, there's more risk of being at fault for not changing this crown than keeping an eye on it. This is why I diagnosed it as a new crown. I agree with everyone regarding referring the patient out/dismissing. However, if she's already stated she wants to throw lawsuits around, how do you accomplish this with as little friction as possible? I don't want her to sue us for whatever reason. She has a temporary filling on her tooth. ■

Tangibleorange210 *Post: 11 of 62* 4/16/2025

These are my thoughts.

First option

- Quote her full fee at time of service. Maybe she balks at it and says I ain't paying full fee- I go somewhere else. No 50% No 20%. Just 100%.

Second option

- I would actually replace that, but I wouldn't really care at the prospect of a lawsuit. Lawsuits are when damages arise and when you do something negligent. Replacing this crown isn't that.
- I would make sure you seat the crown and make sure it's the best crown 100% closed margins all around. I would also have all her Health History updated, consent forms signed, BP taken every procedure, and the best dam chart notes disclosing what anesthesia, topical, and type of bond/composite you used along with which lab and lab slip. (in case you get a board complaint). Don't just write "crown prep 3, numb, remove temp, placed composite, took impression, patient happy) Do a one paragraph soap note.
- Then I would dismiss.

Third option

- In a round-about way you can discuss that this is a hard case for you and refer it to. But I don't really buy that. Punting it to a specialist is sort of messed up as they are going to get a patient who looks to be a pain in the butt.

Finally

You shouldn't worry about lawsuits if it's over routine things. You will get sued and who cares? You have malpractice insurance. There are lots of crazy people in the world, but this case isn't even worth a lawyer looking at. Your malpractice insurance will prob laugh if they get a complaint about this. ■

ricklin *Post: 14 of 62* 4/16/2025

I believe you have stated your office has yet to truly treat this patient. I would strongly advise keeping it that way. Way back in the day, probably 40 plus years ago, corporate taught us all exactly how to deal with customers who threaten legal action.

You provide your attorneys information and advise that their attorney contact yours, because we are done. I would generally and politely provide a one or two sentence warning that if they continued down that road, we are done. We are always working under the possibility that our actions may lead to legal repercussions. Our relationship ends when legal action is threatened. ■

Why I switched to Omnichroma

BY DR. MARC NARDEA

When I first heard of Omnichroma, it took me back to the restorative bay in dental school. I remember standing next to the window in natural light, holding each shade of composite against the patient's teeth and pretending I could tell for certain which shade matched the closest. Welcome to 2025, where the science of structural color and light refraction renders the age-old process of shade matching obsolete. Do you understand how it works? Me neither!

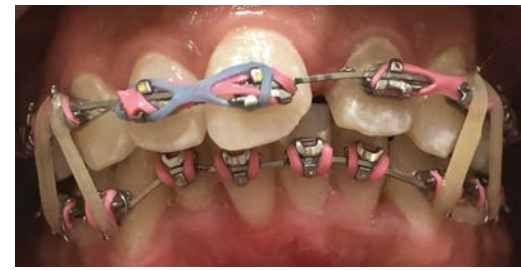
Omnichroma is priced fairly, and its physical properties are similar to those of established multi-shaded composites. They are generous with their samples, so I figured I would give them a try. Having used it on a number of primary and adult teeth over the past few years, neither I nor the patients or parents have noticed the slightest color discrepancy. This goes for anterior fillings as well as full-coverage composite crowns.

The range truly covers napkin-shade and primary B1 teeth all the way through red-gray D4 teeth. I would definitely recommend getting off your shade-matching dinosaur and giving this composite family a try!

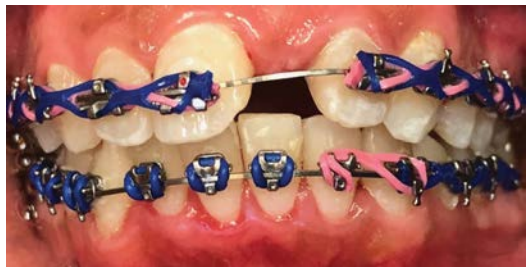
Dr. Marc Nardea, a New Jersey native, is a board-certified pediatric dentist and a diplomate of the American Board of Pediatric Dentistry. He earned his DMD from Rutgers and completed his pediatric specialty training at St. Christopher's Hospital. He also served as the head of pediatric dentistry for the largest multi-specialty dental service organization in the Northeast. He and his wife, Sally, currently live in Manhattan with their daughter, Lainey.

June 1

July 13



Aug. 20



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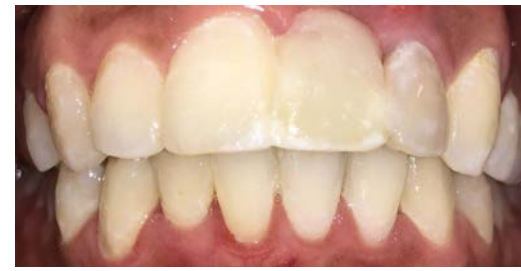

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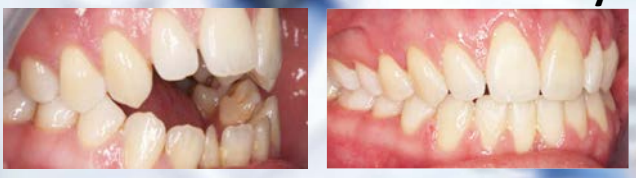
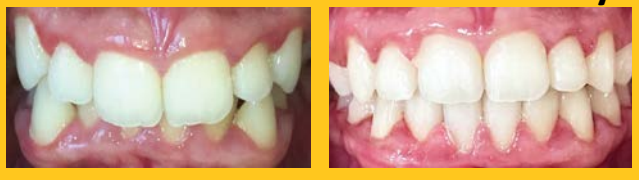
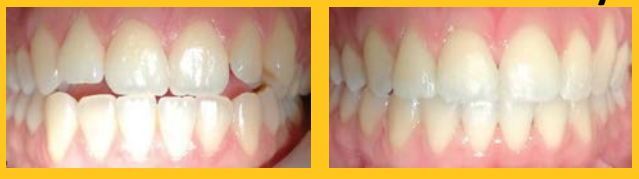


113 Days

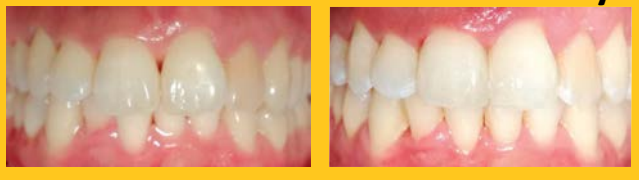
97 Days



68 Days



55 Days



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Effective and Efficient Workflow in Endodontics

Navigating challenging canal morphology with the advanced design of EdgeFile X7 with Fire-Wire

BY DR. STEVEN KALENDARIOV

Case presentation

A 28-year-old male patient presented with complaints of lingering hot/cold sensitivity and pain on biting in the left mandibular second molar (#18) (Fig. 1). A clinical examination revealed a large amalgam restoration and radiographic examination showed calcified mesial canals. Patient had pain on percussion and sharp lingering cold sensitivity on endo-ice testing that lasted more than 10 seconds. Clinical and radiographic findings confirmed a diagnosis of symptomatic irreversible pulpitis with symptomatic apical periodontitis. Nonsurgical root canal therapy was recommended.

Step-by-step procedure

Anesthesia and isolation

The patient was anesthetized with three carpules of 2% lidocaine with 1:100k epinephrine via an inferior alveolar nerve block, along with buccal and lingual infiltrations. A rubber dam was placed to ensure proper isolation.

Access

An endodontic access cavity was prepared with a high-speed handpiece with the EdgeEndo barrel bur diamond extra coarse (Fig. 2) to reduce occlusion and then followed by a surgical 557 bur (Fig. 3). The pulp chamber was found to have three canals (mesiobuccal, mesiolingual and distal) with help of an endodontic explorer DG-16 probe.

Shaping with EdgeFile X7

Working lengths of all three canals were obtained using an electronic apex locater. Using multiple #8 and #10 K-files helped to achieve patency and establish a safe glide path before using the 17.04 EdgeFile X7 down to working length.

- **File sequence.** 17.04, 20.04 and 25.04 were used for the mesial canals. 17.04, 20.04, 25.04 and 30.04 were used for the distal canal (Fig.4).

Fig. 1

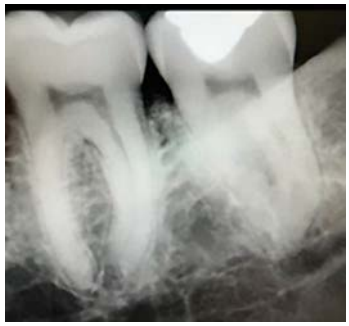


Fig. 2: Barrel 039037XC

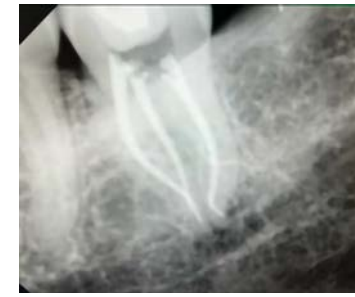
Fig. 3: Operative carbide bur FG 557L

Fig. 4: EdgeFile X7

Fig. 5: EdgeMix

Fig. 6: EdgePack WP4504 Tip
WP4504 Tip

Fig. 7: Final radiograph



- **Torque and speed.** 350 rpm, 3.5 Ncm
- **Irrigation.** EdgeEndo 5% NaOCl, followed by EdgeMix (Fig. 5) to disinfect the root canal system.
- **Recapitulation.** Used with size #10 file to maintain patency.

