Annual '24

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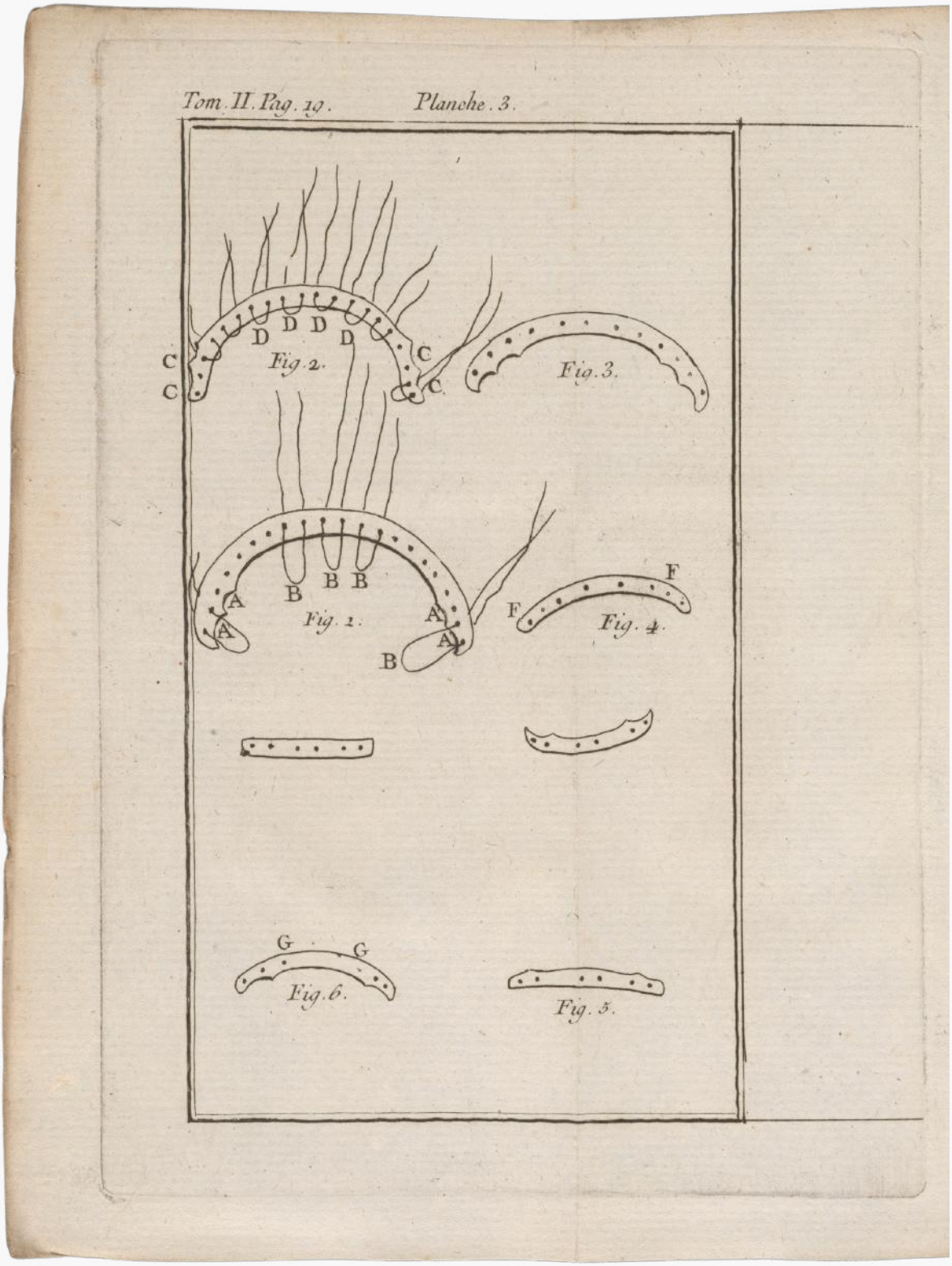

DENTAL PROSTHETICS, M. BOURDET, 18TH CENTURY.

