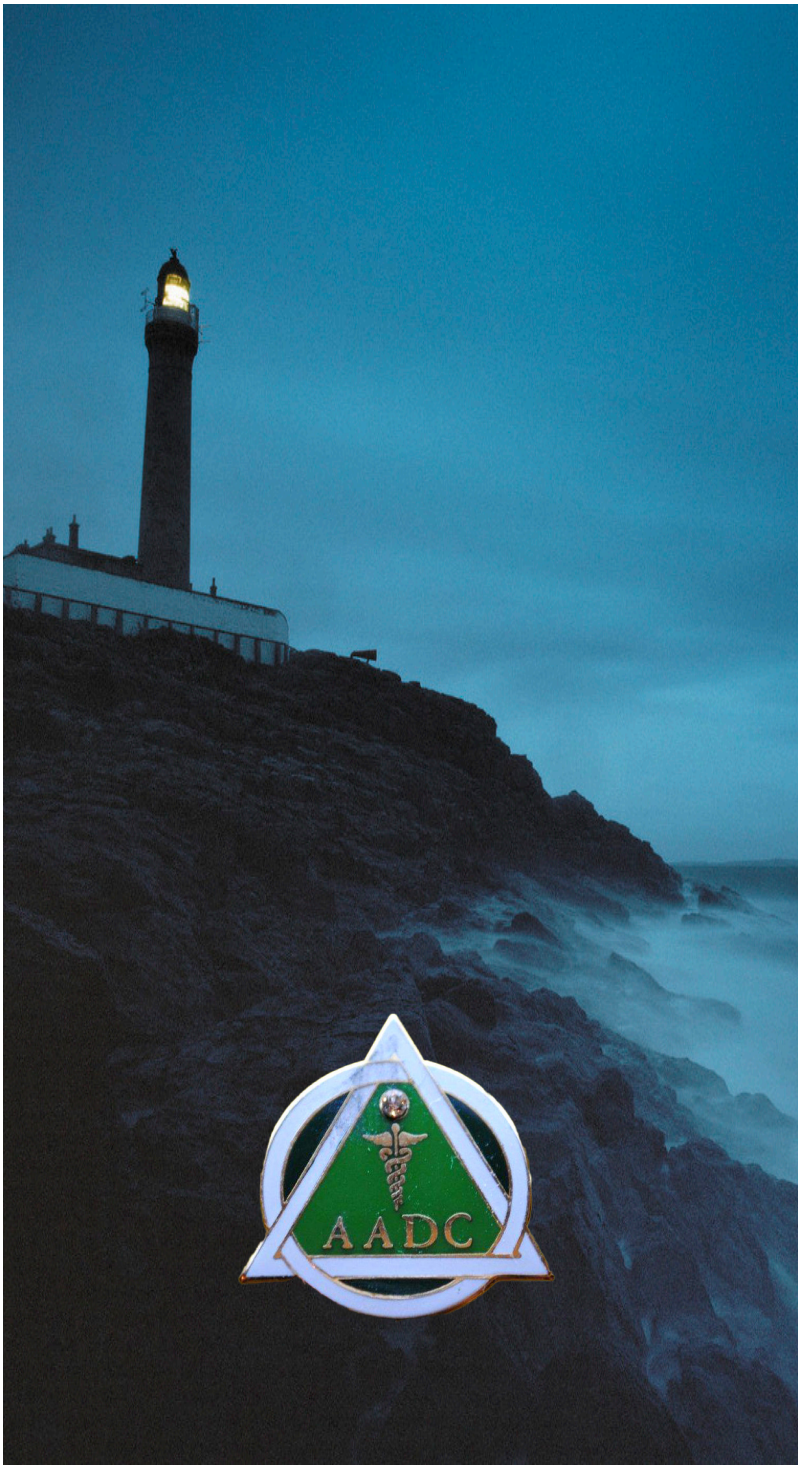
46 YEARS

FALL 2025

THE BEACON

Official Publication of the American Association of Dental Consultants



AMERICAN ASSOCIATION OF DENTAL CONSULTANTS

Updated May 2025
Terms expire annually in May

Officers / Board of Directors	Term Expires
Madeline J. Anderson Thomas, DDS, CDC - **President**	2026
Wayne Silverman, DDS, CDC - **President-Elect**	2026
Lawrence M. Hoffman, DMD, CDC - **Secretary/Treasurer**	19th Term 2026
Randi S. Tillman, DMD, CDC - **Immediate Past President**	2026
O. Andy Elliott, DMD, CDC	1st Term 2028
Michelle Flesch - **Affiliate Liaison**	1st Term 2027
Michael Goldberg, DMD	1st Term 2027
Kassie Kulb, DMD	1st Term 2027
Ana A. Niehoff, DDS	1st Term 2026
Clayton O. Pesillo, DMD, CDC - **Editor**	13th Term 2026
Hana Worede, DDS	1st Term 2028
Marc K. Zweig, DMD, CDC	1st Term 2026
Nathan Fletcher, DDS - **Parliamentarian**	2026
Ellen Kessler, **Executive Director**	

NOTICE

Articles published in *The Beacon* represent the research, opinions, and or views of the authors and not the opinion or position of the AADC, its members, companies represented by its members, Officers, Directors, or Executive Director unless specifically stated. Articles are accepted for publication simply on the basis that they may be of interest to AADC members.

Published articles in *The Beacon* are for educational purposes only and are not intended to direct or influence dental claims payments or to be considered legal advice.

THE BEACON *informs members about the latest issues affecting dentistry and dental benefits. An annual subscription to the publication is included in your membership fee.*

President's Message

Dr. M. J. A. Thomas, CDC, FACD, FICD, FPFA
President, American Association of Dental Consultants

It is with deep gratitude and enthusiasm that I write this President's Message to you, the distinguished members of the American Association of Dental Consultants. To be entrusted with the presidency of this extraordinary organization-rich in knowledge, tradition and purpose, is an honor that I accept with both pride and a sincere sense of responsibility.

I wish to express my profound appreciation to: Dr. Randi Tillman our Immediate Past President, whose exemplary leadership has paved the way for continued growth; to our Officers and Board of Directors, whose steadfast dedication and strategic guidance uphold the integrity of our work; and to our extraordinary Executive Director, whose tireless commitment and exceptional service ensure the success of our mission. Together, your collective wisdom, diligence, and unwavering devotion to the AADC exemplify the highest standard of professional excellence.

In her opening remarks, during the 2025 Annual Workshop, Dr. Randi Tillman, spoke a powerful truth--there are still many who do not fully understand what we, the members of AADC, do or why we do what we do.

So…. how do we, as members of this esteemed organization, respond to these misperceptions?

Albert Einstein once stated, "In the middle of every difficulty lies the opportunity."

That quote reminds us that our challenges are not roadblocks, our challenges are opportunities. Opportunities to lead, to educate, and to reframe that narrative.

The responsibility to tell our story, accurately and powerfully, belongs to us. We must be the ambassadors of truth. We must be the champions of clarity. No one is better equipped to share the value of what we do than we are.

When I look at the members of AADC, I see consultants and I see extraordinary leaders. I see the guardians of quality, champions of evidence-based care, and stewards of ethical excellence. I see individuals who make a quiet but powerful difference every single day!

The impact of a dental consultant is profound: bringing clarity to complexity; upholding fairness; and ensuring clinical decisions are not only grounded in science but guided by wisdom and judgment.

As we look to the future, filled with great opportunity and responsibility, I encourage each of us to pause and reflect on the unique position we hold as members of the AADC and ambassadors of our profession. I invite us to align around three guiding principles that can shape our collective impact: ELEVATE, COLLABORATE, INNOVATE.

- **Elevate** our role—not only in the review process, but as thought leaders in education, quality improvement, and clinical best practices. Let us be bold in our pursuit of excellence and advocacy for standards that elevate the profession.
- **Collaborate**—with one another and with stakeholders across the profession to foster integrity, transparency, and shared understanding. Our strength lies in the synergy of our collective expertise and our commitment to mutual progress.
- **Innovate**—by embracing emerging tools and technologies that support accuracy and trust, while always keeping patient care, quality, and ethics at the heart of what we do. Innovation is not a trend—it is a responsibility.

Let us meet this new moment with unity, with vision, and with unwavering confidence in our shared purpose. Because what we do here matters. Our work not only supports the membership of the AADC—it helps shape the future of dental consulting and, by extension, the future of our profession.

We are not simply stewards of tradition—we are architects of progress. And as we build, we are making a transformational impact that will echo across generations.

I wholeheartedly thank each of you for your dedication, and your unwavering commitment to the mission and values that make the AADC not just an organization—but a driving force for excellence in dental consulting.

Membership Bylaws

Clayton O Pesillo, DMD, CDC, Editor
Ellen Kessler, Executive Director

If you are like me, you likely don't take much time reading and/or reviewing your association's Bylaws. We all recognize that Bylaws are what govern an association; a sort of "rule book" if you will. Bylaws are amended on occasion to reflect changing times or simply changes in an organization's structure.

An important section in the AADC's Bylaws is Chapter One—Membership. Section 10 under Chapter One creates the classifications of membership. Section 20 defines the qualifications necessary to be a member under each classification.

Knowing the classifications as well as the qualifications for each member category can be useful, especially when recruiting new members. The following is a refresher of this Chapter of the AADC Bylaws.

Editor's Note: All categories of membership are important to the American Association of Dental Consultants in that it provides the organization with various and at times opposing views and experiences. It is these tensions that breathe life into an organization. What is unique about the AADC in my observations over many years (and it is a comment frequently heard from new members) is the comradery and shared values of our members. I believe it is for these reasons that we have reached a new level of membership and our highest workshop turnout ever. We are truly unique!

CHAPTER ONE-MEMBERSHIP

Section 10:. Classification: The members of this Association shall be classified as follows: Active, Associate, Affiliate, Life, or Honorary

Section 20. Qualifications:

A. Active member:

A dentist shall be classified as an active member of this Association who is retained by an insurance carrier, self-insured plan, administrator or commercial consulting entity, to give expert professional advice in its programs or who is involved in the administration of a dental benefits program and, further, who is licensed to practice in the United States, the Commonwealth of Puerto Rico, Canada or any other U.S. recognized foreign entity upon application to and approval of the Board of Directors. To continue membership, the member must be in good standing.

B. Associate member:

A dentist who does not qualify for active membership shall be classified as an Associate Member upon application to and approval by the Board of Directors.

C. Affiliate member:

A person who is not a dentist yet is involved in the administration of a dental benefits program or as an educator lecturing or writing on the subject, or others who contribute to the advancement of the objectives of this Association, upon application to and approval of the Board of Directors.

D. Life member:

A life member shall be a member of this Association who 1. Has been an Active and/or Associate member in good standing for twenty-five (25) consecutive years, 2. Has attained the age of sixty-five (65) years in the previous calendar year, 3. Has submitted an affidavit attesting to the qualifications for this category upon application to and approval of the Board of Directors.

E. Honorary member:

An individual who has made outstanding contribution to dental care programs or ancillary fields related to the objectives of this Association, upon nomination in writing by at least five (5) Active members and approval of the Board of Directors.

NOTE: If your current membership status has changed, please notify our Executive Director, Ellen Kessler – ellen@aadc.org

THE BEACON *informs members about the latest issues affecting dentistry and dental benefits. An annual subscription to the publication is included in your membership fee.*

AADC 2025 Workshop:

Connect, Learn and Lead

Linda Vidone, DMD
Program Chair

Hyatt Coconut Point Resort & Spa

The 2025 annual spring workshop, "Connect, Learn and Lead" held at the beautiful Hyatt Regency Coconut Point, Bonita Springs, FL was a tremendous success! The heavily attended event featured a wide variety of timely and pertinent lecture topics with an outstanding array of accomplished speakers, even the weather was perfect which allowed for plenty of outdoor networking and socializing. The feedback from attendee surveys was extremely favorable.