Advantages of EdgeFile X7 NiTi Rotary Files:

- **Enhanced flexibility:** The EdgeFile X7's flexible design allows it to follow the natural contours of the canal, minimizing the risk of damaging the tooth.
- **Fire-Wire heat treatment:** The proprietary heat treatment enhances the cyclic fatigue resistance and torsional resistance of the file, making it durable and able to withstand demanding conditions.
- **Safety:** The flexibility reduces the chances of instrument fracture and perforation, making it a safer option for endodontic procedures.

Final irrigation

Final irrigation was performed using 5% NaOCl followed by saline flush. Sterile paper points were used to dry the canals before obturation.

Obturation

Single-cone obturation technique was used with EdgeSeal and gutta-percha was cut at orifices using the EdgePack WP4504 Tip (Fig. 6). The tooth was temporized with EdgeTemp and the final radiograph shows completed endodontic treatment (Fig. 7), with canals filled properly. Mesial canals converged together and the distal canal shows a little apical curve.

Conclusion

The enhancement of Fire-Wire with the use of the EdgeFile X7 rotary endodontic files makes endodontic therapy, efficient, seamless and predictable. This minimally invasive file technique makes the removal and disinfection of the root canal system increase stability of the tooth and improves prognosis of endodontics. Incorporating these advances in endodontic therapy will help you achieve more efficient and consistent results for your patients and your practice. With proper training and good armamentarium, general dentists can also perform great quality endodontics, starting with the EdgeFile X7 series.

Dr. Steven Kalendariov is a general dentist with advanced training in endodontics. A graduate of NYU College of Dentistry, he is committed to patient care, education and clinical excellence. He actively shares root canal cases and insights on social media and remains current through continuing education and active involvement with the American Association of Endodontists.

Dentists spend most of their working hours inside their own practices, so they usually don't get many opportunities to see what it's like inside another doctor's office. *Dentaltown's* recurring Office Visit profile offers a chance for Townies to meet their peers, hear their stories and get a sense of how they practice.

Better Together

How Drs. Clint and Kelly Euse reverse-engineered their successful dental practice with vision, courage and zero compromises

At Advanced Dentistry by Design, **Drs. Clint** and **Kelly Euse** have built one of Nevada's leading dental practices through their shared vision of elevating care with advanced technology and a comprehensive approach to oral health.

In this exclusive Q&A, the husband-and-wife team reveals how they've balanced family life with professional growth, and why their investments in technology and team culture have transformed both their practice and personal happiness.

PHOTOGRAPHY (THIS PAGE): NICK HIGMAN

OFFICE VISIT

OFFICE HIGHLIGHTS

NAMES:
Drs. Clint Euse and Kelly Euse

GRADUATED FROM:
Creighton University School of Dentistry

PRACTICE NAME:
Advanced Dentistry by Design
advanceddentistrybydesign.com

LOCATION:
Carson City, Nevada

PRACTICE SIZE:
10,000 square feet

TEAM SIZE:
23

PHOTOGRAPHY: MATT HUTCHINGS

"Finding and investing in the right people is key. We've retained team members for up to 19 years by treating them with respect and ensuring they feel valued."

Tell us about your journey after graduating from dental school.

Dr. Clint Euse: After graduating from Creighton University, I worked in Omaha while Kelly finished school, gaining valuable surgical experience from my mentors. We then moved to Utah, where despite a slow practice, I had time to master CEREC 3D technology, which later became a significant part of our practice. Eventually, I moved to Nevada and partnered with Dr. Randy Wright, where I've practiced since.

Dr. Kelly Euse: My early career was shaped by two key experiences: working with a CEREC pioneer in Utah who introduced me to digital dentistry, and later as an associate in Reno with another digital office. The challenging split shifts and being required to perform procedures I didn't enjoy—like root canals—motivated me to move toward practice ownership, where I could control both my schedule and the services I provided.

When did you decide to work together?

Clint: After our second child, we realized working together would give us more control over our schedules. Working with Productive Dentist Academy (PDA) taught me to optimize productivity while reducing hours. I initially shortened my week from four to three days while maintaining production, and my partner Dr. Wright followed suit. This created an opportunity to bring Kelly into the practice two days a week. I've since reduced to just two days weekly, and we both maintain our production goals while having more family time. When looking back at working separately versus together, we often ask, "Why didn't we do this sooner?" We've always shared the same vision: Take excellent care of patients and your team, and success will follow.

Kelly: Working together forced us to engineer our office time to be super efficient. I went from working four days in Reno to producing more in just two days at our practice. It was the best professional decision we made—now we coordinate the same time off, perform our preferred procedures and invest in our vision for the practice.

> **We have always centered our belief in taking excellent care of our patients and our team. As long as you're doing right by your patients and team, everything else falls into place.**

As a husband-and-wife dental team, how do you balance your different strengths?

Clint: It's actually one of the things that makes our partnership work so well. I focus on complex procedures like full-arch implants and smile designs, plus I have a passion for dental technology. I've taken on the leadership role in our practice, studying management techniques and implementing systems to maintain our high standards. Kelly is my best referral source—she builds trust with patients and understands their needs. When there's a procedure she doesn't perform, she'll recommend they see me. Patients get the best of both worlds: Kelly's communication and relationship skills paired with my surgical expertise.

Kelly: I'm passionate about the oral-systemic connection and comprehensive patient care. When meeting patients, I ask them to rate what's most important about their smile—health, function or beauty—which steers our conversations. I also develop monthly themes centered around oral-systemic health, knowing we often see patients more frequently than their regular doctors. Clint serves as our leader and innovator—he's a constant student who sets high standards and introduces new technologies. I focus more on team cohesion, planning activities and designing our office environment to be comfortable and welcoming. We complement each other perfectly—our key is recognizing each other's strengths and weaknesses, then working cohesively.

Over the years, how has your practice philosophy evolved?

Kelly: I'm convinced that being homed in on our philosophy and defining our mission statement has been key. During every morning huddle, our team repeats our mission statement: "Our mission is to deliver a healthy, functional and beautiful smile using clinical excellence in a comfortable and caring environment."

Additionally, we have defined our "why"—why we do what we do: "Because your smile is worth it!" We want our patients to understand that the time, cost and energy they invest in their smiles is worth the confidence, health and happiness we strive for them to experience.

Our team understands we provide the highest level of standards including services we provide, materials we use and level of customer care our patients are to receive. These non-negotiables set us apart from other offices and have helped us to become successful. We have always centered our belief in taking excellent care of our patients and our team. As long as you're doing right by your patients and team, everything else falls into place.

Clint: We want our patients to have a unique experience with exceptional results. We've become clearer in communicating our core values of being knowledgeable, creating connections and taking a comprehensive approach with each patient.

Tell us about your facility expansion.

Clint: Two years ago, we decided to buy our building and expand into adjacent areas, doubling our size from 5,000 to 10,000 square feet and increasing from 10 to 19 operatories. Financially, ownership made more sense than continuing to lease—it gave us control without renegotiating leases every five years. We needed additional space to accommodate more patients and providers to meet our financial and lifestyle goals. Furthermore, our existing space didn't represent who we were as a practice. I wanted an expansive reception area where patients would immediately sense they were going to receive exceptional dentistry and service.

Kelly: I focused on creating an atmosphere that reduces dental anxiety. Our redesigned reception area features natural light, comfortable furnishings, and amenities that have prompted patients to ask, "Where's your barista?"—a compliment that confirms we've achieved that relaxed, welcoming environment I wanted. The expansion also benefits our team with improved break areas and meeting spaces for collaboration. Everything about our office visually communicates our practice philosophy—the aesthetics you see walking in mirror the quality, friendly, health-driven dentistry we provide.

What can you tell us about your implementation of the Yomi dental robot and your approach to technology?

Clint: I've always been an early adopter. I enjoy learning about technology and procedures that provide a more predictable and beneficial outcome for patients. When Yomi came to my attention, I researched it extensively and realized that this is where the future of implant surgery is headed. The benefits of Yomi are outstanding—less invasive, minimal discomfort, quicker recovery, personalized treatment plans and more predictable outcomes.

I would add that I've always approached technology and new procedures asking questions such as how is this beneficial to my patients, how can I optimize better results for my patients, how do I implement this new technology/procedure and does this make financial sense for the practice?

When I consider new technology, I also look at the various ROIs. For me those include:

1. Beneficial for patients
2. Financial plus for the office
3. Emotional or wow factor for me and the team

For me, the emotional ROI is worth a lot. When we implement new technology, it's exciting for me as a dentist—I get more excited to come to work and my team actually gets more engaged while their enjoyment increases immensely.

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These chairs combine ergonomic design and superior patient comfort, enhancing both the clinical experience and our team's workflow.