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LETTER FROM THE EDITOR

Dear Readers,

As we usher in another exciting year, it is my honor to present to you our annual issue of Dente Magazine, a special edition dedicated to the intertwined worlds of Periodontology and Prosthodontics. These two fields, both cornerstones of modern dentistry, have not only shaped the way we restore and maintain oral health but have also redefined what it means to give patients their smiles—and their confidence—back.

In this issue, we journey through the rich history of these disciplines, tracing their evolution from ancient techniques to the state-of-the-art innovations we see today. From the pioneering efforts that laid the groundwork for periodontal therapies to the transformative advancements in prosthodontics, our retrospective articles aim to honor the visionaries whose work continues to inspire us.

Of course, dentistry is as much about the future as it is about the past. That is why we delve into the cutting-edge technologies and techniques that are revolutionizing Periodontology and Prosthodontics. This issue offers a glimpse into the innovations that are setting new standards of care.

At the heart of this special edition is our cover feature: Dr. Sarah Balaster. A luminary in the field, Dr. Balaster's career embodies the excellence and innovation in Periodontology. Her dedication to advancing patient care and her groundbreaking contributions to periodontology treatment modalities are worth highlighting. Through an in-depth profile, we celebrate her journey, her achievements, and her vision for the future of dentistry.

Dr. Sarah Balaster, Cover Story

This issue is not just a celebration of two remarkable specialties but also a testament to the collaborative spirit that defines our profession. As you read through these pages, I hope you find inspiration, knowledge, and a renewed sense of purpose in your own practice.

Thank you for being a part of the Dente community. Together, we continue to shape the future of dentistry, one innovation at a time.

Warm regards,

Carl Demadema
Editor-In-Chief

DR. ALLEN HONIGMAN IS A BOARD-CERTIFIED PERIODONTIST AND DIPLOMATE OF THE AMERICAN BOARD OF PERIODONTOLOGY. ORIGINALLY FROM OTTAWA, CANADA, HE HOLDS ADVANCED DEGREES IN BIOCHEMISTRY, GENETICS, AND MICROBIOLOGY. DR. HONIGMAN IS A FULL-TIME FACULTY MEMBER AT RUTGERS SCHOOL OF DENTAL MEDICINE AND A CLINICAL INSTRUCTOR FOR THE INSTITUTE OF ADVANCED LASER DENTISTRY. RENOWNED FOR HIS EXPERTISE IN LASER-ASSISTED PERIODONTAL AND IMPLANT THERAPIES, HE HAS LECTURED NATIONALLY AND INTERNATIONALLY, SHARING HIS KNOWLEDGE OF CUTTING-EDGE TECHNIQUES LIKE LANAP AND LAPIP. WITH A PASSION FOR TEACHING AND INNOVATION, DR. HONIGMAN CONTINUES TO SHAPE THE FUTURE OF PERIODONTAL CARE THROUGH EDUCATION AND CLINICAL EXCELLENCE.

Dr. Allen Honigman

DR. RICHARD AMATO BRINGS OVER 35 YEARS OF EXPERIENCE TO THE FIELD OF PERIODONTICS, HAVING ESTABLISHED HIMSELF AS A PIONEER WITH A COMMITMENT TO ADVANCED TECHNOLOGY. HE EARNED HIS DDS FROM STONY BROOK UNIVERSITY SCHOOL OF DENTAL MEDICINE AND COMPLETED HIS POST-DOCTORAL TRAINING IN PERIODONTICS AT EASTMAN DENTAL CENTER. DR. AMATO WAS THE FIRST PERIODONTIST IN CONNECTICUT TO OFFER LANAP® AND LAPIP™ LASER TECHNIQUES, WHICH ALLOW FOR MINIMALLY INVASIVE TREATMENT OF GUM DISEASE AND PERI-IMPLANTITIS. HIS PRACTICE ADVANCE PERIODONTICS AND DENTAL IMPLANT CENTER OF CONNECTICUT FEATURES STATE-OF-THE-ART TOOLS, INCLUDING AN IN-OFFICE CBCT SCANNER FOR PRECISE 3D IMPLANT PLANNING.