Wednesday's events included the Dr. Larry Browning Memorial Golf outing, the Certified Dental Consultant examination, and a wonderful training seminar "Consultant 101: Anatomy of a Claim Review" given by **Dr. Clay Pesillo**. In the evening, the board and membership committee members welcomed all new AADC members from 2024-2025 and program speakers at the New Member Reception, establishing mentor relationships and networking opportunities. Another well-attended event that sets the stage for the next few days.

Future AADC members helping at the New Member reception

Dr. Edward Zuckerberg, Dr. Linda Vidone, and Kirill Zayderman

Dr. Catherine Hayes, Dr. Jeff Chaffin, Dr. Linda Vidone, and Krill Zayderman

Drs. Linda Vidone and Owen Urech

The continuing education program opened on Thursday with our keynote speaker, **Dr. Edward Zuckerberg** who discussed the science behind systemic diseases and their origination from dysbiotic oral microbiomes as well as current testing and therapies to diagnose and improve oral health as it relates to systemic health. We then heard **Dr. Catherine Hayes** discuss the principles of evidence-based dentistry as it relates to the treatment of periodontal disease. We were fortunate this year to have three lunch and learn sessions featuring:

- The Data management & Credentialing with Dr. Ron Inge (LifeSpun)
- How AI Maximizes Dental Consultant's Value with NovoDynamics
- Unlocking the Secret to Clean Claims with Practice Booster

All three were sold out! The program committee will continue these Lunch and Learn sessions for the 2026 workshop. The afternoon session began with **Mr. Owen Urech** giving an update on state legislative activities that will impact the dental insurance market. This was followed by the first of three interactive claims review session led by **Dr. Mario Conte**.

That evening, Dr. Randi Tillman, our outgoing president, welcomed all attendees to her President's Reception. This well attended informal reception gave all an opportunity to network, connect with old colleagues and friends, and meet and make new ones.

Our Certified Dental Consultants and Past Presidents began Friday with a wonderful special champagne

breakfast where they enjoyed sharing their leadership experiences and friendships. The general session on Friday started with **Dr. Eric Tranby and Faisal Chaudry** diving into the "Shark Tank "of oral health innovations and discussing the SMILE health accelerator program. This was followed by the timely topic of what dentists really think about dental insurance- the honest, hilarious and heartbreaking truth by **Dr. Jim DiMarino**. Dr. DiMarino made hearing the truth fun with an interactive audience game!

Dr. Dale Miles followed sharing information on how AI imaging is transforming dentistry.

During lunch there were two additional sold-out lunch and learn' s featuring:

- Paper Trails to Instant AI with Overjet
- PPO – Hell No! with DenteMax

The afternoon began with our annual business meeting, followed by **Dr. Elizabeth Perry** discussing innovative endodontic strategies for saving teeth that stimulated third party payors to evaluate coverage for endodontic procedures. The last session of the day was a claims review session led by **Dr. Katie Deffke** with challenging complicated cases.

Saturday morning was our usual short session which included a closing keynote speaker, **Dr. Timothy Kosinski**, who discussed implant communication, treatment and complications. His presentation offered the importance of communication and patient education, the use of technology in diagnosing and management of implant complications. AADC was extremely grateful to

Dr. Eric Tranby, Dr. Linda Vidone, and Faisal Chaudry

Dr. Jim DiMarino and game winners!

Dr. Elizabeth Perry and her supportive AAE team

Dr. Katie Deffke

Dr. Elizabeth Baker who had to present last but was a real treat and worth the wait for all those that stayed! She closed the program with an amazing, lively claims review session!

A well-deserved thank you to the entire Program Committee for their support, input, and arduous work to make this workshop so special and successful: **Drs. Randi Tillman** and **Marie Schweinebraten**. And we simply could not have pulled this off without our tireless executive director, **Ellen Kessler**, and her partner in life, **Chuck Kessler**!

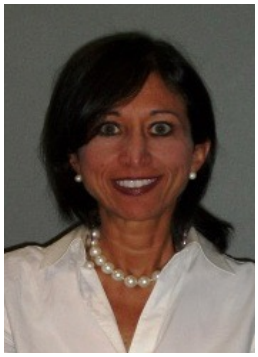
A special thanks to our sponsors and exhibitors: **Fluent, Dental Network of America, Novodynamics, Overjet, Academy of General Dentistry, Practice Booster powered by eAssit, Dentemax, Humana, LightSpun, Delta Dental of Massachusetts, CareQuest, Dentistry One, Pacira, Z Dental, TriForza,** and **Velmeni**. They all help make our workshop a success.

Dr. Ron Inge from LightSpun

Mai Jackson and Vinayak Mathur from Triforza

Thank you sponsors and exhibitors

Make sure you mark your calendars for the 2026 Spring Workshop May 6-9 at the Westin Kierland Resort & Spa in Scottsdale, Arizona. We are anticipating another fun and exciting program.



Certification Exam Committee Update

Linda Vidone, DMD, CDC

On behalf of the CDC Committee, Drs. Marie Schweinebraten and Neil Williams, I am happy to report that all six candidates who took the CDC exam at the annual workshop in May successfully passed; the CDC Committee would like to congratulate: Drs. Scott Houfek, Luis Ortiz-Quiles, Annette Skowronski, Douglas Smith, William Tucker, and Thomas Vahdani!

Dr. Randi Tillman, President, Dr. Linda Vidone, Chair Certification Committee and newly certified dental consultants.

Past Presidents

At the 2025 Annual Workshop for the third time the CDC Committee hosted a champagne breakfast for all Certified Dental Consultants and AADC Past Presidents. This event continues to be a huge success. The committee is considering changing it to a lunch with a CEU course to help provide additional CE credits for our certified members. The committee is looking forward to welcoming the new CDCs next May.

If you are interested in becoming a Certified Dental Consultant please remember the exam is only for licensed dentists who have been working in the dental insurance industry for a minimum of five years.

The exam is not available for members with no prior dental benefit work experience. Further, you must have attended the AADC Annual Workshop in two of the last three years (please note the year in which the exam is taken cannot be counted) and have written an article in *THE BEACON*.

For a full list of the eligibility requirements please log onto the American Association of Dental Consultant website at: www.aadc.org. Once you have fulfilled the requirements sign up and begin to study!!

Any Questions?

Please feel free to reach out to Chairperson, Linda Vidone, DMD – lvidone@yahoo.com.

Test Your Knowledge!

1. Generally, in dental programs higher out of pocket costs lead to lower utilization ..... T/F
2. According to the birthday rule the plan of the older spouse is always considered primary for the dependent ..... T/F
3. In voluntary insurance plans, employees pay the entire premium and in referral plans, employees pay the total cost of services to dentists who discount their fees ..... T/F
4. Generally, dental insurance companies retain the option to modify or amend the terms of participation contracts with dentists including the right to amend reimbursement mechanisms, which can result in decrease in reimbursement ..... T/F
5. Informal consultation with other dentist about an insurance participation agreement, which results in a de-participation by the dentist, could be a basis for an illegal agreement under the antitrust law..... T/F
6. CDT code D1354 (interim caries arresting medicament application- per tooth) was developed exclusively for the application of Silver Diamine Fluoride or SDF. ..... T/ F
7. What is the main reason that in dental treatment there is often a good, better and best method of treating the same condition?
    a. Most dental plans provide coverage only for the least expensive "good" option of dental care, requiring additional insurance coverage for higher end services.
    b. More expensive treatments are of higher quality.
    c. All the treatments are professionally acceptable.
    d. Higher cost treatments are more cosmetic in nature.
8. Which of the following in not verified in the credentialing of dentists?
    a. Appropriate length of time for services performed
    b. Dental license
    c. Medicare/Medicaid sanctions
    d. Liability claims history
9. Which of these is a common way to measure customer service in relation to telephone calls to a dental plan?
    a. Speed of answer
    b. Call abandonment
    c. Average hold time
    d. All of the above

Answer Key:

1. T	4. T	7. C
2. F	5. T	8. A
3. T	6. F	9. D

Current Dental Terminology
@ 2025 American Dental Association

THE BEACON *informs members about the latest issues affecting dentistry and dental benefits. An annual subscription to the publication is included in your membership fee.*

AADC's Annual Spring Workshop:

The Value of Attending

After every annual workshop, we survey attendees for workshop evaluations. The percentage of attendees completing the survey is quite high. Most people do not like surveys, unless, of course, they are very unhappy and wish to complain. While we always find some well-intentioned constructive criticism, I have to say most comments are very positive.

On that survey, we always ask attendees their purpose for attending the workshop. Knowing why one attends is very helpful in making or keeping future workshop relevant. Of course, there are many varied responses to this question; but there are a few responses that seem to recur in one form or another. I've identified three (3) that form a central thread of the "value" of attending our AADC Annual Workshop. They are condensed and paraphrased as follows:

1. At the workshop I connect with old friends and make new acquaintances, including many of the great presenters. I find it refreshing to find we all share and are committed to the same goals.
2. Over the years this workshop has provided me with deep relationships that have evolved over the years.
3. I receive valuable and relevant continuing education at each workshop that I feel advances my knowledge in both dentistry and dental benefits.

American Association of Dental Consultants · 1971 Chesterfield Ridge Circle, Chesterfield, MO 63017
Phone: 636-893-6800 | Fax: 636-591-0616 | **www.aadc.org**

THE BEACON *informs members about the latest issues affecting dentistry and dental benefits. An annual subscription to the publication is included in your membership fee.*

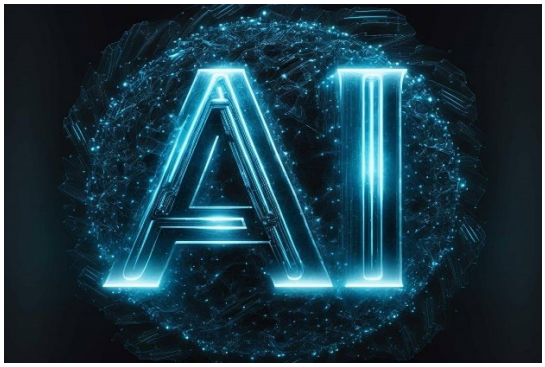
Make plans to attend the 2026 Spring Workshop and Annual Meeting at the Westin Kirkland Resort & Spa in Scottsdale, Arizona, May 6-9, 2026.

American Association of Dental Consultants · 1971 Chesterfield Ridge Circle, Chesterfield, MO 63017
Phone: 636-893-6800 | Fax: 636-591-0616 | **www.aadc.org**

Bridging the Gap:

How Dental AI Strengthens Payer-Provider Collaboration for Better Patient Care

Tushara Johnson, DDS



Introduction

The dental care industry is undergoing a transformation with the adoption of artificial intelligence (AI) technologies. AI based solutions are presenting us with a unique opportunity to address the longstanding challenges in the payer-provider relationship, creating new pathways to overcome traditional obstacles and optimize patient care through technology-driven collaboration. By optimizing workflows, improving operational efficiency and creating transparency between payer and providers, these advancements not only create greater alignment between the various stakeholders but also strengthen the foundation of our profession—the doctor-patient relationship—and allow practitioners to focus on delivering the best care to their patients.