Finally, I'm eager to learn new techniques and procedures before they become mainstream. I know there is going to be a learning curve, and I want to be ahead of that curve to have my systems in place and kinks figured out. That has always set me apart from other dentists and I enjoy the challenge of learning something new.

How do you maintain a strong team?

Clint: Finding and investing in the right people is key. We've retained team members for up to 19 years by treating them with respect and ensuring they feel valued. Personality tests help us understand how team members interact and communicate, and we use them in hiring to assess fit for specific roles. We've created an environment where our team can continuously learn and grow, supporting this with strategic meetings—monthly team gatherings, departmental check-ins and daily huddles—to address both big-picture goals and day-to-day operations. Our productivity depends entirely on our highly trained team, with our director of operations, Apryl, playing a crucial role. With 30 years of dental experience, she implements systems we didn't know were possible and helps bring our ideas to life.

Kelly: Creating the right culture is huge. We make time for quarterly team events—from creative activities to service projects. When you delegate some planning to the team, they often develop even better ideas than we could!

Clint: The little things matter, too. Honestly, one of the best things I've ever implemented to show appreciation for our team was Starbucks every Thursday. Coffee Thursday is the end of our work week and so we celebrate—everybody gets to pick out whatever they want from Starbucks that day. It's remarkable—everyone looks forward to that cup of coffee.

How do you maintain work-life balance?

Clint: Our experience with PDA showed us we could produce the same amount of dentistry in less time. Once we learned what was possible and how to implement the principles while still taking excellent care of our patients, we became serious about designing our practice to work around our life goals and not the other way around. Time with family has always been non-negotiable.

We've structured our schedule so one parent is always available for our boys, and we're deliberately closed on

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Fridays, giving our team a three-day weekend to recharge. I approach this as a reverse engineering process: I start with the goal of working just two days while producing four days' worth of dentistry, then determine what procedures will achieve this. Scheduling to production has been vitally important to my success. My team understands this framework and protects it, while still accommodating emergencies and hygiene visits.

Kelly: For every opportunity—whether it's new technology or expanding our practice—we ask, "Is this worth the time away from our family?" If it doesn't align with our core values, we pass. If it promises long-term gain, we proceed. We work opposite days, so someone is always with our boys. When Clint works, I handle home responsibilities and vice versa. Fridays are reserved for us as a couple, while weekends are dedicated family time. We're acutely aware that our time with our children is limited and we prioritize those moments.

What's been one of your most rewarding cases?

Clint: One recent Yomi case really stands out. A patient came to us who hadn't had any teeth or even worn dentures for more than two years because of a severe gag reflex and a long history of bad dental experiences. He'd given up.

We recently completed an upper and lower full-arch restoration for him. Watching that transformation—the return of his smile, his confidence and the basic ability to chew—was incredibly powerful. No matter how long you've been doing dentistry, seeing that kind of impact never ceases to amaze me. I'm beyond grateful to be able to provide such services to our community.

Kelly: For me, it was our youngest son when he broke a permanent front tooth during PE. As a dentist and a mom, this hurt. I quickly went into dentist mode and started assessing the situation. I texted two of my dental specialty friends, an endodontist and an orthodontist. They instantly called me for support and guidance, even showing up at my office to give us hugs and personally assess the situation. I was so moved by their immediate call to action and assistance. It reminded me how community and friendships are important within dentistry. It's pushing us as dental professionals to think creatively—using our CEREC knowledge, ortho guidance and minimally invasive options—to give our son (and any other person after such accidents) the best possible outcome. It reinforced our role in the community; we are here to help give people back their smiles.

Clint: That's really the takeaway—relationships matter. Dentistry can feel isolating, but the most rewarding part of our careers has been the connections we've made—with patients, team members, mentors and fellow professionals. That network is what lifts you up, challenges you to grow and reminds you that you're not alone. Practicing as a husband-and-wife team has also made us realize that we are better together. **DT**

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The Importance of Due Diligence in Refining Dental Gold

BY DAVE WEINBERG

With gold prices soaring to all-time highs, dentists and dental businesses are presented with a lucrative opportunity to refine their dental gold. To maximize returns, it is crucial to partner with a reputable precious metals company. Conducting thorough due diligence is essential to ensure you are working with a trustworthy refiner who offers fair prices and transparent services.

Comparing business models of refiners

The problem: No matter how well-intentioned a company is, it will not and cannot be competitive if its business model and structure aren't efficient. Some firms will have more overhead and expenses than others and therefore may be incentivized to charge more fees in one way or another.

How does one go about determining how efficient a refiner is? Some issues to consider:

- How many sales reps are involved in—and being compensated for—a transaction?
- What percentage of a scrap return goes to sales commissions?
- Recently, some dental supply companies have partnered with gold refining companies to offer scrap refining services. While this provides an element of convenience, clinicians must consider the implications of having an extra sales rep involved in their scrap return.

Scientific Metals' solution: Every day we focus on keeping our costs down, so dentists can keep more of what is theirs. While other refiners can have dozens of sales reps around the country who must be compensated, Scientific Metals does not have a single sales rep, nor do we have any partnerships with dental supply distributors whose reps may also be getting a piece of your scrap return.

It's only logical that with less people getting a cut of your scrap return, you get to keep more. It's really that simple. Of course, we invest in the latest technologies for melting and assaying, but other expenses are cut to the bone so we can be the leanest and most efficient refiner in the industry.

Case Study: The Dental Gold Showdown

Dr. Tom Jow of San Francisco accumulated more than 23 pounds of dental gold scrap over a period of 30 years. Seeing gold surpass $3,000 an ounce made choosing who to send his scrap to a crucial decision. Dr. Jow decided to conduct an experiment to determine which company he would choose to manage his 23-pound collection. He sent a batch of yellow dental gold with the same weight and alloy composition to four different refiners. His results were eye-catching.

Company A

A cash buyer who offered a cash payment of about 50% of the expected value, more in line with a batch that was about eight karat gold, not the 16 karat this batch was comprised of.

Company B

This company's assay was troubling at best as the assay showed more palladium than gold—totally inconsistent with the known composition of the batch. The result was a payment slightly higher than the cash gold buyer.

Company C

This company had a very accurate assay showing an assay of very close to 16 karats. However, the final payment did not reflect the assay report. After analyzing the numbers, it was found that the company had an additional 20-25% costs that were categorized as "charges" rather than "fees." Nonetheless, the additional "charges" reduced the final payment in a significant way.

Scientific Metals
SETTING THE STANDARD IN PRECIOUS METAL REFINING

Company D

Company D, which was Scientific Metals, was the clear winner. Scientific Metals had an assay similar to Company C, but the final payment was about 25% more. Why? Because there were no additional costs, fees or charges on top of the stated refining fees.

Fees and hidden fees

The problem: Relying solely on what refining fee a company promotes on its settlement sheet may be the biggest mistake a dentist can make.

What matters most is what you get back after accounting for all fees—and the focus should always be on the net bottom-line return, not on subtle differences in yields and rate fees a company promises. Like an iceberg, with some refiners there may be more unseen than seen. The promoted "refining fee" may just be the tip of the iceberg—looming under the water there may be other larger fees and charges that can wreak havoc on your scrap return.

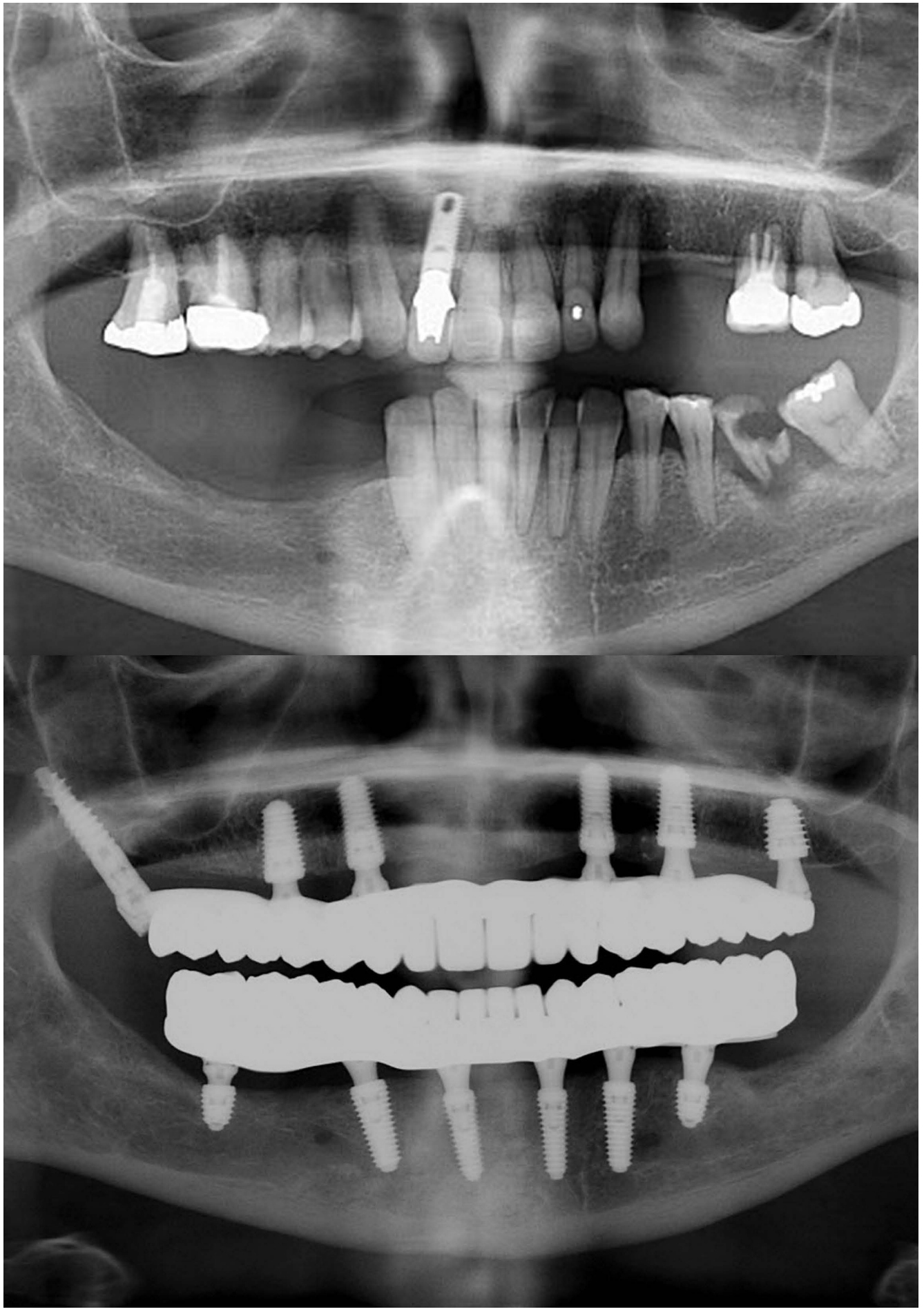
In a perfect world, where transparency and honesty are not issues, one can afford to choose a refiner based solely on the promoted refining fees, but we don't live in that world. Trust can only develop with consistent experience over time.