Dr. Richard Amato

KRISTEN RANALDO, A PERIODONTAL HYGIENIST WITH OVER A DECADE OF EXPERIENCE IN NEW YORK, FOCUSES ON DENTAL ENDOSCOPY, A MINIMALLY INVASIVE TECHNOLOGY THAT PROVIDES A MAGNIFIED VIEW BENEATH THE GUM LINE FOR PRECISE PERIODONTAL TREATMENT. HER CAREER IS DEDICATED TO IMPROVING PATIENT OUTCOMES BY OPTIMIZING SURGICAL AND NON-SURGICAL TREATMENTS, ENSURING EFFECTIVE REMOVAL OF SUBGINGIVAL CALCULUS, AND REDUCING THE NEED FOR INVASIVE PROCEDURES. KRISTEN HAS EXTENSIVE EXPERTISE IN IMPLEMENTING ADVANCED TECHNOLOGIES IN DENTAL PRACTICES, TRAINING TEAMS, AND ENHANCING WORKFLOWS TO IMPROVE CARE. CERTIFIED IN LASERS FOR RDH AND GUIDED BIOFILM THERAPY (GBT). SHE IS ALSO A RESPECTED SPEAKER, TRAINER, AND CONSULTANT. PASSIONATE ABOUT EMPOWERING DENTAL HYGIENISTS, KRISTEN STRIVES TO ELEVATE THE STANDARD OF CARE AND EXPAND ACCESS TO INNOVATIVE PERIODONTAL TREATMENTS.

Kristen Ranaldo

LINDA RHOADES IS A SEASONED DENTAL HYGIENIST WITH 42 YEARS OF CLINICAL EXPERIENCE, INCLUDING 22 YEARS IN A PERIODONTAL PRACTICE, WHERE SHE CURRENTLY SERVES AS DIRECTOR OF EDUCATION. A FORMER FULL-TIME FACULTY MEMBER AT FORTIS COLLEGE DENTAL HYGIENE PROGRAM, LINDA HAS DEDICATED HER CAREER TO MENTORING AND EDUCATING DENTAL PROFESSIONALS. SHE IS THE FOUNDER OF TWO DENTAL STUDY CLUBS, THROUGH WHICH SHE OBTAINED PACE CERTIFICATION TO GRANT CE CREDITS, AND SHE HAS COACHED GROUPS IN FLORIDA PURSUING THE SAME CERTIFICATION. A PASSIONATE SPEAKER AND WRITER, LINDA HAS PUBLISHED ARTICLES IN RDH MAGAZINE, RDH E-VILLAGE, AND DENTAL IQ, AND SHE IS A FELLOW OF THE AMERICAN DENTAL HYGIENISTS' ASSOCIATION (ADHA) AS WELL AS A MEMBER OF THE AMERICAN DENTAL EDUCATORS ASSOCIATION. RECOGNIZED FOR HER CONTRIBUTIONS TO THE FIELD, SHE RECEIVED THE ADHA'S PRESTIGIOUS IRENE NEWMAN AWARD FOR CLINICAL EXCELLENCE IN 2021. LINDA AUTHORED A BOOK ABOUT IRENE NEWMAN, THE WORLD'S FIRST DENTAL HYGIENIST, RELEASED IN SEPTEMBER 2024.

Linda Rhoades

DR. CRAMER IS BOARD-CERTIFIED SPECIALIST IN PERIODONTOLOGY AND DENTAL IMPLANT SURGERY. SHE IS SKILLED IN ALL ASPECTS OF TREATING PERIODONTAL DISEASE, CORRECTION OF GUM RECESSION, AND PLACEMENT OF DENTAL IMPLANTS. SHE HAS A SPECIAL INTEREST IN REGENERATIVE PERIODONTAL THERAPIES TO REGROW JAWBONE THAT HAS BEEN LOST DUE TO PERIODONTAL DISEASE OR LOST BY REMOVAL OF TEETH.