The Traditional Payer-Provider Relationship: Challenges and Friction

Both dental payers and providers share the common mission of delivering the best care at manageable costs when and where it's needed. However, their differing operational priorities and financial pressures often create a relationship characterized by friction rather than partnership. A 2022 survey from the American Hospital Association found that 78% of healthcare providers believe

their relationships with insurers are deteriorating, with only 1% noting improvement.[3] This challenge is equally relevant in dentistry, where similar divisions between dental practitioners and insurance companies continue to undermine both care delivery and practice viability and has contributed to significant consolidation trends in the dental industry, with solo practices declining from 64% to 52% between 2000-2015 as providers organize into larger entities specifically to counterbalance insurer negotiating power.[7]

Dental providers frequently face frustration navigating the administrative maze of claims submission and coverage determinations. Delays in claim processing, unclear qualification criteria, and inconsistent adjudication create inefficiencies that affect practice operations, the revenue cycle, and ultimately patient care. Payers have both a duty and a financial incentive to ensure that premium funds are used appropriately and effectively. This responsibility involves the challenge of handling a high volume of claims to oversee the proper utilization of funds while identifying and addressing instances of fraud, waste, and abuse.[1]

Patients are the ones who suffer the most from the inefficiencies that exist in the traditional claim submission and review workflows. These delays disproportionately impact vulnerable populations, particularly the 75+ million Americans living in dental professional shortage areas where access to care is already limited.[6] When claim decisions are delayed, patients face extended waiting periods for necessary treatments, creating uncertainty about both benefit coverage and treatment timelines. The ongoing disconnect between insurers and practitioners ultimately diminishes care quality, erodes trust in the healthcare system, and leaves all participants—patients, providers, and payers—increasingly dissatisfied with a system that fails to serve its purpose.

The Role of Dental AI in Enhancing Collaboration

The integration of AI across both payers and providers is creating significant collaborative opportunities by streamlining, standardizing, and bringing transparency to the traditionally disjointed claims submission and review processes. This partnership will reshape the dental healthcare system and improve patient care. Below are key ways in which dental AI technology is driving this shift in healthcare collaboration:

1. Streamlined Claims Processing

AI practice software has the ability to verify insurance claims chairside before submission, ensuring all required documents are included and attachments contain the necessary information. This technology identifies individual teeth in radiographs, recognizes anatomical structures, existing restorations, and pathologies, and determines if the attachments support the claim. Through real-time analysis, AI flags inconsistencies or missing information before claims are submitted to the payer. This pre-submission verification minimizes the back-and-forth communication between providers and payers and delays in claim decisions, shortening revenue cycles for dental practices while generating

substantial cost savings for payers by eliminating the need for multiple handling of the same claim.

Within payer systems, AI validates attachment types and content against specific requirements, automatically classifies attachments as radiographic images, periodontal charts, photographs, or treatment records, confirms submission completeness, analyzes radiographs, and improves screening efficiency by determining whether submitted images include all the necessary information. Most importantly, this pre-screening allows the review of every claim rather than the small percentage possible with manual processes, and prioritizes only problematic claims for human review while accelerating compliant claims through adjudication. This AI driven routing increases both the effectiveness of the dental consultants and the overall efficiency of the review process, enabling practices to receive payments within days instead of weeks, allowing payers to significantly cut administrative expenses, while also reducing treatment delays for patients.

2. Enhanced Review Accuracy and Consistency

The impact of AI extends well beyond accelerating claim processing. AI addresses the two main sources of claim processing inconsistency: inter-clinician variability and selective sampling.[4] Unlike human reviewers who may interpret guidelines differently due to training, experience, or fatigue, AI delivers consistent, objective measurements against uniform standards. AI systems can detect subtle clinical indicators that might be overlooked during manual reviews, from identifying exact bone loss measurements to recognizing early-stage caries that justify treatment. This technology also enables payors to monitor consistency of reviews across consultant teams by comparing claim decisions against both peer benchmarks and AI models, helping identify training needs to ensure the uniform application of dental policies.[3]

AI implementation by payers eliminates the second major inconsistency source by enabling the review of all claims rather than the limited reviews possible with manual resources alone, preventing scenarios where identical claims receive different determinations simply because only one underwent clinical review. The resulting predictability benefits all stakeholders: payors meet regulatory and contractual requirements for consistent application of clinical guidelines, while providers benefit from faster, more consistent claim processing, eliminating confusion about benefit determinations.

3. Improved Communication and Transparency

Clear and open communication is essential to maintaining a collaborative payer-provider relationship. Unfortunately, traditional claim processing methods often operate without transparency which then causes both parties to experience misunderstandings and frustration. Dental AI improves communication and transparency between payers and providers by transforming subjective review criteria into quantifiable measurements. Where clinical guidelines once used ambiguous language like "most of the tooth missing" or "large area of decay"—terms open to varied interpretations—AI

introduces the ability for accurate quantification that leave little room for misunderstanding.[4] This allows payers to create highly specific guidelines, quantifying bone levels for scaling and root planing reviews, differentiating between root surface and non-root surface calculus, and providing data-driven evidence for clinical decisions.[4]

By converting subjective descriptions into quantifiable metrics, AI establishes precise requirements that both sides can consistently interpret in the same way, which allows payers and providers to minimize confusion and resolve disputes more effectively when they do occur. This increased transparency in the claims process allows providers to fully understand payer requirements and transforms insurer-practitioner relationships from adversarial to collaborative.

4. Reduced Administrative Costs

Dental AI is reducing administrative costs for providers and payers by augmenting labor-intensive processes throughout the claim's lifecycle. AI pre-submission validation confirms all required information is included, which decreases the time dental office staff spend correcting and resubmitting rejected claims. This efficiency allows dental practices to shift staffing resources from claims management to higher value activities like patient care and practice growth, while also improving cash flow through faster payment processing.

Payers experience administrative savings through dental AI implementation that are just as substantial, if not greater. This technology enables the review of significantly higher claim volumes without proportional staff increases by streamlining initial screening and identifying which claims require human review. This AI driven workflow eliminates redundant handling of claims and reduces the labor costs associated with manual review processes. Additionally, AI's consistent application of review criteria greatly reduces appeals and provider disputes, decreasing the administrative overhead needed to manage these costly processes.

5. Future Opportunities for Enhancing Patient Care Through AI Collaboration

As dental AI technologies continue to evolve, there are opportunities to better utilize payer dollars to best serve our patients through early detection,[1] predictive healthcare and value-based healthcare. AI-driven predictive healthcare shows great promise in dentistry by accurately forecasting treatment outcomes, disease progression, identifying high-risk patients before conditions worsen, and enabling dentists to prevent dental diseases instead of simply treating it.[8] AI's ability to analyze large amounts of data offers an opportunity to implement value-based healthcare by shifting from fee-for-service models to quality-based payment structures.[9]

With AI-based risk assessment tools, dentists can identify high-risk patients and receive appropriate compensation for preventive services that reduce the need for future costly restorative procedures. This approach benefits payers through significant reductions in overall healthcare expenditures as preventive care replaces more expensive procedures, while providers gain the freedom to

perform clinically necessary treatments without administrative barriers.[10] As these systems mature, we will likely see an improved alignment between clinical needs and coverage decisions that cultivates a healthcare environment where evidence-based practices and optimal patient-centered care align.[5]

Conclusion

AI offers dental payers and providers a unique opportunity to transform their relationship into a joint partnership where success is achieved together. By adopting AI solutions, both parties can benefit from streamlined claims processing, greater review accuracy, and AI-supported clinical decisions, while reducing administrative costs and improving communication. Providers can utilize these technologies to accelerate payment cycles and focus more on patient care, while payers can reduce operational costs and build trust with their provider networks.

The value of integrating AI technologies into dental care is undeniable, as the National Institutes of Health forecasts AI solutions will cut U.S. healthcare spending by nearly $150 billion annually by 2026. The future of dental care depends on forward-thinking professionals on both sides embracing this technology now to work as true partners to deliver the best possible care for our patients.

References

1. *Alotaibi, S., Deligianni, E. AI in oral medicine: is the future already here? A literature review. Br Dent J 237, 765–770 (2024).*
2. *American Dental Association. ADA SCDI White Paper No. 1106 for Dentistry — Overview of Artificial and Augmented Intelligence Uses in Dentistry. 2022.*
3. *American Hospital Association. Addressing commercial health plan challenges to ensure fair coverage for patients and providers. American Hospital Association. 2022*
4. *Balaban C.M., Vidone L.S., Dufurrena Q., Croley D., Dosch .K, Inam W., Puthussery S. AI-Driven Transformation of Dental Benefits. Compend Contin Educ Dent 2021; 42(6)*
5. *Bohr A, Memarzadeh K. The rise of artificial intelligence in healthcare applications. Artificial Intelligence in Healthcare. 2020:25–60.*
6. *Elani H.W., Giannobile W.V. Harnessing Artificial Intelligence to Address Oral Health Disparities. JAMA Health Forum. 2024;5(4):e240642.*
7. *Kamyar Nasseh 1, John R Bowblis 2, Marko Vujicic 3, Sean Shenghsiu Huang 4 Consolidation in the dental industry: a closer look at dental payers and providers Int J Health Econ Manag 2020 Jun;20(2):145-162.*
8. *Mahesh Batra A, Reche A. A New Era of Dental Care: Harnessing Artificial Intelligence for Better Diagnosis and Treatment. Cureus. 2023 Nov 23;15.*
9. *Snow Jr D A New World Of Healthcare: VBC And The Promise Of AI. Forbes Technology Council. 2024.*
10. *Vujicic M, David G Value-based care in dentistry. Is the future here? The Journal of the American Dental Association, Volume 154, Issue 6, 449 - 452.*

THE BEACON

THE BEACON *informs members about the latest issues affecting dentistry and dental benefits. An annual subscription to the publication is included in your membership fee.*

Screwmentable Implant Crowns

Innovation in Dental Prosthetics: Understanding the Design, Advantages, and Clinical Considerations

Ryan R. Vahdani, DDS, MHA, MAGD*

Associate Professor, *Master of the Academy of General Dentistry, Corresponding Author: Ryan.R.Vahdani@uth.tmc.edu, Department of General Dentistry and Public Health, UTHealth Houston School of Dentistry, 7500 Cambridge Street, Houston, Texas 77054

Michele White, DDS

Associate Professor, Department of General Dentistry and Public Health, UTHealth Houston School of Dentistry, 7500 Cambridge Street, Houston, Texas 77054

Cleverick (C.D.) Johnson, DDS, MS

Professor, Department of General Dentistry and Public Health, UTHealth Houston School of Dentistry, 7500 Cambridge Street, Houston, Texas 77054

Gary Frey, DDS

Professor, Department of General Dentistry and Public Health, UTHealth Houston School of Dentistry, 7500 Cambridge Street, Houston, Texas 77054

Introduction

The evolution of dental implantology has led to the development of numerous prosthetic solutions tailored to address the functional and esthetic demands of patients. Among these advancements, the screwmentable implant crown has emerged as a hybrid approach, marrying the benefits of both screw-retained and cement-retained implant restorations. This article explores the screwmentable implant crown's design, clinical rationale, advantages, limitations, and practical considerations, offering a comprehensive view for dental professionals and dental students.

Background: Implant-Supported Crowns

Implant-supported crowns are prostheses anchored directly to dental implants, which are themselves osseointegrated into the jawbone.

Traditionally, crowns may be retained by two principal methods:

- Screw-retained crowns: These are directly fastened to the implant or abutment with a prosthetic screw, allowing for easy retrieval but often presenting esthetic challenges due to the screw access hole.
- Cement-retained crowns: These are luted or bonded to the abutment using dental cement. They offer superior esthetics and occlusal morphology but can be difficult to retrieve and may pose risks of peri-implantitis from residual cement.

Despite their individual merits, each method presents trade-offs. The screwmentable implant crown was developed to integrate the advantages while minimizing the shortcomings of both retention modes.