Scientific Metals' solution: Hidden or extra fees and charges can be crushing to a practice's scrap return. In fact, extra fees on top of the refining fee can amount to an additional 30 percent deduction. That's why Scientific Metals has none. There are no extra fees, charges or deductions. The policies and terms are open and straightforward, with no tricky math and no skepticism.

Final thoughts

With gold prices at high levels, it's time for dental practices to shift away from viewing their scrap money as a small afterthought and start approaching it with the same due diligence one would undertake with any other financial consideration.

Dave Weinberg, owner of Scientific Metals, was born in Canada and raised in Houston, Texas. A graduate of McGill University with an MBA from the University of Arizona, he helped grow the company—founded by his father, Mark Weinberg—from a regional dental refiner into a nationally respected name in dental refining.



Failure to Load

An immediate loaded maxillary arch rescued with pterygoid implant

BY DRS. DANNY DOMINGUE AND CORY GLENN

Immediate loading has become the new norm in full-arch implant dentistry, especially since the advancement of implant designs like MegaGen AnyRidge, digital workflows, high-precision in-office 3D printing, photogrammetry and direct to MUA Vortex Screws. However, even when everything appears to proceed smoothly, unforeseen complications can and sometimes do arise.

This article discusses a complex but ultimately successful case of a female patient from East Texas whose immediate loaded double arch restoration encountered a last-minute setback. The case highlights the importance of multidisciplinary collaboration, the versatility of extra maxillary pterygoid implants and the fully digital workflows used to turn a challenging situation into a long-term success.

Fig. 1

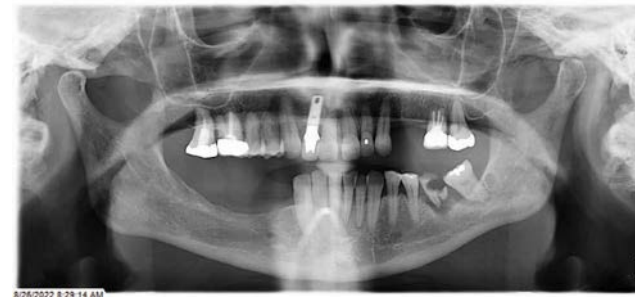
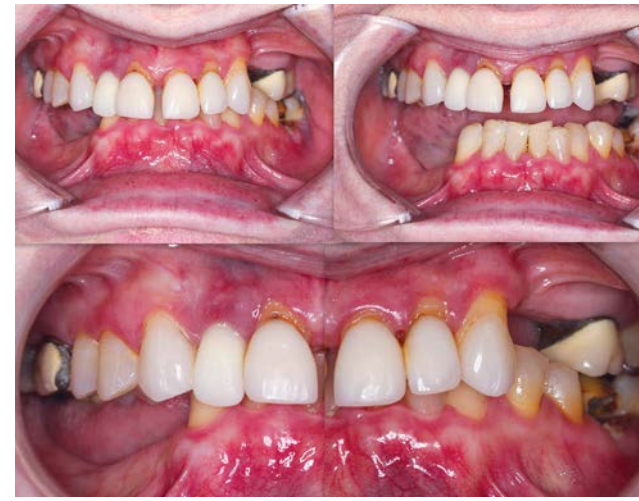


Fig. 2



Patient background and initial treatment plan

Our patient, a healthy woman in her early 60s, presented with a terminal dentition (Fig. 1) in both arches, collapsed bite, unstable occlusion, midline shift, asymmetric horizontal plane and bone loss (Fig. 2). She was looking for a

Fig. 3

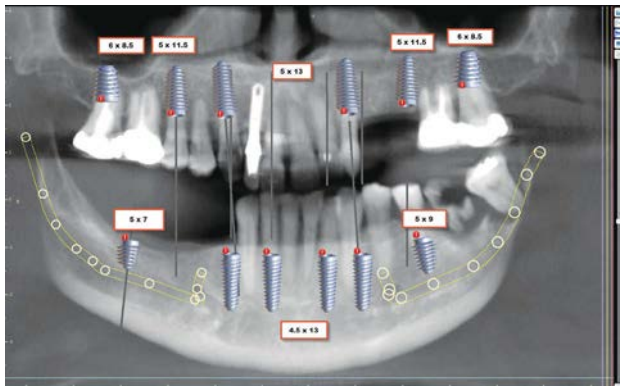


Fig. 4

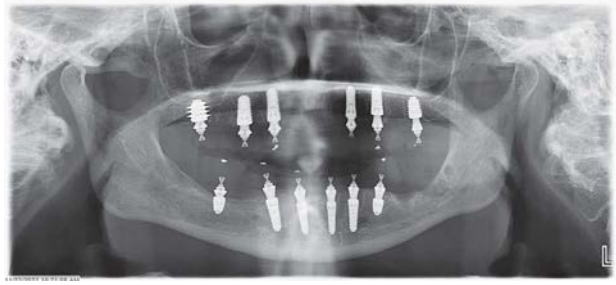


Fig. 5

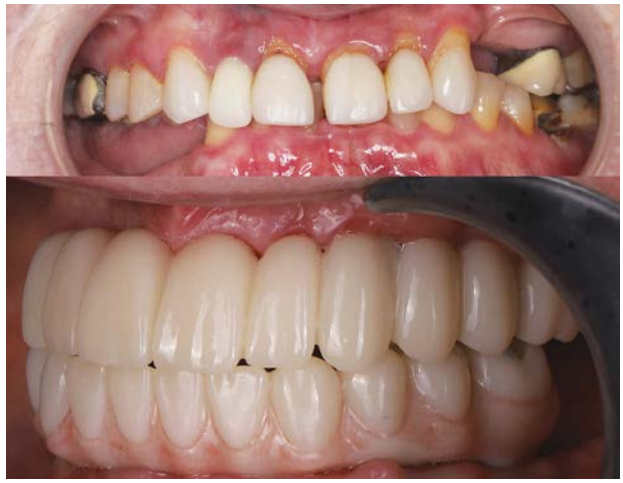
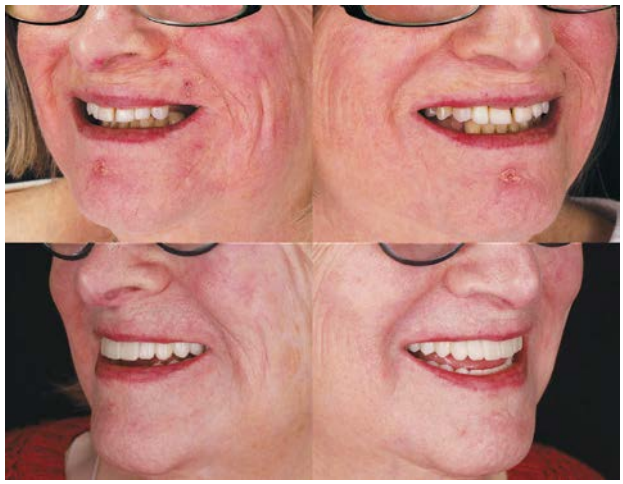