DR. CRAMER COMPLETED HER PERIODONTAL RESIDENCY AND MASTER'S IN ORAL BIOLOGY AT TEMPLE UNIVERSITY IN PHILADELPHIA PA. SHE OBTAINED HER DENTAL TRAINING AND DMD DEGREE AT THE UNIVERSITY OF FLORIDA COLLEGE OF DENTISTRY IN GAINESVILLE. DR. CRAMER ALSO COMPLETED HER UNDERGRADUATE TRAINING AT THE UNIVERSITY OF FLORIDA AND GRADUATED WITH DUAL BACHELOR OF SCIENCE DEGREES IN MICROBIOLOGY AND CELL SCIENCE AND PSYCHOLOGY.

Dr. Nina Cramer

THE HISTORY OF PERIODONTICS

HIPPOCRATES. ENGRAVING

COURTESY OF THE WELCOME COLLECTION

ANCIENT ORIGINS

- *3000–1500 BCE:* EARLY EGYPTIAN WRITINGS REFERENCE TREATMENTS FOR ORAL DISEASES, INCLUDING GUM AILMENTS. THE EDWIN SMITH PAPYRUS, ONE OF THE OLDEST MEDICAL TEXTS, INCLUDES DESCRIPTIONS OF ORAL CARE.

- *400–300 BCE:* GREEK PHYSICIANS LIKE HIPPOCRATES AND ARISTOTLE MENTIONED GUM DISEASES AND METHODS TO CLEAN TEETH, SUCH AS USING POWDERS.

- *100 CE*: THE ROMANS, PARTICULARLY CELSUS, DOCUMENTED PROCEDURES LIKE SCRAPING TEETH TO REMOVE TARTAR.

THE SURGICAL TREATISE, COLUMN XV

The Edwin Smith surgical papyrus : published in facsimile and hieroglyphic transliteration with translation and commentary in two volumes / by James Henry Breasted.