What is a Screwmentable Implant Crown?

A screwmentable implant crown is a prosthetic solution that incorporates both screw and cement retention within the same restoration. After verification of the abutment fit properly to the head of the implant via radiograph and prior to final torque, the crown is tried out and adjusted the occlusion and interproximal contacts. Then the abutment is removed from the implant, and the crown is cemented onto a custom abutment extraorally ("outside the mouth"). The abutment-crown complex is then attached to the implant via a prosthetic screw through an access channel. In this way, the crown can be retrieved for maintenance or repair, yet it retains the aesthetic and functional benefits of a cemented restoration.

Design and Fabrication

The screwmentable implant crown involves several key components:

- Implant fixture: The titanium or zirconia base osseointegrated into the jawbone.
- Abutment: A custom that connects the implant to the prosthetic crown.
- Crown: The visible portion, typically fabricated from porcelain-fused-to-metal, zirconia, or lithium disilicate, which is luted or bonded onto the abutment.

The process is as follows:

- The abutment and crown are fabricated, often using milling technology for precision of fit and esthetics.
- Extraorally, the crown is cemented onto the abutment after verifying the fit of the abutment. Excess cement can be thoroughly removed, minimizing the risk of subgingival cement extrusion.
- The combined abutment-crown unit is then screwed onto the implant fixture intraorally, and the access hole is occlusally or lingually positioned (anterior implant crown).
- The implant crown is torqued to the recommended manufacturer.
- Placed a polytetrafluoroethylene (PTFE) film tape inside the access hole, and it was sealed with a restorative material, like composite.

Advantages of Screwmentable Implant Crowns

The screwmentable approach is considered innovative for several reasons:

- Retrievability: The screwmentable design allows for easy removal and reattachment of the crown-abutment unit, facilitating maintenance, repair, or adjustment without damaging the restoration or implant. This simplifies long-term maintenance and management of complications.
- Controlled Cementation: Extraoral cementation minimizes the risk of excess cement being forced into the peri-implant sulcus, one of the major causes of peri-implantitis in cement-retained crowns, which is dramatically reduced.
- Esthetics: The screw access hole can be positioned on the occlusal or lingual surface, away from the esthetic zone, and easily masked with composite resin, preserving natural appearance.
- Passive Fit: The two-step process (Screw retention and cement retention) may enhance passive fit and reduce stress on the implant components compared to direct screw-retained restorations.
- Flexibility: This method is particularly useful when there is an unfavorable implant angulation that would otherwise result in a screw access hole in a visible region.
- Clinical Flexibility: The synthesis of screw- and cement-retained features enables clinicians to adapt the restoration method according to individual patient needs and anatomical requirements.
- Enhanced Fit and Strength: Advances in digital dentistry, including CAD/CAM fabrication, allow for custom abutments with precise fit, improved emergence profiles, and the use of stronger and more esthetic restorative materials.
- Patient Satisfaction and Long-Term Success: The combination of retrievability, esthetics, and clinical practicality contributes to improved patient satisfaction and better long-term outcomes.

Clinical Considerations

Several factors must be evaluated before selecting a screwmentable implant crown:

- Implant Position and Angulation: The ideal candidate for a screwmentable crown is a patient whose implant is not perfectly aligned for a screw-retained crown but still allows for a manageable access hole position.
- Material Selection: Material choices for the crown and abutment (e.g., zirconia, metal alloys, lithium disilicate) affect strength, esthetics, and cost.
- Patient-Specific Needs: The patient's occlusal scheme, esthetic requirements, and oral hygiene must be considered to ensure restoration longevity.
- Laboratory and Clinical Experience: Successful outcomes depend on precise laboratory fabrication and clinician skill in cementation and screw placement.

Limitations

Despite its advantages, the screwmentable crown is not without challenges:

- Technique Sensitivity: The two-stage process requires meticulous cementation and handling of components outside the mouth.
- Cost: Custom abutments and additional laboratory procedures may increase overall treatment cost.
- Potential for Loosening: As with all screw-retained components, there is a risk of screw loosening over time, necessitating periodic follow-up.
- Space Constraints: In cases of limited interocclusal space, fabricating a screwmentable crown may be challenging.

Clinical Protocol

A typical screwmentable implant crown protocol involves:

1. Impression-taking, either conventional or digital, for precise replication of the implant position.
2. Laboratory fabrication of a custom and corresponding crown.
3. Extraoral cementation of the crown onto the abutment, with careful removal of all excess cement.
4. Screwing of the completed abutment-crown unit onto the implant intraorally, with proper torque application (typically 25-35 Ncm, as recommended by implant system guidelines).
5. Sealing of the screw access channel using a polytetrafluoroethylene (PTFE) film tape and permanent restorative material.

Postoperative maintenance includes regular follow-up to monitor implant health, crown integrity, and peri-implant tissues.

Recent Advances and Future Directions

With the advent of digital dentistry, the design and fabrication of screwmentable implant crowns have become more accurate and predictable. CAD/CAM technology enables the creation of custom abutments with optimized emergence profiles and precise fit. Additionally, new cements and restorative materials offer improved strength and esthetics, expanding the indications for screwmentable crowns.

Research is ongoing into novel abutment designs, better management of peri-implant tissues, and solutions to further minimize the risks of cement-induced complications and screw loosening.

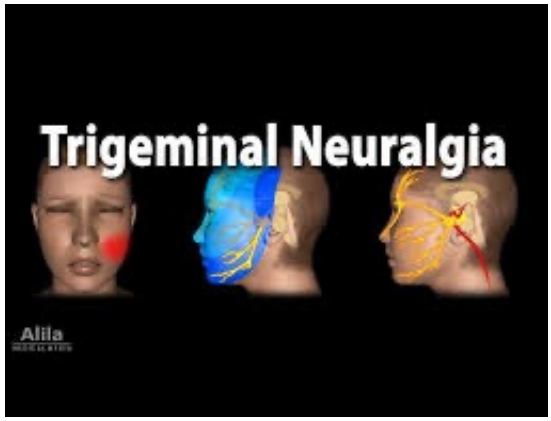
Conclusion

The screwmentable implant crown represents a thoughtful synthesis of the best features of screw- and cement-retained restorations. By allowing for extraoral cementation and intraoral screw retention, it combines retrievability, esthetics, and clinical practicality. As technology continues to advance, and as more clinicians become proficient with digital workflows, screwmentable crowns are poised to become an increasingly popular choice in restorative implant dentistry, ultimately improving patient satisfaction and long-term success rates.

References:

1. *Sarafidou, K., Vasileiadi, G., Louvrou, M. K., Moldovani, E., Koidis, P., Kokoti, M., & Bakopoulou, A. (2023). Screwmentable implant-supported prostheses: a systematic review. The Journal of Prosthetic Dentistry, 130(1), 35-47.*
2. *Sikri, A., & Sikri, J. (2025). Screwmentable Implant-Supported Prostheses: A Narrative Review.*
3. *Lee, Angie DMD*; Okayasu, Kozue DDS†; Wang, Hom-Lay DDS, MSD, PhD‡. Screw- Versus Cement-Retained Implant Restorations: Current Concepts. Implant Dentistry 19(1):p 8-15, February 2010. | DOI: 10.1097/ID.0b013e3181bb9033*
4. *Jagathpal, A. J., Vally, Z. I., Sykes, L. M., & du Toit, J. (2021). Comparison of excess cement around implant crown margins by using 3 extraoral cementation techniques. The Journal of Prosthetic Dentistry, 126(1), 95-101.*
5. *Wittneben, J. G., Joda, T., Weber, H. P., & Brägger, U. (2017). Screw retained vs. cement retained implant-supported fixed dental prosthesis. Periodontology 2000, 73(1), 141-151.*

Trigeminal Neuralgia & Neuropathic Trigeminal Neuralgia



Thomas Vahdani, DDS, MAGD, MsHA

Dental professionals play an integral role in the early detection and differential diagnosis of non-odontogenic pain to ensure avoiding invasive and potentially more harmful forms of treatment. Due to the high prevalence of orofacial pain of dental origin and the dramatic similarities between neuropathic orofacial pain and odontogenic pain, poor diagnosis can lead to inappropriate, invasive treatments. Dentists must evaluate each case and consider chronic pain's social and emotional impacts on a patient's daily life.

Non-odontogenic pain related to the trigeminal nerve can be summarized as trigeminal neuralgia and other trigeminal pain conditions recently classified by the International Headache Society, ICHDS-3 as Persistent Idiopathic Facial Pain (PIFP), Persistent Idiopathic Dentoalveolar Pain (PIDP), Burning Mouth Syndrome (BMS), and Post-traumatic Trigeminal Neuropathic Pain (PTNP).[1]

Persistent Idiopathic Facial Pain (PIFP): The International Classification of Headache Disorders[2] defines PIFP as "Persistent facial and/or oral pain, with varying presentations but recurring daily for more than two hours per day over more than three months, in the absence of clinical neurological deficit". Although PIFP has a lifetime low incidence of 4.4 per 100,000 person-years, it is more prevalent in females, with an average age onset in the mid-40's, than in men.[1]

Patients report poorly localized, unilateral pain, often in the maxillary area. Pain is described as dull, nagging, or aching, and the timing of the onset usually occurs after a minor dental or sinus procedure. Since it can mimic odontogenic pain or create confusion about the nature of the pain, dental professionals must avoid further surgical and dental procedures. At the same time, a diagnosis is uncertain since such interventions may increase the patient's symptoms.[1] Rather, the patient must promptly be referred to the appropriate specialist. Although the use of anticonvulsants and antidepressant medication is reported in the treatment of PIFD, they are found to be less effective. However, most PIFD patients felt that non-medical interventions such as physical activity, distraction, relaxation, physical therapy, and contemporary medicine are far more effective in managing their pain.[1]

Persistent Idiopathic Dentoalveolar Pain (PIDP): The International Classification of Orofacial Pain[3] defines PIDP as "Persistent unilateral intra-oral dentoalveolar pain, rarely occurring in multiple sites, with variable features but recurring daily for more than two hours per day for more than three months, in the absence of any preceding causative event". Diagnosis of PIDP can be challenging for dentists to differentiate from odontogenic pain due to well-localized dull or pressure pain associated with a specific tooth or the mucosa of an extraction site, responding to the use of local anesthetic test, and reported pain to percussion or palpation. It should be noted that dentists need to be aware of the nature of this pain in association with preceding dental treatment versus causation since post-traumatic trigeminal neuralgia, as described below, is a causative post-traumatic effect.[1]

The following are some features of PIDP that are helpful for dentists to consider when taking careful history and investigating odontogenic causes using radiographs and sensibility testing:

- Normal clinical and radiographic examinations
- Continuous pain reported, unlike pulpal pain, which either worsens or improves with time
- Doesn't wake the patient from sleep
- Previous dental treatment without improvement in pain
- Pain may affect adjacent teeth following treatment
- Pain aggravated by stress
- Potential involvement of multiple sites in different quadrants.[1]

Once there is suspicion of PIDP, the dentist's goal is to avoid unnecessary additional dental treatment, communicate well with the patient, and to promptly refer the patient to a specialist .[1]

Burning mouth syndrome (BSM): Since BSM is a diagnosis of exclusion, dentists need to rule out other factors that may cause similar symptoms, such as:

- Oro-mucosal diseases, such as Lichen Planus or candidiasis
- Hyposalivation/Xerostomia
- Tongue Parafunction Anemia
- Vitamin B12 and B9 deficiency
- Diabetes Mellitus
- Use of Angiotensin-converting enzyme (ACE) inhibitors[1]