Fig. 6



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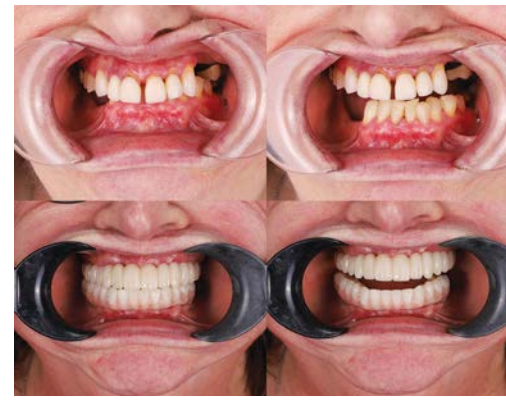

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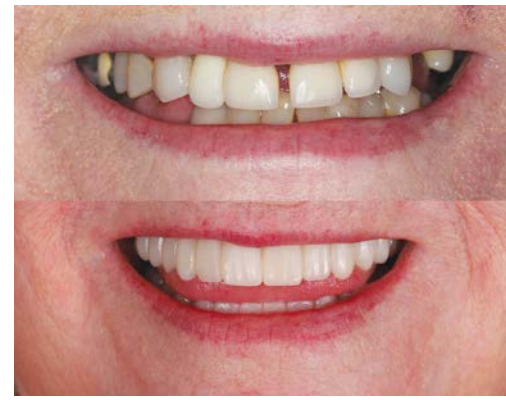


fixed solution that would give her the confidence to smile, eat and socialize without restrictions. Several previous treatment plans suggested placing provisional dentures as an interim until the implant stabilized, which did not resonate with her desires during the healing phase.

After a thorough diagnostic workup—including CBCT imaging, intraoral scanning and a facial aesthetics evaluation—we planned an immediate loaded double arch restoration using MegaGen AnyRidge implants, leveraging its deep thread design and excellent primary stability for immediate function.

The patient's goals were clear. She wanted a fixed solution (no interim removable prosthetics), improved aesthetics, durable and comfortable teeth she could chew with, and a stabilized bite.

Surgical phase: Smooth sailing, or so it seemed

Surgery was uneventful. Extractions, site preparations and implant placements went according to plan (Fig. 3). In the maxilla, we placed six implants following the "All-on-6" concept, ensuring posterior spread for optimal load distribution. Six implants were also placed in the mandible following a similar approach.

All implants achieved excellent primary stability (>35 Ncm Torque and ISQ values averaging 72 to75), which allowed us to proceed with immediate loading (Fig. 4). Using SprintRay 3D printed provisionals in OnX Tough 2

Fig. 9

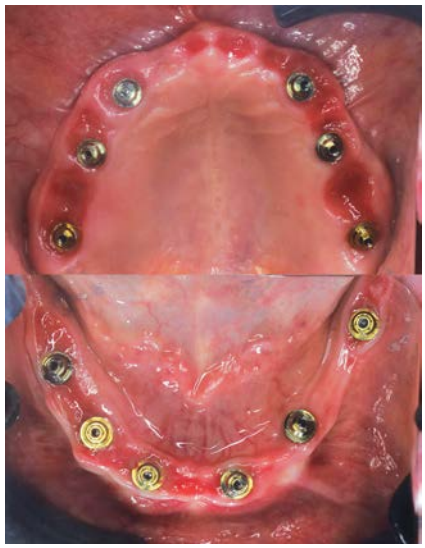
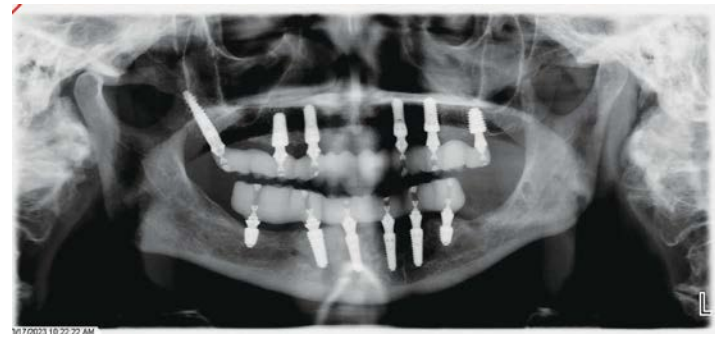


Fig. 10

Fig. 11

Fig. 12



resin, we delivered fixed temporaries the next day post-surgery (Figs. 5–8).

The patient was thrilled with her new smile and reported no pain, discomfort or issues during the three-month healing period. Regular follow-ups showed good soft tissue healing and implant integration (Fig. 9), with no signs of mobility or infection.

Unexpected challenge: Implant #3 failure at final stage

Just as we were about to finalize her case—taking definitive scans for zirconia full arches utilizing direct to MUA Vortex screws (Fig. 10) to be milled by LA Dental Implant Lab (Fig. 11)—the unexpected happened. Implant site #3 (maxillary right first molar) was mobile, causing discomfort to the patient during functional testing.

Radiographic examination confirmed loss of osseointegration, likely due to excessive micromovement or unfavorable loading, despite the absence of early signs during healing. Regardless of the cause, implant failure at this late stage presented a major challenge. We had already completed the provisional phase and were scheduled to take final scans during her visit. This maxillary right implant was a critical posterior support for the arch to prevent an unnecessary cantilever.

Rescue strategy: Pterygoid implant to the rescue

Recognizing that replacing the failed implant with another traditional implant would jeopardize immediate function and require extensive healing, we turned to a pterygoid implant solution to salvage the case without compromising the patient's expectations.

A surgical approach was planned for the atraumatic removal of the failed implant. We placed a Noris Medical pterygoid implant anchored in the medial pterygoid plate, achieving excellent primary stability (50 Ncm torque). The pterygoid implant allowed us to regain distal maxillary support without sinus augmentation or zygomatic implants.

To adapt the restoration to the new implant position, we used the iMetric digital verification system, capturing scans of the maxillary arch with the new pterygoid implant. A new set of provisional restorations was fabricated in-house using SprintRay OnX Tough 2 resin and immediately loaded the next day again with a screw-retained Vortex (Fig. 12).

Recovery and the patient's changing expectations

The patient wore the updated temporaries for an additional three-month healing period to ensure complete osseointegration and stability. At follow-up visits, she reported no discomfort, stable occlusion and improved confidence in function. However, just before final impressions, the patient expressed a change in her vision for her restoration: "I would love to have individual teeth so I can floss in between. Can we make that happen?"

This pivot required rethinking the original FP1 (full-arch hybrid) design, at least in the maxilla, and changing to a FP3 design.

Solution: FP1 maxillary arch with thimble crowns and FP3 mandibular arch

After thorough evaluation, we planned for a FP3 restoration in the maxilla

Fig. 13

Fig. 14

and mandible (implant-supported crowns that mimic natural teeth and allow for flossing) and a fixed prosthesis with pink material to replace tissue contours.

Thanks to close collaboration with LA Dental Implant Lab, we were able to redesign and mill a custom titanium substructure to ensure passivity and a precise fit. We used zirconia thimble supra structure design and individual crowns to allow flossing through embrasures. This fabricated individual, highly aesthetic zirconia crowns, creating a natural-looking, functional and hygienic restoration (Figs. 13–14).

Final seating: Perfect fit, zero adjustments

Final delivery day could not have gone smoother. No adjustments were needed—a testament to precision planning and execution along with digital workflows. Patient satisfaction was beyond expectations—she could floss between her teeth, enjoy a natural smile and eat comfortably. The occlusion was balanced and aesthetics were on point, and the patient left with tears of joy (Figs. 15–17).

Fig. 15

Fig. 16

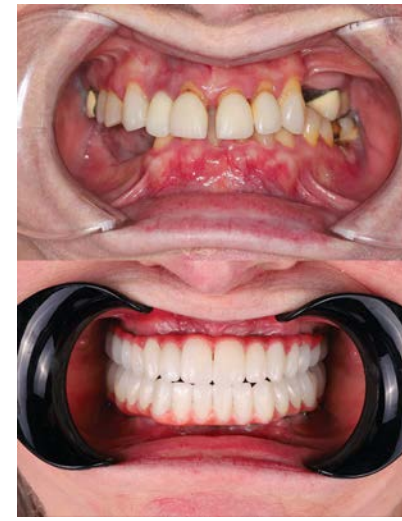
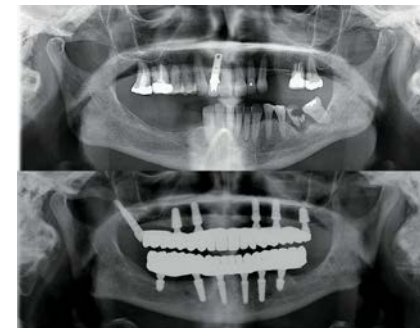


Fig. 17

Fig. 18



Follow-up and long-term outcome: Two years of stability

Today, two years after final delivery, the patient remains stable with no mobility, inflammation or prosthetic complications. There is excellent soft tissue health around the implants. Full function was restored and the patient enjoys all foods without restrictions. Radiographs show stable bone levels around all implants, including the pterygoid site (Fig. 18).