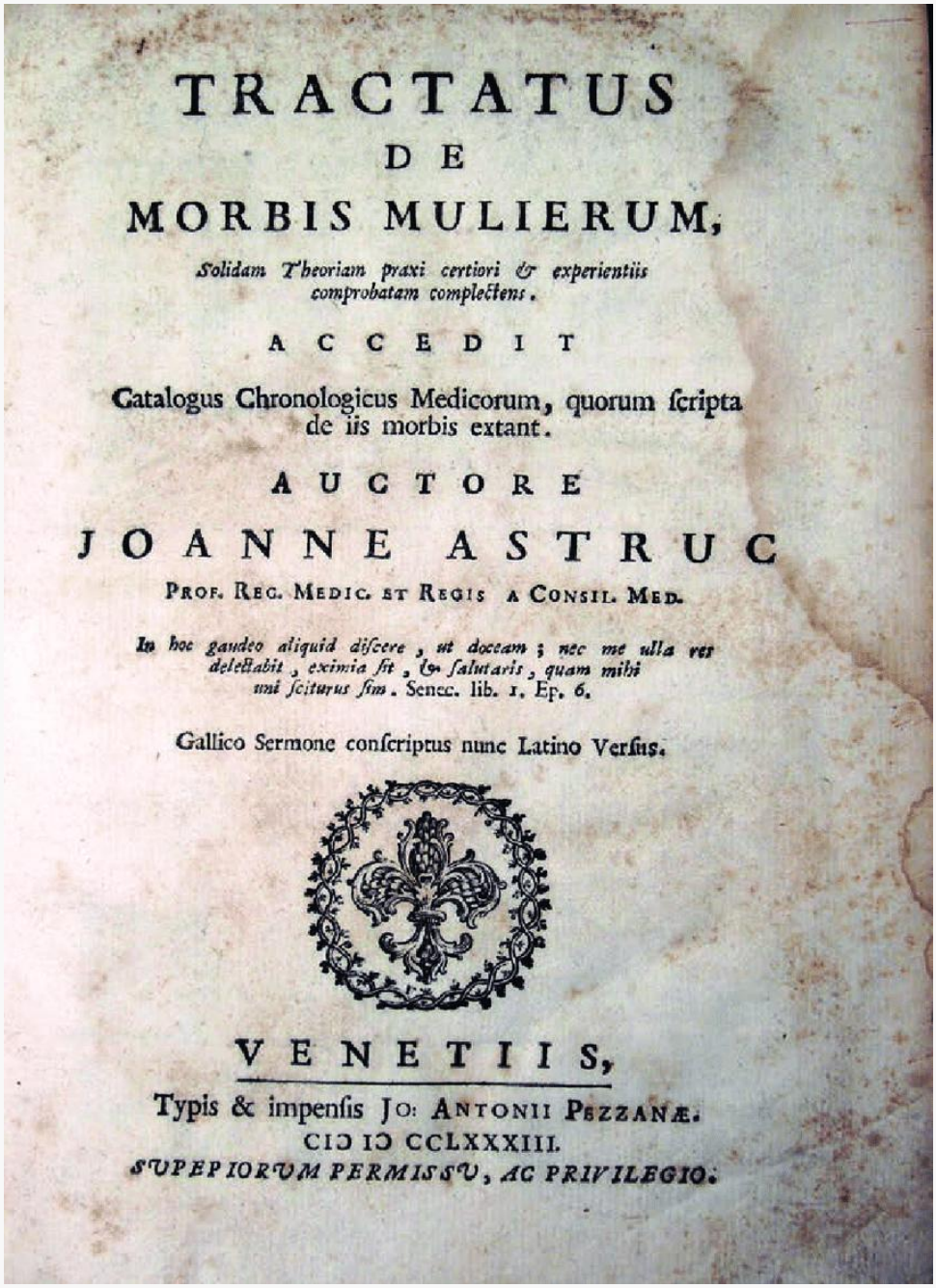
COURTESY OF THE WELLCOME COLLECTION

The Edwin Smith Papyrus, dating to around 1600 BCE, is among the oldest known medical texts, focusing primarily on trauma surgery. While it predominantly addresses injuries to the head, neck, and upper body, it also provides insights into ancient Egyptian approaches to oral and maxillofacial conditions.

Mandibular Dislocation Treatment

One notable section describes the management of a dislocated mandible:

"If you examine a man having a dislocation in his mandible and you find his mouth open and his mouth does not close for him, you then place your fingers on the back of the two rami of the mandible inside his mouth, your two claws under his chin, you cause them to fall so they lie in their correct place."



TRACTATUS
DE
MORBIS MULIERUM,

Solidam Theoriam praxi certiori & experientiis comprobatam complectens.

ACCEDIT

Catalogus Chronologicus Medicorum, quorum ſcripta de iis morbis extant.

AUCTORE

JOANNE ASTRUC

PROF. REG. MEDIC. ET REGIS A CONSIL. MED.

In hoc gaudeo aliquid diſcere, ut doceam; nec me ulla res delectabit, eximia ſit, & ſalutaris, quam mihi uni ſciturus ſim. Senec. lib. 1. Ep. 6.

Gallico Sermone conſcriptus nunc Latino Verſus.

VENETIIS,

Typis & impenſis JO: ANTONII PEZZANÆ.
CIↃ IↃ CCLXXXIII.
SUPERIORUM PERMISSU, AC PRIVILEGIO.

COURTESY OF THE WELLCOME COLLECTION

Hippocrates (c. 460–377 BCE):

Often referred to as the ***"Father of Medicine,"*** Hippocrates is believed to have recommended dental powders for cleaning teeth. His work **De Morbis Mulierum** (On the Diseases of Women) is cited as containing such recommendations. However, direct excerpts are limited. Secondary sources note:

"**Hippocrates (460-377 BCE)** is generally considered to be the first physician to recommend the use of dentifrice in his text De Morbius Mulierum."