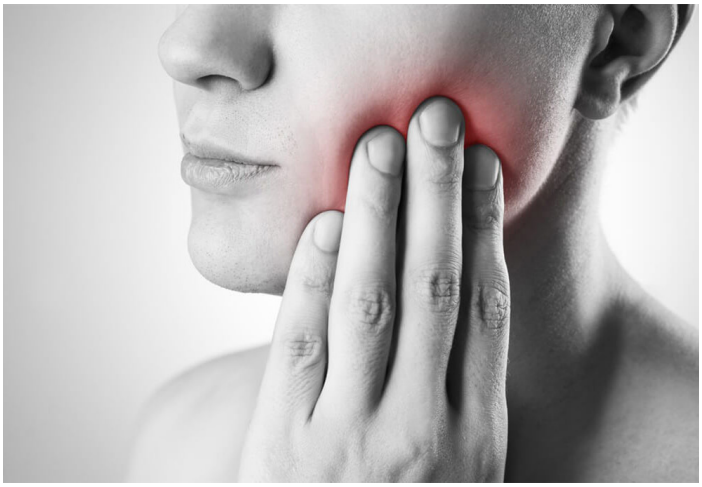
It is found that anxiety and chronic stress should be considered predisposing and perpetuating factors for BMS and not causative factors. Jaaskelainen et al. reported that more recent evidence supports BMS as a chronic neuropathic pain condition due to a reduction in neuroprotective hormones in both the central and peripheral nervous systems. Such reduction can induce damage to small fiber neurons and dopaminergic neurons centrally, leading to BMS.[4]

Management of BMS starts with diagnosis by exclusion and referral to an oral medicine specialist. Common treatments of BMS include topical clonazepam, topical capsaicin, neuropathic pain medications, and cognitive behavioral therapy.[1]

Post-traumatic Trigeminal Neuropathic Pain (PTNP): PTNP usually occurs following an injury to the peripheral trigeminal nerve during third molar surgery, dental extractions, implant placement, endodontic therapy, or administration of local anesthetics. The International Classification of Orofacial Pain defines PTNP's significant criteria for dentists as pain in the distribution of one or more trigeminal nerves persisting over three months and onset within six months of the injury. The pain is associated with somatosensory symptoms or signs and is reported as burning, shooting pain, or numbness. The signs reported can include hyperalgesia, allodynia, hypoalgesia, or hypoesthesia. Patients usually report continuous burning or moderate to severe sharp shooting pain, which rarely passes the midline, lasting most days.[1]

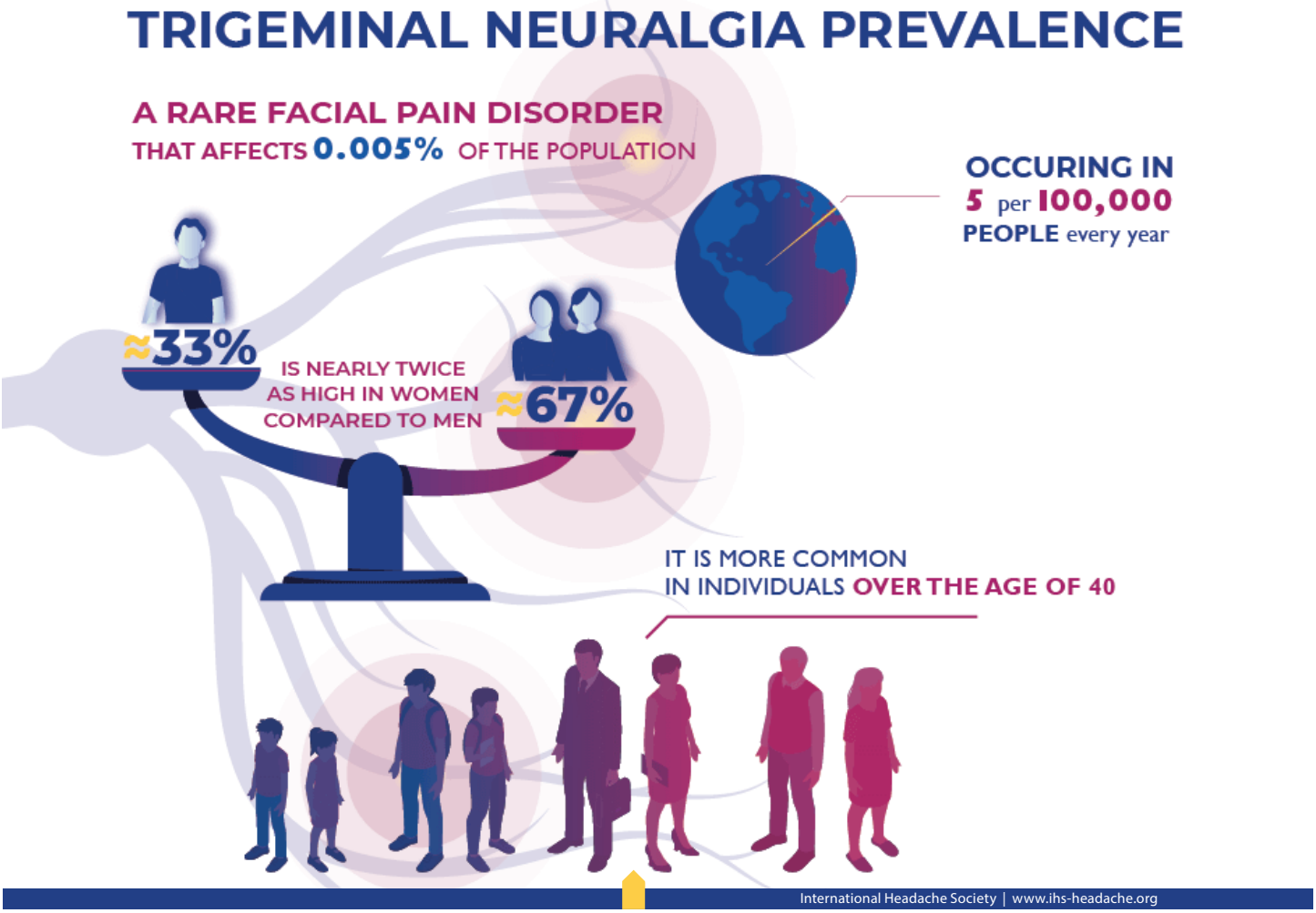
Since the long-term prognosis is poor for these patients with pain lasting for two years after the injury for most of these patients, it is important that dentists practice preventive strategies and consider associated risk factors in the selected patients. The risk factors for developing PTNP are preceding pain of greater severity or duration and psychological factors, particularly fear and past negative dental experiences. Also risks are higher for female patients and older individuals. When PTNP is suspected, the dentist must promptly avoid further intervention, which may worsen the problem, and refer the patient to a specialist.[1]

Trigeminal Neuralgia: The third edition of the International Classification of Headache Disorders (ICHD-3) defines Trigeminal neuralgia as "recurrent severe paroxysmal pain restricted to the trigeminal territory, lasting from a fraction of a second up to 2 min, with the pain described as electric shock-like stabbing, or sharp, and being triggered by innocuous stimuli".[5] Recent classification by the International Headache Society (ICHD3) classified trigeminal neuralgia into three categories: classical, secondary, and idiopathic. TN is the most common



non-dental pain with which dentists are familiar. The onset is usually in older adults; however, there are reported cases in younger patients. Dentists need to rule out any odontogenic conditions causing sharp, shooting pain before deciding on TN. Obtaining a complete health history, reviewing signs and symptoms, and conducting clinical and radiographic examinations allow dentists to provide the information to a specialist since a TN diagnosis requires the above information along with magnetic resonance imaging [MRI].[1]

Advances in MRI technology allow clinicians to differentiate between classical trigeminal neuralgia and secondary and idiopathic trigeminal neuralgia. MRI provides the best method for evaluating any distortion, displacement, indentation, or atrophy resulting from compression by a blood vessel in cases of clinical trigeminal neuralgia. Combining three high-resolution computed tomography sequences and angiography has proven reliable in detecting vascular contacts and predicting root compression diagnosis. The absence of such contacts results in the diagnosis of idiopathic trigeminal neuralgia. In addition, since conventional MRI cannot capture neural structures, advanced MRI techniques such as Diffusion Tensor Imaging provide valuable information about the changes in neural



structure, like demyelination of the trigeminal nerve caused by multiple sclerosis. Such neuroimaging advances can identify primary trigeminal neuralgia by detecting vascular contact of the neural structure versus secondary trigeminal neuralgia caused by a mass that occupies the space in the prepontine cistern of the brain.[5]

There are reported cases of secondary TN caused by metastasis from lymphoma, colon cancer, renal cancer, and esophageal cancer. However, the occurrence of secondary trigeminal neuralgia due to metastasis from breast cancer is relatively rare. Dental professionals need to be aware of them since they pose challenges to diagnosis due to the complexity of their presentation. TN has a higher prevalence in women rather than males, and it is reported that approximately 15% of cases are secondary TN. David Thomas et al. reported a rare case of metastatic breast cancer in a 65-year-old female who presented with a diagnosis of secondary TN. The patient presented with chief complaints of chronic and progressive episodic pain, occurring 2 to 3 times a day, and occasional numbness on the left side of her face for 2 years. The quality of pain is described as "tightening and squeezing sensation" with an intensity of 8 out of 10 on a 1 to 10 visual analog scale (VAS), yet with a slow onset. The reported symptoms usually started under the left eye near the cheek and radiated with a "pins and needles sensation" to suborbital regions. The reported pain lasted for 2 min and was spontaneous or triggered by light touch in the cutaneous area of innervation of cranial nerve (CN) V1 (ophthalmic division of TN), CN V2 (maxillary division of TN), and CN V3 (mandibular division of TN). The patient also reported tearing and redness of the ipsilateral eye, swelling of the eyelid, a "stuffy nose", and flushing and "feeling warm" cheek on the same side. These symptoms are consistent with autonomic features of the cranial nerve. Pt also reported numbness that gradually started two years ago on the skin of the cheek and forehead (CN V1 and CN V2) and later spread intraorally, involving the buccal and palatal gingiva and upper ipsilateral lip. Additional symptoms were periodic episodes of diplopia, dizziness, and ipsilateral tinnitus.[6]

A review of past and present health history revealed that this patient was diagnosed with breast cancer and was treated with surgical unilateral mastectomy 10 years prior followed by chemotherapy for metastatic bone cancer to the left shoulder. In addition, the patient had a surgical procedure for correction of the left eye diplopia three years earlier , which was unsuccessful and didn't improve the motor function of the eye. The patient was also diagnosed with Diabetes Mellitus, for which she takes metformin.[6]

Due to atypical clinical presentations involving multiple CN branches, an MRI of the brain, brainstem, cerebellopontine angle, and trigeminal root entry area to track the TN to Meckel cave with and without contrast was ordered, and the patient was referred to a neurosurgeon. Although a past MRI performed three years earlier to diagnose dizziness and tinnitus showed negative findings, the recent MRI disclosed a "destructive process involving the left petrous apex and Meckel Cave and a probable

involvement of cavernous sinus". The diagnosis was a metastatic lesion involving the Meckel cave, cavernous sinus, and petrous part of temporal bone.[6]

Clinical examination and the CN screening revealed possible abnormalities of CNs III, IV, V, VI, VII, & VIII that were consistent with both imaging results and the neurosurgeon's report, which showed the tumor infiltrating the above CN trunks at the level of the cavernous sinus, prepontine cistern, porus acoustics, and Meckel cave.[6] The tumor was deemed to be a slow-growing mass due to the reported progression of the symptoms over a three-year period; however, due to the extent of areas affected by the tumor, the prognosis was guarded. The patient's final diagnosis was secondary trigeminal neuralgia. Patient started with 100 mg of carbamazepine twice daily, titrated to a total of 600 mg daily, 200 mg TID, and followed up with a neurosurgeon for excision of the metastatic lesion. The use of pharmacopeia in this case was for palliative purposes to manage the patient's pain.[6]

Dental professionals play an integral role in the differential diagnosis of trigeminal neuralgia. Understanding the patient's chief complaints, gathering a complete health history, and comprehensive clinical and radiographic examinations are needed to find out whether the pain is an odontogenic pain, TMD, or presumed TN. A referral to a specialist is necessary for a definitive diagnosis since advanced imaging and MRI are required. Dentists must avoid unnecessary further dental treatments and surgical interventions to avoid inflecting more pain and discomfort for the patients. Management of TN requires a care team approach for coordination of care between the primary dental care provider, the specialist, and the patient, pharmacopeia to alleviate the symptoms, and follow-up care.