Lessons learned and takeaways

Always be ready to pivot, even with well-planned cases, as complications such as implant failure can occur. Being equipped with alternative solutions like pterygoid implants is essential for timely and successful intervention. The intraoral scans and iMetric scans made a digital workflow and teamwork possible, while collaborating closely with the lab allowed us to make seamless adjustments without compromising patient outcomes. The combination of digital precision and artisanal expertise in milling ensured a perfect final result.

Listening to a patient's evolving needs is considered patient-centered

care and means adjusting plans when expectations shift. Transitioning from a planned FP1 to an FP3 maxillary solution added complexity but ultimately led to higher patient satisfaction and function. The extra maxillary pterygoid implants are invaluable tools for rescuing cases where posterior maxillary support is compromised. In this case, they saved the arch without more invasive zygomatic solutions.

Conclusion

This case showcases how innovative implant solutions, cutting-edge digital workflows and close team collaboration can overcome even unexpected challenges in full-arch rehabilitation. For this patient, what could have been a major setback turned into a success story—restoring her smile, function and confidence for the long term.

As implant dentistry continues to evolve, cases like these remind us that being prepared, flexible and patient-focused are key to delivering truly life-changing results. **DT**

Dr. Danny Domingue received his bachelor's degree from Louisiana State University in Baton Rouge and his DDS from the LSU School of Dentistry in New Orleans. Domingue was awarded the Certificate of Achievement from the American Academy of Implant Dentistry and a fellowship from the International Congress of Oral Implantologists, and received an associate fellowship from the American Academy of Implant Dentistry. He also was also awarded Diplomate from the American Board of Oral Implantology, the highest award possible for a general dentist practicing implantology. In addition, Domingue is a member of the American Dental Association, the Acadiana District Dental Association and the American Academy of General Dentistry.

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Management of Chronic Drug-Induced Bruxism and Orofacial Pain

Gain the skills to treat chronic bruxism in patients with compounding dental and pharmacologic factors

BY DR. ELFATIH EISA

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Short description

This course offers a comprehensive overview of managing chronic drug-induced bruxism and orofacial pain, particularly in cases complicated by dental procedures. Participants will gain insights into diagnostic and treatment planning strategies, as well as the integration of multidisciplinary approaches to enhance patient outcomes.

Abstract

The course explores the complexities of diagnosing and managing chronic drug-induced bruxism and orofacial pain. It highlights a case study involving a 40-year-old female patient presenting with symptoms exacerbated by dental treatment and psychotropic medication use. Key elements include differentiating bruxism types, understanding medication-induced triggers and crafting personalized treatment plans incorporating behavioral therapy, medication adjustments and occlusal stabilization appliances. Evidence-based approaches to mitigating associated symptoms like tinnitus, headaches and myalgia are emphasized. By the course's conclusion, attendees will be equipped to apply multidisciplinary strategies for managing similar cases effectively.

Learning objectives

Upon completing this course and passing the post-test, dentists will be able to:

1. Differentiate between sleep and awake bruxism and identify their respective triggers and manifestations.
2. Identify the mechanisms by which specific medications contribute to sleep-induced bruxism.
3. Recognize the role of psychotropic medications in inducing or exacerbating bruxism and develop strategies for management.
4. Create personalized, multidisciplinary treatment plans for patients with complex orofacial pain and drug-induced bruxism.
5. Enhance patient outcomes through effective communication, patient education and behavioral interventions.

Patient history and present illness

A 40-year-old female patient arrived at the Orofacial Pain Clinic at the University of Kentucky with a range of persistent symptoms that began following dental treatment three years before her visit. Her chief complaint was neck pain, right ear hearing loss and ear fullness after she had had dental work done. She described an aching, burning pain centered around the right post-auricular, occipital, neck and shoulder areas. The pain intensity varied from 5 on a scale of 1–10 to 9 out of 10, and it occurred almost daily, typically exacerbated by certain postures, stress, teeth clenching and lifting heavy objects.

Additional symptoms included:

- **Aural fullness and tinnitus:** Right aural fullness and intermittent tinnitus.
- **Headaches:** Occipital headaches on the right side with a pain intensity of 7 out of 10, occurring thrice monthly and often lasting for an entire day. These headaches were exacerbated by neck pain and relieved with Advil, heat compresses, stretching, chiropractic therapy and Botox.
- **Occlusal discrepancy:** A sensation of "multiple different bites" contributed to her discomfort.

History of previous treatments

The patient had undergone several treatments with limited success:

- **Stabilization appliances:** Multiple trials of stabilization appliances and orthotics did not improve her symptoms.
- **Selective teeth adjustments:** Grinding adjustments post-veneer placement yielded minimal improvement.
- **Botox therapy:** Botox injections in the masseter muscles significantly reduced teeth clenching and pain. However, injections in the neck and shoulder areas resulted in muscle weakness, with a subsequent pain flare-up for six weeks afterward.
- **Physical therapy and dry needling:** Both were reported to provide limited pain relief.

Review of systems

- **Neurological:** Headaches, dizziness, tingling in fingers
- **ENT:** Aural fullness, tinnitus
- **Pulmonary:** Seasonal allergies
- **Musculoskeletal:** Shoulder pain, neck aches
- **Other systems:** Negative for additional findings

Medical, family and surgical history

- **Medical history:** GERD, anxiety disorder, panic attacks, Eagle syndrome
- **Family history:** Positive for myocardial infarction, bone cancer, emphysema and pneumonia

- **Surgical history:** Tonsillectomy, bilateral inguinal hernia repair
- **Current medications:** Wellbutrin 150 mg twice daily
- **Allergies:** Adverse reaction to Demerol

Psychosocial history

The patient reported eight hours of sleep with a sleep latency of up to 30 minutes, consuming three units of caffeine daily but denying alcohol, smoking or recreational drug use. She noted a history of anxiety and panic attacks but denied depression or suicidal ideations. Wellbutrin had been part of her treatment regimen for several years, although its effectiveness in managing her anxiety was uncertain.

Clinical examination

- **Vitals:** BP: 113/81 mmHg; Pulse: 85 bpm; SpO2: 96%; BMI 20.6
- **Cranial nerves:** II-XII intact
- **Cervical examination:** Mild restriction with movements, slight tenderness in the right occipital, splenius capitis and trapezius muscles
- **Mandibular function:** Maximal comfort opening of 40 mm with slight mandibular deflection to the right. No TMJ sounds or tenderness were noted.
- **Occlusal findings:** Occlusion was evaluated with shim stock. Occlusal contacts noted on teeth #2, 4, 5, 12, 13, 14, 15 with their opposing teeth, while the rest of the teeth were slightly out of occlusion.
- **Intraoral examination:** Bilateral linea alba, veneers on teeth #5-12, craze lines, root exposure on tooth #25 with slight attrition noted.
- **Intraoral appliances:** The patient had two intraoral appliance that were evaluated. The first appliance was a full-coverage maxillary, flexible appliance. The second appliance was a hard full-coverage mandibular appliance showing uneven occlusal contacts.

Differential diagnosis

- Possible chronic drug-induced bruxism
- Cervical myofascial pain
- Cervicogenic headache
- Masticatory myalgia
- Minor occlusal instability
- **Contributing factors:** Oral parafunctional habits (awake bruxism), loss of stable intercuspal position

Initial treatment plan

1. **Patient education:** Provided reassurance about her condition and detailed explanations.
2. **Behavioral therapy:** Referred for clenching awareness, self-care strategies and physical self-regulation (PSR) skills training.
3. **Medication adjustment:** Recommended discontinuing Wellbutrin, with a trial of duloxetine as an alternative serotonin-norepinephrine reuptake inhibitor (SNRI). A letter was sent to her primary care physician to coordinate this change.
4. **Occlusal appliance:** Fabricated a hard, full-coverage stabilization appliance to manage nocturnal clenching.
5. **Therapeutic exercises:** The patient was evaluated by a physical therapist trained in managing TMD and cervicalgia. Prescribed jaw-opening exercises to improve range of motion.

Follow-up appointments

Follow-up appointment 1: Three months after initial visit

- **Improvement reported:** The patient noted significant relief after discontinuing Wellbutrin, although she had not yet started duloxetine. She experienced reduced pain (2 out of 10) in the right occipital and masseter muscles.
- **Procedure:** Delivered a vacuum-formed splint with hard acrylic for even bilateral contacts.

Follow-up appointment 2: Four months after initial visit

- **Further progress:** Reduced TMJ sounds and diminished sense of occlusal instability. Some discomfort in the maxillary left premolar noted occasionally but a significant improvement in pain levels compared with the initial appointment.
- **Procedure:** Splint adjusted for comfort.

Follow-up appointment 3: Five months after initial visit

- **Continued improvement:** Mild residual aching pain (2 out of 10) in the right masseter, trapezius and occipital areas. Attributed improvement to discontinuing Wellbutrin, appliance use, PSR exercises and Botox therapy.
- **Assessment:** Continue management of cervical myofascial pain and masticatory myalgia.

Overview on bruxism

Bruxism, a condition involving excessive masticatory muscle activity, is now recognized as comprising two

distinct behaviors based on when it occurs: sleep bruxism and awake bruxism.[1] Bruxism can lead to significant occlusal trauma, affecting dental hard tissues, restorations, prostheses and even the musculoskeletal structures involved in chewing and speech. While awake bruxism is often triggered by psychosocial factors, sleep bruxism is believed to involve more complex mechanisms within the central nervous system.