References:

1. *Br Dent J.2024 Feb;236(4):323-328. doi: 10.1038/s41415-024-7068-6.Epub 2024 Feb 23. Trigeminal neuralgia and trigeminal neuropathic pain Kevin Ryan 1, Alexander Crighton 2 PMID: 38388612. DOI: 10.1038/s41415-024-7068-6*
2. *Cephalagia. 2018; 38: 1-211. International Headache Society. Headache Classification Committee of the International Headache Society (HIS). The International Classification of Headache Disorders. 3rd edition (ICHD-3).*
3. *Cephalagia. 2020; 40: 129-221. International Headache Society. International Classification of Orofacial Pain. 1st edition (ICOP).*
4. *Pain. 2018; 159: 610-613. Is burning mouth syndrome a neuropathic pain condition? Jaaskelainen S K.*
5. *J Am Dent Assoc. 2022 May;153(5):484-488. doi: 10.1016/j.adaj.2021.06.011.Epub 2021 Sep 4 Facial pain and trigeminal neuralgia secondary to metastasis: A case report. Davis C Thomas, Steven R Singer, Priyanka Kodaganallur Pitchumani, Giannina R Katzmann, Divya Kohli PMID: 34489067 DOI: 10.1016/j.adaj.2021.06.011*
6. *Lancet Neurol 2020; 19: 784-96. Advances on diagnosis, classification, pathophysiology, and management of trigeminal neuralgia. Lars Bendtsen, Joanna Maria Zakrzewska, Tone Bruvik Heinskou, Mojgan Hodaie, Paulo Roberto Lacerda Leal, Turo Nurmikko, Mark Obermann, Giorgio Cruccu, Stine Maarbjerg.*

THE BEACON *informs members about the latest issues affecting dentistry and dental benefits. An annual subscription to the publication is included in your membership fee.*

Documenting The Case

Every. Great. Crime. Drama. Ever… leaves you hanging until the end.

Douglas P. Smith, DDS

Perry Mason, the 1957-1966 CBS Legal Drama1 was exceptional at this. The "Park Avenue Beat" series theme song promotes a tough, jazzy, sophistication in C-minor,[2] and leads into each episode playing over the solitary Perry, played by Aaron Burr, in an empty courtroom visibly contemplating the information on the legal pad he is holding.[3] This sets the tone and draws you into his thinking man's game - where facts matter. Every detail is important: fingerprints and photos, interviews and identification – the Screenwriter made sure every clue was present for Perry to process – proving his client was innocent, and the guilty were so, beyond a reasonable doubt.

The "Dental Claim" is a Perry Mason show of sorts with the Dentist/Provider acting as the "Screenwriter", and the Dental Consultant cast as Perry Mason. Possible episodes include: "The Case of The Calculus Bridge", "The Case of The Abscessed Incisor", "The Case of The Lost Gold (Crown)", and "The Case of The Great Recession". Will these episodes have a satisfying conclusion and approval, or will missing plot points leave Perry with no choice, but to deny the case due to insufficient evidence? Stay tuned, in a show about a "Dental Claim", it is all in the hands of the "Screenwriter" as he creates the perfect screenplay - a complete Dental Record.

So, what exactly is a complete dental record? There is an article on the ADA website titled, "Documentation/Patient Records - Guidelines for Practice Success|Managing Patients|Treatment Recommendations".[4] This article contains 19 bullet points of items that are deemed necessary to be included in a Dental Record. While many of them will come into play during the adjudication of a claim, dealing with all 19 of them is beyond the scope of this article. I will address only a few items that are often missing – holes in the plot, so to speak.

Legal dramas and police procedurals have their plots developed in a screenplay of five acts. Every act plays a role in the successful drama. Every part of claim review and adjudication can also loosely fit into one of these five acts: Exposition, Rising Action, Climax, Falling Action, and Resolution.[5]

Act 1

Act 1 sets the stage and theme[5] for both a television show and a dental claim. For our Perry, it is the submitted claim with the CDT Code(s)6 – the backdrop for all the action to come. CDT code D4341 – There's a bridge of what? That is not the kind of bridge we want. Who is responsible for that? CDT code D3310 – Quick, call the paramedics, we have an emergency here. CDT code D2790 - Did #18 have its gold crown stolen by Sticky from the Saltwater Taffy gang? CDT code D4273 - Did #24 not heed the Homeowner's Association required maintenance program? Problems with the foundation were starting to show, and Mr. Floss, the HOA President, had warned #24 to fix things when it wouldn't cost so much. But it wasn't just the structural loss, it was going to get pricey to fix things. Figuratively and financially the bleeding had started, and #24 found himself exposed and falling into the Great Recession. This is the "what" of the tale and is also sometimes described briefly in the Remarks Section (Box 35) on the ADA Claim Form.[7] The brevity begs the protagonist to investigate.

Act 2

Act 2 is the investigation and processing of the crime scene, the Rising Action.[5] What is Perry looking for? The radiographs, photos, and the corroborating evidence of diagnostic tests and their results.[4]

Is the Abscessed Incisor really abscessed? Is he really dead, or just knocked unconscious by a Peewee League baseball bat? Did anyone probe a little deeper around the edges to see if he was savable or had he already cracked? Is there a record of throwing some ice on him to see if he is even alive? Did anyone tap on his crown and poke his side, or is he throwing an MC Hammer "Can't touch this"[8] attitude? Did the Endodontic Examiner sign the "he's really dead, death certificate", and determine the cause of death?

Full stop – Perry has asked the court for a continuance to gather more information - the dreaded soft denial of the claim. Are there photos? I can't see the fracture on the periapical radiograph, and the perio charting is missing…OH NO!

But what happens when the "Screenwriter" has forgotten to put this information into the script

and there is no processing of the crime scene; no documentation for Perry to ruminate on? Perry will be forced to ask for a mistrial and the court case will get thrown out – the claim will be denied. This is like the entire episode getting axed at the pitch meeting, and unlike a bad script that can be rewritten, it has been said that "If it wasn't charted, it wasn't done".[9] The burden of proof is always on the Provider, the "Screenwriter", telling the story.

However, for our Perry, the resubmission had all the right stuff…

Act 3

Act 3 is the Climax where all the plot threads of the story come together.[5] It is the "aha" moment of the show. Perry has collected all the evidence – like the contemporary periodontal charting, chart notes, and diagnostic radiographs in The Case of the Calculus Bridge.

The courtroom was packed. Perry paused. Slowly, knowingly, and with conviction he turned to the witness stand and confronted Tommy Torpor:

"Tommy," he said sharply, "You neglected those innocent, lower anterior teeth. You watched and did nothing as the Calculus Crew slowly pushed Oscar Osseous and the Gingival Protection Agency off their job site".

"I know. It's true", Torpor sobbed, "But I brushed by every couple of weeks to see how they were doing. I never meant to let it get this bad. It's just so painful now. I know I need help".

Act 4

Act 4 is upon us, and this is called "Falling Action" – the tying up of any loose threads of the plot.[5] Do documents show the actual work was completed, and completed to standard of care? Did #18 get his new Gold Crown delivered, even temporarily? If so, were the margins closed? Did the Abscessed Incisor find a second chance at life after his pulp replacement? Or is there one last twisted canal in the plot that went unnoticed until now, and the Tooth Fairy has another pick-up and claim to make? Did the Calculus Bridge Over the River Kwai[10] really get demolished?

Act 5

Act 5 is our Perry Mason, the Dental Consultant, adjudicating the case; approving or denying the claim and bringing closure to the story arc.[5] Tommy Torpor was finally convicted of needing the D4341, and was given a life sentence of D4910. Indeed, thanks to the "Screenwriter" and to our Perry, #24 did not lose his damaged home. He got pre-approved for a home equity loan from the Palatal Savings and Loan after he submitted all the correct

and complete documentation, including the home appraisal with photos. The repairs will help him to stay in his home for years to come, and he will indeed survive the Great Recession.

So, did the "Screenwriter" write the perfect screenplay? Was the Dental Record complete?

Every. Great. Claim. Drama. Ever…comes together in the end!

Perry Mason:
Some things a lawyer has to do aren't very pleasant. He takes his clients as they come. They're in trouble, so he can't always expect them to tell the truth… He's a fool if he completely trusts any client, but that's beside the point. His job is to believe and to help them as best he can.[11]

Works Cited

1. *"Perry Mason (1957 TV Series)." Wikipedia, Wikimedia Foundation, 3 Mar. 2025, en.wikipedia.org/wiki/Perry_Mason_(1957_TV_series).*

2. *"Park Avenue Beat." Wikiwand, www.wikiwand.com/en/articles/Park_Avenue_Beat. Accessed 7 Mar. 2025.*

3. *Bing, Microsoft, www.bing.com/videos/riverview/relatedvideo?&q=perry%2Bmason%2Bintro%2B1965&mid=B4D97739435A10333D95B4D97739435A10333D95&mcid=32CF5D346E304471992726EF384BB068&FORM=VRDGAR. Accessed 7 Mar. 2025.*

4. *"4f. Documentation Patient Records." American Dental Association, www.ada.org/resources/practice/practice-management/documentation-patient-records. Accessed 7 Mar. 2025.*

5. *"Elements of Plot Development in a Television Police Procedural Screenplay - Ai Overviews." Google, Google, www.google.com/collections/s/list/SRNEVebfyFNfDmj_HKqtjohJOSU0EQ/MzUZTYeKSo8. Accessed 7 Mar. 2025.*

6. *CDT 2025 Current Dental Terminology. American Dental Association, 2025.*

7. *2024 Ada Dental Claim Form Completion Instructions, www.ada.org/-/media/project/ada-organization/ada/ada-org/files/publications/cdt/2024_completioninstructions_adaclaimform_2024.pdf?rev=da5182e766e54bfb96c8c2e86261f57e&hash=EE8C7909A8C9F56FA0C1AE4FF9CB457D. Accessed 7 Mar. 2025.*

8. *Hammer, M C. "U Can't Touch This (Club Mix)." YouTube, youtu.be/E-dRyPm6Vts. Accessed 7 Mar. 2025.*

9. *Spampata, Roger. "DDS Guardian." Sept. 2015.*

10. *"The Bridge on the River Kwai." Encyclopædia Britannica, Encyclopædia Britannica, inc., www.britannica.com/topic/The-Bridge-on-the-River-Kwai-film-by-Lean. Accessed 7 Mar. 2025.*

11. *"'Perry Mason' The Case of the Velvet Claws." IMDb, IMDb.com, 21 Mar. 1963, www.imdb.com/title/tt0673425/?ref_=ext_shr_lnk.*

Addressing Challenges in Military Dental Readiness with Artificial Intelligence

Cynthia V. Feleppa DDS, MAGD

Maintaining dental readiness among U.S. military service members is a challenge. For the civilian or lay person, dental readiness means acceptable or stable oral health. For the military, dental readiness is established after a dental exam and consists of four classifications that range from good oral health to poor oral health and determines whether the individual is prepared for deployment. A service member who is determined to be in poor oral health requires further expediated evaluation and treatment. The implications of poor oral health on unit readiness and financial costs underscore the importance of addressing this issue. By leveraging emerging technologies like artificial intelligence, the military can enhance the efficiency and accuracy of dental assessments, further supporting the operational readiness and resilience of the armed forces.

Leveraging Technology: Artificial Intelligence in Dental Readiness

As the military addresses ongoing challenges in dental readiness, new technologies offer potential solutions. One such tool is artificial intelligence (AI), which could enhance dental care delivery, efficiency, and accuracy across service branches.

Dental readiness assessments involve image analysis and diagnostic procedures that can be time-consuming and prone to human error. AI has the potential to enhance these evaluations by quickly processing large volumes of data, such as radiographs, and recognizing patterns to identify potential dental diseases in real-time. This technology

can improve diagnostic accuracy, support clinical decision-making, and streamline treatment planning, ultimately advancing how the military manages oral health and dental evaluations.

As global security challenges grow, maintaining an operational ready force is critical. By leveraging AI capabilities, the military can enhance its ability to address dental readiness challenges and ensure service members are prepared to meet future demands.

Integrating AI into the military dental healthcare system is a practical step towards improving the efficiency and precision of dental diagnostics for service members. By reducing human error and saving time, AI can ensure high-quality care and bridge gaps in dental readiness across the active duty and reserve components.

Dental Readiness Across Active Duty and Reserve Components

Excellent oral health amongst our military service members is a force multiplier, as it leads to fewer dental emergencies within garrisons (permanent military bases) and during deployments. Dental readiness is a critical component of a service member's Individual Medical Readiness (IMR), which affects overall unit readiness and the ability to meet combatant commander requirements. The more service members that are dentally fit for duty means that there are more soldiers, sailors, airmen, and Marines who are focused on the mission (Teweles et al., 1987).

Oral health and dental readiness are vital components of military preparedness, directly impacting a service member's ability to deploy globally. Maintaining

optimal dental health across the U.S. armed forces has proven to be a persistent challenge, with significant implications for both individual readiness and overall military effectiveness.

In 2008, only 20% of U.S. Army soldiers were estimated to have good oral health. Oral diseases are prevalent within the military population, particularly among recruits and service members returning from combat operations. Almost all new recruits enter the military needing dental treatment. The financial implications are substantial, with estimated costs for achieving oral health in the active-duty military population reaching $1.9 billion in 1999. Breaking it down even further and looking at deployment settings, Colthirst et al. found that between June 2009 and June 2011 a cost of $1.8 million per month was spent on dental emergencies.

The Reserve Component, comprising almost half of the U.S. Armed Forces, faces unique challenges in achieving satisfactory dental readiness. Unlike their active-duty counterparts, reservists lack access to continuous preventative dental care. This disparity is reflected in readiness statistics, with only 47% of the Reserve Component meeting full medical readiness standards in 2009, compared to 72% of active-duty forces. Between 2001 and 2012, approximately 20% of Guard and Reserve troops were marked nondeployable at some point due to dental issues, with an additional 15% separated from the military for the same reason.

Efforts to improve dental readiness have shown promising results, particularly in the Army Reserve Component. The implementation of a new program, the Army Selected Reserves Dental Readiness System (ASDRS) in 2009, which funded treatment of deployment-limiting dental conditions for non-alerted Reserve Component Soldiers, led to a significant improvement in dental readiness. From below 50% pre-2008, readiness levels rose to 94.1% by January 2020. However, the COVID-19 pandemic caused a setback, with readiness levels dropping to 89.3% for the Army National Guard and 81.6% for the Army Reserve by June 2023.

The Department of Defense (DoD) has set specific goals for medical readiness, including maintaining greater than 75% of service members that are fully medically ready for the Reserve Component and a Total Force Medical Readiness (TFMR) rate of 90% or higher for each military force or branch.

As the U.S. military continues to rely heavily on both active-duty and reserve forces for global operations, the need to improve dental readiness remains essential. Finding effective solutions will require innovative strategies, increased resources, and a renewed focus on preventative care across U.S. Armed Forces. Addressing obstacles such as time constraints, expenses, limited access to healthcare providers, and inconsistencies in readiness procedures will be crucial in bridging the readiness gap between active-duty and reserve forces.

Understanding Dental Readiness Classification (DRC)

The DoD uses a dental readiness classification system to assess the status of a service member's oral health, resulting in a designated DRC for each service member. The four categories are:

DRC 1 – Service members have a current dental readiness assessment (dental exam) and do not require dental treatment or re-evaluation. DRC 1 service members are fully medical ready (FMR) regarding their dental health and require no additional action or support.

DRC 2 – Service members have a current dental readiness assessment (dental exam) and require non-urgent dental treatment or re-evaluation, for example, routine dental restorative procedures and cleanings. DRC 2 service members are FMR regarding their dental health and require no additional urgent action or support.

DRC 3 – Service members require treatment of an urgent or emergent dental condition to be FMR, for example, treatment of symptomatic pulpal conditions and wisdom teeth. DRC 3 service members are considered Non-Medically Ready (NMR) and require immediate actions to correct the condition upon identification. DRC 3 service members will be categorized as "temporary non-deployable" until the condition is resolved. If the service member's oral condition is not resolved to meet DRC 1 or 2, the service member may be placed in a duty limiting medical condition (DLMC) status (temporary non-deployable) in accordance with service-specific policy.

DRC 4 – This category is for service members that are overdue for their annual dental readiness assessment (dental exam). DRC 4 service members are considered partially medically ready (PMR) and will require their dental exam immediately upon being identified. The service member's annual dental readiness assessment remains current for 12 months past the last completion date, with a 90-day grace period to allow for unplanned periods of leave, temporary duty, deployments, or other periods of unplanned non-availability before being classified as overdue (DoDI 6025.19, 2022).

Conclusion

By understanding and addressing dental readiness within the military, we can ensure that our service members are medically fit and ready to deploy, ultimately enhancing the overall operational readiness and resilience of the armed forces.

Maintaining dental readiness among U.S. military service members is a complex yet vital aspect of overall force preparedness. The ability to swiftly assess and address oral health issues directly impacts not only individual well-being, but also unit operational capability. As emerging technologies offer promising workflow modalities to enhance diagnostic accuracy, efficiency, and preventive care, the military is well-positioned to innovate its approach to dental readiness management. By investing in these advanced solutions and emphasizing continuous preventive care, the armed forces can reduce the financial and operational burdens of dental emergencies, ensuring that all service members remain mission ready. Ultimately, a robust commitment to improving dental readiness will strengthen the resilience and effectiveness of the military forces, safeguarding national security in an increasingly challenged geo-political landscape.

References:

1. *Bachman JA, Tempel, Jr. TR, Oates ER. Army Reserve Component Dental Health and Readiness. North Carolina Medical Journal. 2023;84(6). doi:10.18043/001c.89202*

2. *Brauner, Medical Readiness of the Reserve Component; Rand Health Quarterly, 2012 Summer 2(2):7*

3. *Chaffin JG, et al. First-Term Dental Readiness. Military Medicine. January 2006: 25-28*

4. *Chisick MC, Piotrowski MJ. Estimate Cost of Dental Treatment for Active Duty and Recruit U.S. Military Personnel. Military Medicine. January 2000: 70-71*

5. *Colthirst PM, Berg RG, Denicolo P, Simecek JW. Operational cost analysis of dental emergencies for deployed US Army personnel during Operation Iraqi Freedom. Mil Med. 2013; 178(4): 427–31. 10.7205/ MILMED-D-12-00431*

6. *Deutsche WM. Dental Events during Periods of Isolation in the U.S. Submarine Force. Military Medicine suppl. January 2008: 32-33*

7. *Khanagar, et al. 2020. 'Developments, application, and performance of artificial intelligence in dentistry – A systematic review', Journal of Dental Science, 16: 508-22*

8. *Mahoney GD, Coombs M. A Literature Review of Dental Casualty Rates. Military Medicine. October 2000: 752*

9. *Schwendicke F, et al. 2015. 'Radiographic caries detection: a systematic review and meta-analysis', Journal of Dentistry, 43: 924-33*

10. *Simecek J, et al. 2014. 'The Incidence of Dental Disease Nonbattle Injuries in Deployed U.S. Army Personnel', Mil Med, 179(6):666-73*

11. *Teweles RB, King JE. Impact of troop dental health on combat readiness.*

TMJ Disorder

An Introspective look at Traumatically Induced Temporomandibular Joint Dysfunction

Dr. Howard Jay Kirschner, FACD, CDC

Dr. Kirschner was formerly on the staff at Mt. Sinai Hospital, NYC, and Coney Island Hospital. He is currently in private practice in Rockaway, NY treating underprivileged patients. He is a member of the Pierre Fauchard Academy.

Introduction

"Traumatically Induced Temporomandibular Joint Dysfunction" is a diagnosis that is ever more popular as an injury allegedly sustained from vehicular accidents. A popular treatment for this alleged condition consists of wearing plastic occlusal appliances; some patients even undergo temporomandibular joint surgical procedures. The question arises as to whether this diagnosis is valid or invalid, and whether the treatments rendered are of true therapeutic benefit to the patient.

Temporomandibular Joint Definition

The temporomandibular joints are biomechanical hinges having only two functions-- opening and closing the mouth. The condylar process only moves straight forward and back within the fossa. It cannot move laterally. Movement on one side accomplishes rotational movement, while the other side remains stationary.

How The Temporomandibular Joints Are Injured

In order to injure the temporomandibular joints, they must sustain
an abnormal physical stress in one of their two functions:

A. Over-Closure

The joints cannot stress by over-closure, because the mouth can close only until the teeth occlude. Such degree of closure would be within normal limits for the individual. A trauma to the jaw may cause traumatic closure of the mouth, with perhaps the chipping of teeth, but would not cause an over-closure. Even traumatic closure would not cause any abnormal physical stress to the temporomandibular joints. "Overclosure'' is a stress that does not exist.

B. Over-Opening

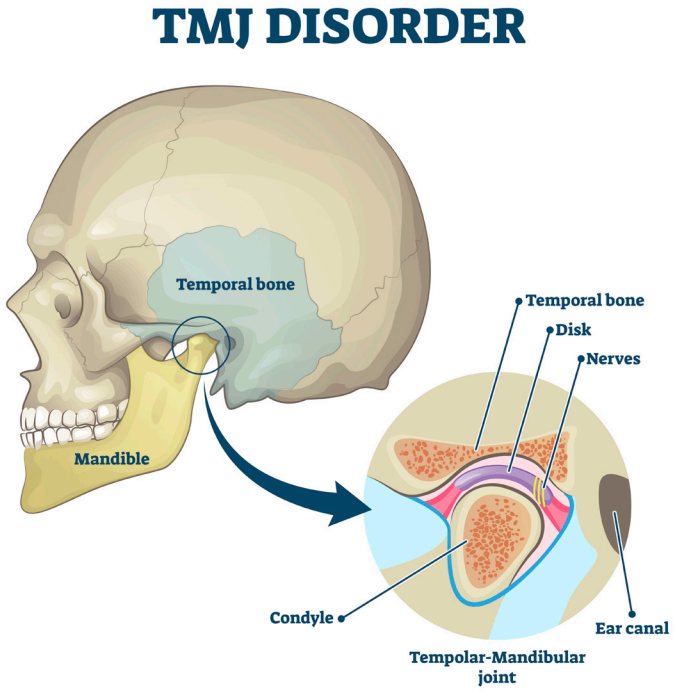
The hypothesis exists that stress on the joint could result from abnormally wide opening, or by over-opening. The fact is that in accidents, or stressful occurrences, the reaction is to tense and clench the teeth together. I never encountered any report or instance wherein an accident victim's mouth subluxated and remained stuck open. We know this to be true, because generally the patient is capable of speaking with people at an accident scene, and/or to people at the emergency room. This proves the jaw did not subluxate, and did not sustain the abnormal physical stress of over opening.