These behaviors are no longer seen as variations of a single phenomenon but rather as separate entities with specific definitions.

1. **Sleep bruxism:** This is defined as involuntary masticatory muscle activity during sleep, which can manifest in several forms: rhythmic (phasic) or non-rhythmic (tonic) or mixed. Importantly, sleep bruxism is not classified as a movement disorder or sleep disorder in individuals who are otherwise healthy. It involves jaw clenching or teeth grinding during sleep without associated underlying sleep pathologies.
2. **Awake bruxism:** In contrast, awake bruxism refers to masticatory muscle activity during wakefulness. It is characterized by repetitive or sustained tooth contact, as well as actions like bracing or thrusting the jaw. Similar to sleep bruxism, awake bruxism is not considered a movement disorder in healthy individuals and often occurs unconsciously, particularly in response to stress or concentration.

These updated definitions emphasize that while both forms involve the same muscle groups, their triggers, characteristics and implications may differ, thereby warranting separate classifications for more accurate diagnosis and management.[1]

Studies on the prevalence of bruxism indicate that it affects a significant portion of the population, ranging from 8% to 31.4% among adults and 3.5% to 40.6% among children.[2,3] The condition is generally understood to have a multifactorial origin, though the precise causes and mechanisms remain unclear. Factors contributing to bruxism include dental occlusal interferences, psychological stressors, environmental influences and dysfunctions in the basal ganglia and neurotransmitter systems in the brain.

One theory suggests that bruxism is mediated by central mechanisms involving neurotransmitters such as dopamine and serotonin.

Certain medications, particularly psychotropic drugs, can alter the balance of these neurotransmitters, potentially inducing or exacerbating bruxism.[4,5] Despite its recognition in psychiatry, the awareness of drug-induced bruxism remains relatively low among dental professionals, which underscores the need for increased education and vigilance in dental practice to identify and manage this condition effectively. The prevalence of lifestyle changes such as increased stress levels, poor sleep quality and inadequate nutrition has contributed to a rising incidence of mood disorders and other mental health issues worldwide.[6-8] Growing awareness about mental health has led more individuals to seek professional treatment for conditions like anxiety, depression and other psychological concerns. Consequently, there has been an uptick in the prescription of psychotropic medications, including antipsychotics and antidepressants, to manage these conditions.[9,10] Similarly, the number of patients requiring treatment for neurological disorders has also grown over the years. These medications, which often target the central nervous system, are used either as monotherapy or in combination therapies, reflecting an increased reliance on pharmacological interventions for managing mental and neurological health.

Review of drug-induced bruxism

Psychotropic drugs are chemical agents capable of crossing the blood-brain barrier to influence the central nervous system. These substances can stimulate or suppress neurological activity, thereby affecting mood, perception, cognition and behavior. Some psychotropic medications, particularly those affecting dopamine, serotonin, norepinephrine and histamine receptors, have been linked to the induction of bruxism by altering neurotransmitter functions and receptor responses in the brain.

Several classes of medications have been associated with the onset of bruxism. SSRIs (selective serotonin reuptake inhibitors) are one of the medications frequently reported.[11–13] Research suggests that SSRI-induced bruxism may be linked to increased serotonergic activity, which can suppress dopaminergic pathways, subsequently leading to muscle hyperactivity and teeth grinding. Commonly implicated SSRIs in these cases include fluoxetine, sertraline and paroxetine, which are known to heighten serotonin levels, potentially disrupting the balance of neurotransmitter activity involved in motor control.

The literature indicates that switching from SSRIs to SNRIs, such as duloxetine, can alleviate SSRI-induced bruxism in some patients. SNRIs are often considered effective because they balance serotonin and norepinephrine levels, with a reduced impact on dopaminergic pathways that are frequently linked to bruxism. On the other hand, Wellbutrin (bupropion) belongs to the class of norepinephrine and dopamine reuptake inhibitors (NDRIs). Unlike SNRIs and SSRIs, NDRIs primarily increase norepinephrine and dopamine levels by inhibiting their reuptake in the brain. This increase in dopaminergic activity can sometimes lead to side effects like bruxism, as dopamine is known to play a role in muscle control and movement regulation, which may influence jaw muscle activity.

Additionally, various classes of medications, including SSRIs, SNRIs, NDRIs and others, have been reported to cause bruxism, each potentially leading to different manifestations of the condition. Table 1 (page 46) summarizes the list of medications associated with bruxism and specifies the type of bruxism they may induce, as documented in the literature.[14]

However, it is crucial to recognize that patient responses to medications are highly individualized. While some may find relief with SNRIs, others might experience an exacerbation of bruxism symptoms. Similarly, NDRIs can alleviate symptoms of depression and anxiety for some patients but may induce bruxism in others.

Relevance to the case

The patient's improvement after discontinuing Wellbutrin, along with the consideration of switching to duloxetine, aligns with evidence supporting the use of SNRIs for managing medication-induced bruxism. However, it is crucial to recognize that individual patient responses can vary significantly. While certain medications may provide relief for some, the same class has also been documented to induce bruxism in others.

Notably, despite the recommendation to switch to duloxetine, the patient showed significant pain relief simply by discontinuing Wellbutrin. However, this decision should be approached with caution, as the patient's underlying anxiety disorder was left untreated by alternative medication.

This case underscores the importance of a personalized treatment plan, combining medication adjustments with non-pharmacologic strategies such as stabilization splints, physical therapy and behavioral therapy to effectively manage complex orofacial pain conditions.

Conclusion

The comprehensive management plan, which included discontinuing Wellbutrin, incorporating behavioral therapy, physical therapy and the use of a stabilization appliance, led to substantial pain relief and functional improvement. This case highlights the importance of a multidisciplinary approach in effectively managing drug-induced bruxism and chronic orofacial pain. **DT**

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Table 1: Summary of the list of classes of medications that may induce or aggravate sleep bruxism and/or awake bruxism.[11–13]

Class of Medication	Subclasses	Individual Medications	Type of Bruxism
Anticonvulsants	Aldehydes	Paraldehyde	Non-specified
	Aromatic allylic alcohols	Stiripentol	Non-specified
	Barbiturates	Barbexaclone, Methylphenobarbital, Phenobarbital	Non-specified
	Benzodiazepines	Diazepam, Lorazepam, Midazolam	Non-specified
	Carbamates	Felbamate	Non-specified
	Carboxamides	Carbamazepine, eslicarbazepine acetate, oxcarbazepine	Non-specified
	Fatty acids	Divalproex sodium, valproic acid, vigabatrin	Non-specified
	Fructose derivates	Topiramate	Non-specified
	Hydantoins	Phenytoin, fosphenytoin	Non-specified
	Oxazolidinediones	Trimethadione	Non-specified
	Pyrimidinediones	Primidone	Non-specified
	Pyrrolidines	Levetiracetam, brivaracetam	Non-specified
	Succinimides	Ethosuximide	Non-specified
	Triazines	Lamotrigine	Non-specified
	Sulfonamides	Zonisamide	Non-specified
	Ureas	Pheneturide	Non-specified
	Valproylamides	Valnoctamide, valpromide	Non-specified
Phenethylamines	-	Amphetamine, dextroamphetamine, methylphenidate	Sleep and awake
Selective serotonin reuptake inhibitors (SSRIs)	-	Citalopram, fluoxetine, sertraline	Sleep and awake
Atypical antipsychotics	-	Aripiprazole	Non-specified
Norepinephrine reuptake inhibitors (NRIs)	-	Atomoxetine	Sleep and awake
Serotonin-norepinephrine reuptake inhibitors (SNRIs)	-	Duloxetine, venlafaxine	Sleep and awake
Selective antihistamines	-	Ketotifen	Sleep
Opioids	-	Methadone	Sleep and awake
Antiarrhythmics	-	Flecainide	Awake
Addictive substances	-	Alcohol, nicotine, methamphetamine, MDMA	Sleep, non-specified, awake

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1. What is the key distinction between sleep and awake bruxism?
- A. Sleep bruxism occurs only during REM sleep, while awake bruxism occurs in response to stress.
- B. Sleep bruxism involves rhythmic jaw movements on non-rhythmic movements, whereas awake bruxism involves repetitive or sustained tooth contact.
- C. Both are caused solely by dental occlusal interferences.
- D. Awake bruxism is characterized by unconscious grinding during sleep.

2. Which neurotransmitter imbalance is most commonly associated with SSRI-induced bruxism?
- A. Increased norepinephrine
- B. Decreased dopamine
- C. Increased serotonin
- D. Decreased histamine

3. What treatment adjustment significantly improved the patient's symptoms in the case study?
- A. Switching from Wellbutrin to duloxetine
- B. Using a hard stabilization appliance
- C. Botox injections in the neck and shoulders
- D. Discontinuing Wellbutrin

4. What role does a multidisciplinary approach play in treating orofacial pain?
- A. It ensures the patient is referred to a single specialist.
- B. It relies solely on medication adjustments to resolve symptoms.
- C. It provides faster treatment by focusing only on occlusion issues.
- D. It enhances outcomes through collaboration among specialists.