The concept of over-opening is also known as mandibular whiplash,
or hyper-flexion/extension. It suggests that the mouth opened wider than it ever could open normally. The widest a mouth normally opens is in the act of a yawn, at which time the condyle moves to the forward most aspect of the condylar fossa.

In order to over-open the mouth, it would be necessary for the mouth to open wider than that of a yawn. This would place the condylar process forward of the fossa, out of the fossa, and into a position known as subluxation, which is characterized by the mouth becoming stuck in an open position. The person would then have to seek professional assistance to get the jaw back into its socket. This would involve the use of a general anesthetic. This has never happened, to my knowledge, in relation to an accident.

Masticatory Muscle Injury

If there was no over-opening of the mouth, then there was no hyperextension of the muscles of mastication and, therefore, no sprain or strain



thereof. This would mean that any pain allegedly present in the muscles of mastication would have to be a secondary site of neurologically referred pain, from a primary source elsewhere in the body. It is this referred pain, which is so often improperly attributed to the TM joints necessitating needless, ineffective treatment.

Other Source Of Pain

It is always incumbent upon the practitioner to determine if the site of the pain is the source of the pain. This is especially important in cases where there is bilateral pain in the absence of bilateral trauma. It is my opinion that when there is bilateral pain in the absence of bilateral trauma, then referral of such pains is neurological from a source common to the right and left side of the head and jaw, such as the cervical nerve plexus.

The Cervical Nerve Plexus

The cervical nerve plexus gives rise to the Great Auricular and Transverse Cervical Cutaneous Nerves at the Cervical Level C2/3. These nerves go up to the jaw from the neck. The Great Auricular Nerve divides at the Gonial Angle into the anterior and posterior divisions, which extend in front of and behind the ears. The patient experiences pain at the Gonial Angles of the jaw, radiating up to and in front of the ears, to the temples, and or, behind the ears. The Transverse Cervical Cutaneous Nerve causes pain along the inferior border of the mandible.

The manifestations of these pains are constant and are unaffected by the mandibular movement. They are present even if the patient is sitting perfectly still, without moving the jaw. Jaw movement has no effect on the pain. It would be incorrect to attribute the pain to the temporomandibular joints, or the function thereof, because the pain is unaltered by jaw movement. This is one of the means to help discriminate as to whether the pains are dental in origin.

Condylar Position

If there is no abnormal movement of the temporomandibular joint, then there is no disturbance of the position of the component structures therein. The condyle position is solely a factor of the occlusal bite relationship between the upper and the lower jaw teeth. The condylar process is part of the mandibular jawbone, which articulates with the skull by the interdigitation between the upper and the lower jaw teeth. As long as the occlusal bite relationship between the upper and lower jaw teeth is the same before and after the accident, and even at the time of the clinical examination, many years later, it would be possible to state unequivocally, that the position of the condyle within the fossa is unchanged, and thus unchanged by the accident.

Occlusion And Condylar Position

I can state with absolute dental certainty that if the occlusion is unchanged by the accident, then the position of the condyle and the meniscus is unchanged and unaltered by the accident. Therefore, it does follow that MRI or other radiological reports suggesting “displacement of

disc" are reporting pre-existing condylar articular relationship.

The concepts of "displacement of disc" and "internal disc derangement" suggest that the accident altered the position of these structures. This concept originates from the radiological reports that use the terms, "displacement of disc," "anterior displacement of disc," or "internal derangement."

Displacement Of Disc

"Displacement of Disc" refers to the inherent, eccentric, closed mouth position of the disc. The disc's position is of no clinical significance within the condylar fossa in the closed mouth because the closed mouth is a neutral, non-functioning, and non-working position of the temporomandibular joints. The important aspect is what happens when the mouth opens in function.

If the patient has the ability to open the mouth, it means there is condylar movement forward within the condylar fossa, and that constitutes normal condylar articular function/movement for the individual. Whether the condyle and disc are reducing or nonreducing does not matter because such an articular relationship is inherent to the patient. Trauma cannot cause a non-reducing disc.

We must remember that as long as the occlusal relationship between the upper and the lower jaw teeth is unchanged by the accident, then the position of the condyle within the fossa is unchanged. The disc attaches to the condylar head and positions within the condylar fossa relative thereto. When the condyle's position is posterior or superior within the fossa, then the bulk of the disc tissue must be anterior thereto, because there is just no room within the condylar fossa for the disc's position anywhere else.

The reference to "displacement" of the disc does not imply a change of disc position. "Displacement" is a radiological term that refers to an off centered position of the disc at the time of the radiological study.
Displacement, radiologically speaking, indicates that the structure in question is "off center/not centered" and does not suggest an alteration in the position of the structure in question. A more appropriate and accurate word for the radiologist to use would be the word "position" The radiologist attempts to describe the position of the disc as "off center," when referring to ''displacement". It is wrong to misinterpret the word "displacement" to imply a change of disc position. A reference to "displacement" on an MRI report is not a valid basis to recommend surgery and is not the source of any dysfunction that would necessitate surgery.

Figure 1 (page 40) shows a letter I received from Dr. Kuchta, a radiologist with the Magnetic Resonance Imaging of Quens, P.C.. Although the letter was sent back in 1993, there has been no change in the definition of the term "displacement" as it relates to the temporomandibular joint.

As long as the occlusal bite relationship is unchanged, the position of the condyle and the disc are unchanged within the fossa. The position of the disc is inherent to the individual. There is great

MAGNETIC RESONANCE IMAGING OF QUEENS, P.C.
167-20 Union Turnpike, Flushing, New York 11366

Tel (718) 969-8430
Fax (718) 969-8230

Louis Katz, M.D.
David P. Gerstman, M.D.
A. R. Ramchandran, M.S., M.D.
Steven Kuchta, M.D.
Mindy Pfeffer, M.D.

February 1, 1993

To Whom It May Concern:

The purpose of this memo is to clarify the use of the word displacement as used in general in reporting abnormal findings on magnetic resonance imaging of temporomandibular joints regarding the temporomandibular meniscus or disc. The term displacement refers to the position of the meniscus at the time of the imaging procedure, not to the act of displacing, nor to the underlying mechanism giving rise to the abnormal position. Specifically, the term anterior displacement refers to anterior position.

Sincerely yours,

Steven Kuchta, M.D.

SK/cm
2/1/93

latitude in the condylar position within the fossa, because such condylar position is a factor of the occlusion or the bite.

The human population presents with a great variety of occlusal bite relationships, therefore, there is great latitude in condylar position within the fossa to accommodate those varied occlusal relationships. The condyle or disc's position within the fossa is of no clinical significance. The important factor is that if the patient is capable of opening and closing, there is nothing wrong with the temporomandibular joints. The closed mouth disc position is entirely irrelevant.

Joint Sounds

The articular disc attaches to the circumference of the condylar head, and its position within the fossa is relative thereto. This means that the articulation of the condyle and the disc is unchanged by the accident, and any sounds produced by the movement of those component structures of the temporomandibular joints after the occurrence of the accident must be sounds that were present prior to the accident and are inherent to the individual.

There are no nerves on the articulating surfaces of the disc. If there were, then every time we move our jaw, we would cause impingement of those nerves and pain on condylar movement. We can state with absolute scientific certainty that there are no blood vessels or nerves on the articulating surface of the articular disc. The significance of this is there can be no inflammation without blood vessels and lymph. This substantiates that any claim of capsulitis, or discitis as being unscientific.

Capsulitis

The condition of capsulitis implies inflammation of the fibro cartilage tissue of the articular disc. This inflammation allegedly occurs due to trauma to the disc by either over-opening or over closing the mouth. We must remember that there could be no impingement on the disc through over-closure, because the mouth can only close until the top and bottom teeth come together. Such a degree of closure would be normal for the individual and thus, protective of the disc tissue.

On alleged over-opening, there would be movement of the condyle onto the thicker aspect or anterior zone of meniscal tissue and there would not be any trauma incurred thereby. The act of over--opening is not traumatic, and the mouth would not traumatically over-open. In the absence of blood vessels and lymph in the fibrocartilage tissue, there cannot be inflammation of the joint capsule. This means that the alleged condition of capsulitis, or inflammation of the joint capsule tissue, is a diagnosis of a totally hypothetical condition.

Condylar Abnormalities

Any remodeling, flattening, or degenerative process of the condylar head represents pre-existing conditions entirely inherent to the patient. Remodeling occurs over the course of many years and cannot appear on an x-ray taken shortly after the accident. We must be cognizant that trauma to the jaw will result in traumatic closure of the teeth, but that degree of closure is within normal limits for the temporomandibular joints. That degree of closure protects the components of the joints from trauma.

There is no trauma to the temporomandibular joints when there is a traumatic closure of the mouth. All remodeling is inherent and not traumatically induced.

Additionally, temporomandibular joint arthritis is not accident-- related and would not be evident on x-rays taken shortly after the accident. In fact, there can be no arthritis of the temporomandibular joints, because the joints are not bone-to-bone contact, but have a fibro-cartilage meniscus/disc separating the bones and protecting the floor of the midbrain. Most articular condylar abnormalities are inherent, and not attributable to trauma, or the trauma from a motor vehicle accident.

Disc Anatomy

The disc or meniscus tissue is comprised of fibrocartilage and is devoid of blood vessels and nerves on its articulating surfaces. If there were blood vessels, then every time we would move our jaw, we would cause hemorrhaging of those blood vessels and constant bleeding into our temporomandibular joints. This never occurs.

A further refutation of the concept of capsulitis or discitis lies in the fact that, if there were inflammation of those structures, the patient would experience excruciating pain in the closed mouth position. The closed mouth position is the tightest/most compact position for all the component structures of the temporomandibular joints. If there were inflammation of the joint capsule, or the discal tissue, then every time the patient would close the mouth, the patient would experience excruciating pain. In an auto accident the driver will tense, jam on the brake, and grip the steering wheel tightly. The driver will tense his body, arms, and neck. The driver will also clench his teeth together, thereby preventing the occurrence of alleged over- opening or hyper-extension. Often the teeth will close traumatically and cause chipping. Even if the jaw should allegedly hit the steering wheel, the teeth would traumatically close, possibly causing tooth chipping, but without stress or trauma to the TM joints. A clenched, closed mouth is protective of the TM Joints, and there can be no injury thereto.

Conclusion

It is my opinion that there is no such condition as traumatically induced temporomandibular joint dysfunction or any variation of that condition such as myofascial pain dysfunction or any other combination of alleged symptoms. There can be no injury to the muscles of mastication that require any physical therapy or treatment by a dentist. There is never a spasm of the muscles of mastication and the fact that the patient has pain on palpation of a muscle of mastication does not constitute documentation that that muscle is in a state of spasm. That pain is a myalgia or neurologically referred pain from a primary source elsewhere in the body.

The entire concept of temporomandibular joint dysfunction is attributable to the promulgation of the no-fault fee schedule in the 1970's. Before the invention of the no-fault schedule, there did not exist any traumatically induced temporomandibular joint dysfunction. Of course, we recognize the truism that temporomandibular joint dysfunction is a condition unique only to the plaintiff in a lawsuit.

The American Association of Dental Consultants
1971 Chesterfield Ridge Circle
Chesterfield, MO 63017