5. What is a common non-pharmacologic strategy for managing awake bruxism?
- A. Increasing caffeine intake
- B. Cognitive behavioral therapy and physical self-regulation techniques
- C. Consuming SSRI medications
- D. Ignoring the symptoms until they resolve

6. What is the primary focus of stabilization appliances in treating bruxism?
- A. Improving sleep quality
- B. Preventing tooth grinding during sleep
- C. Aligning teeth for aesthetic purposes
- D. Eliminating all psychological stressors

7. What is the impact of physical therapy on managing the patient's symptoms?
- A. It completely resolves cervical myofascial pain.
- B. It has no effect on muscle tenderness and range of motion.
- C. It delays the need for behavioral therapy.
- D. It provides adjunctive support alongside other treatments.

8. What is a key characteristic of sleep bruxism?
- A. Conscious teeth grinding during stress
- B. Phasic, tonic or mixed jaw muscle activity during sleep
- C. Always associated with depression or anxiety
- D. Occurs exclusively in individuals with occlusal discrepancies

9. Which psychotropic drug is classified as an NDRI and linked to bruxism in the case study?
- A. Duloxetine
- B. Wellbutrin
- C. Fluoxetine
- D. Sertraline

10. What role does patient education play in managing this complex orofacial pain case?
- A. It helps identify medications causing bruxism.
- B. It encourages compliance with behavioral and therapeutic interventions.
- C. It eliminates the need for follow-up appointments.
- D. Both A and B

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Management of Chronic Drug-Induced Bruxism and Orofacial Pain

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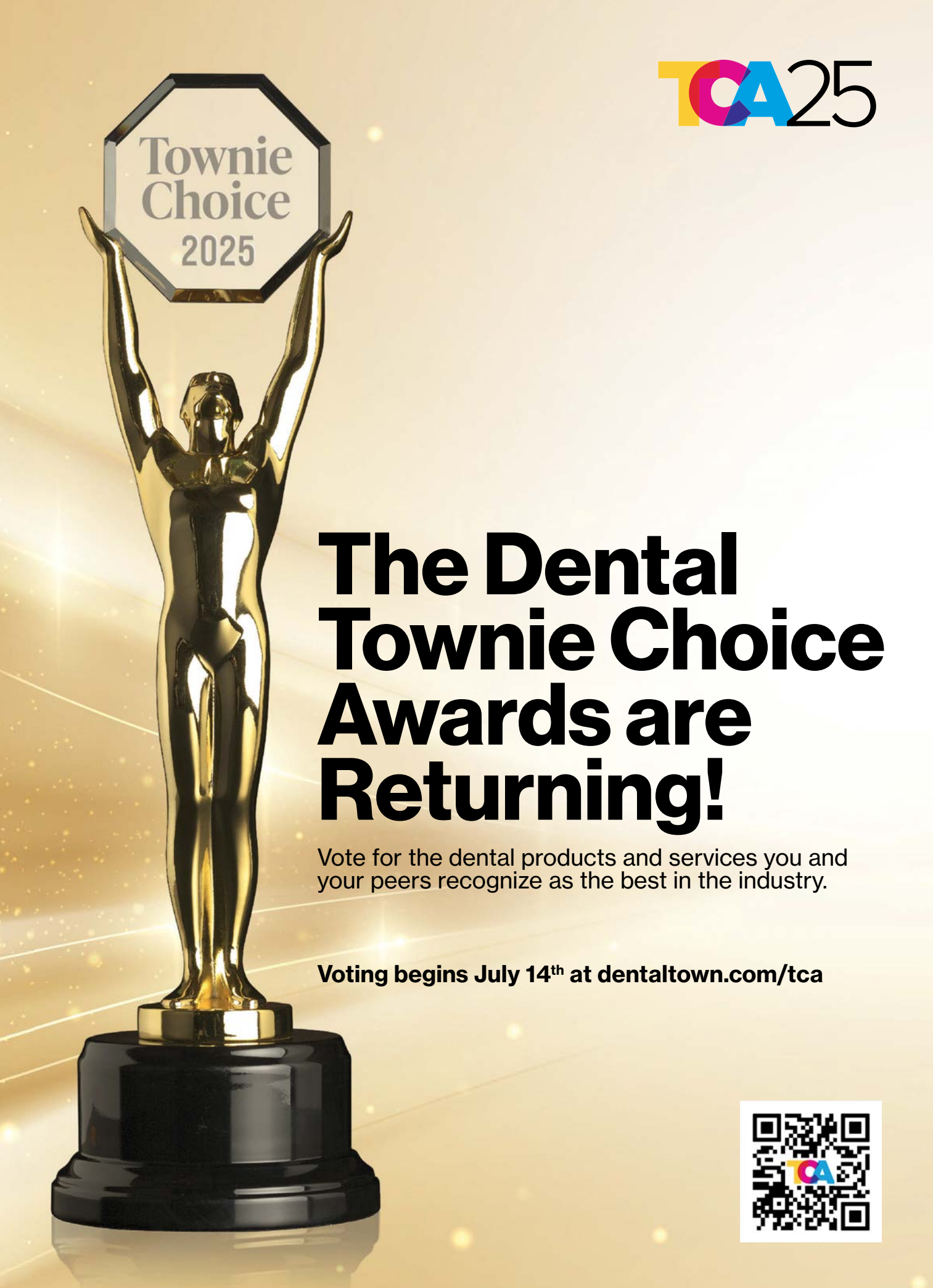

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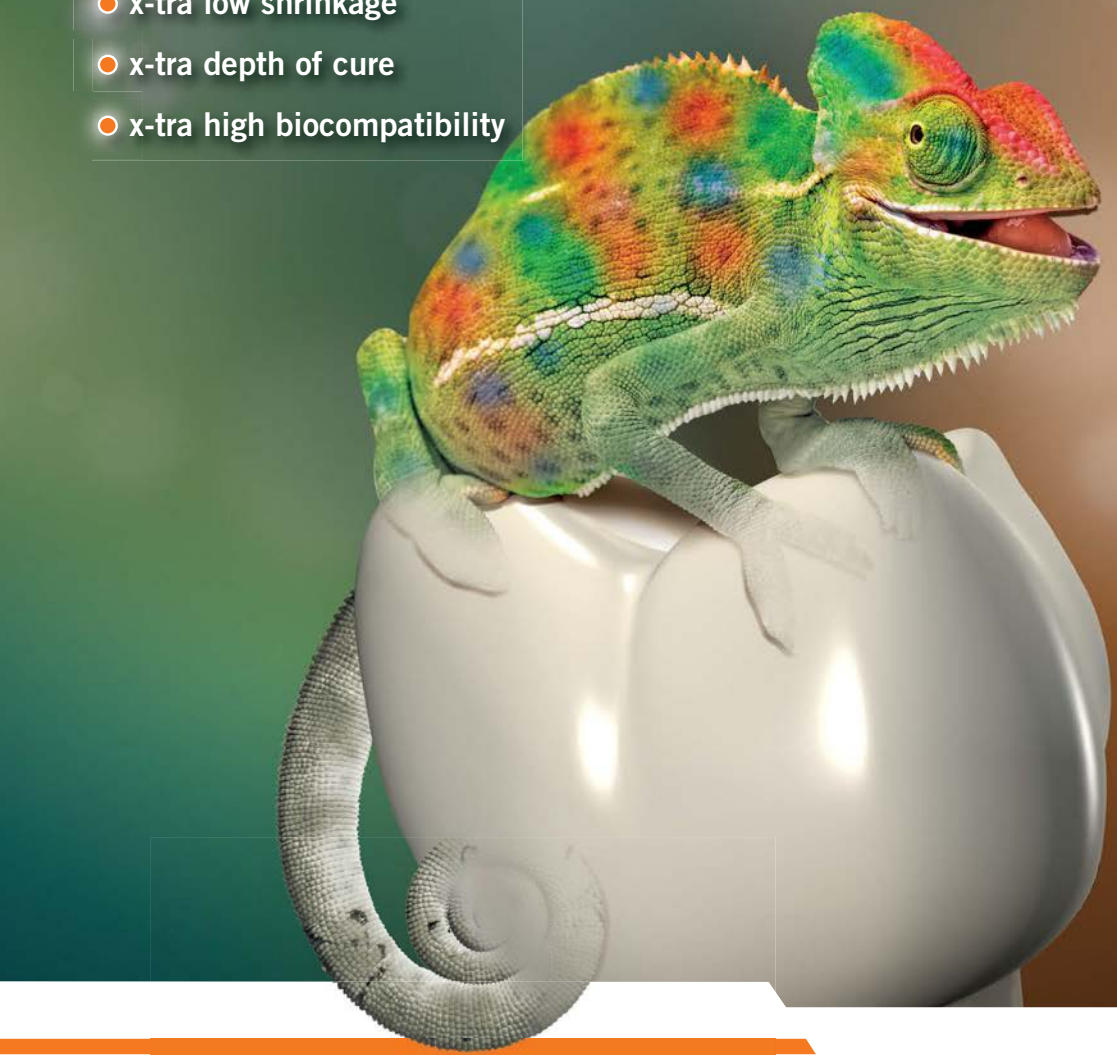

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