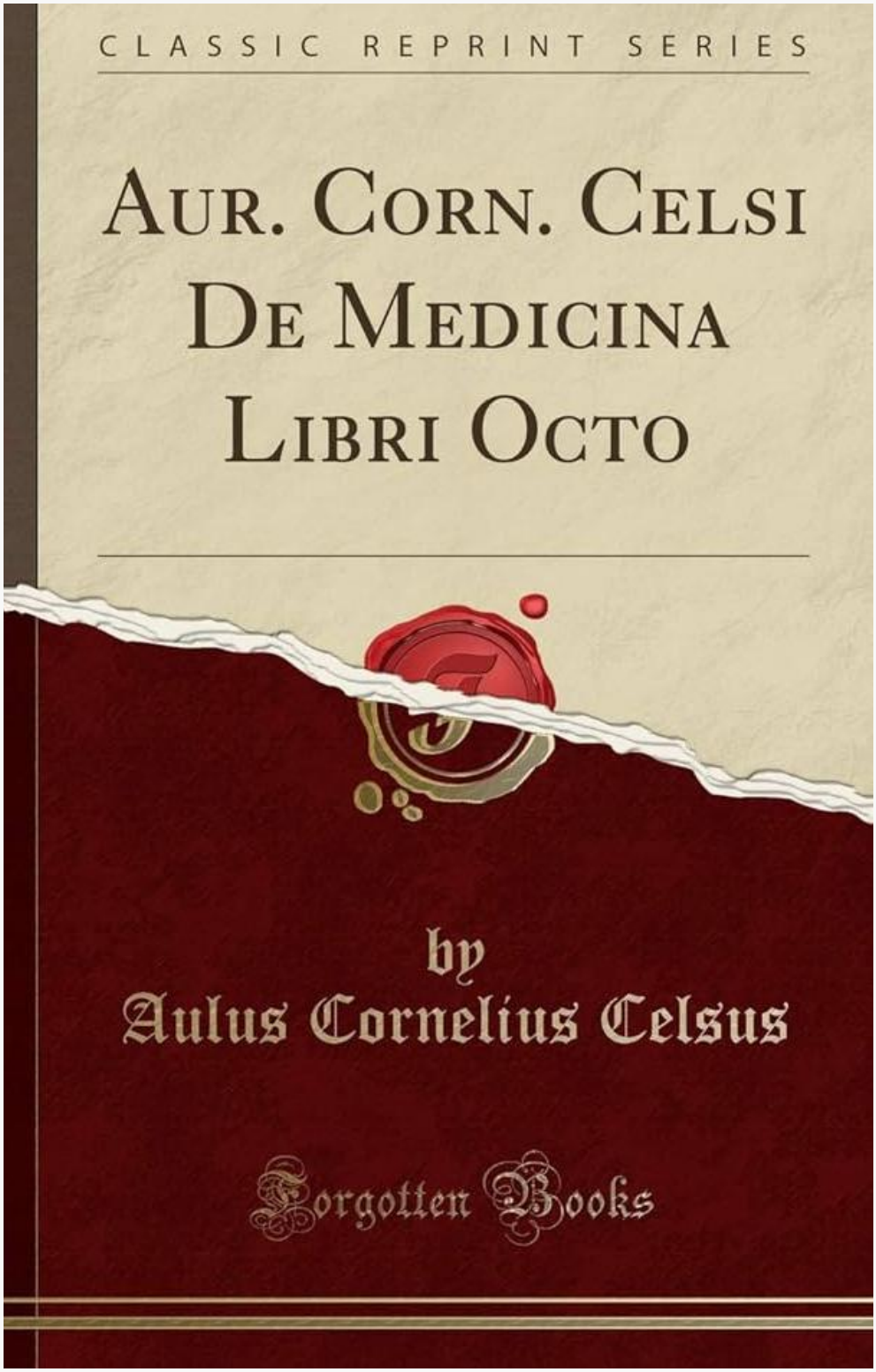
Aristotle (384–322 BCE):

Aristotle's extensive writings touch upon various aspects of human anatomy and health, including dental structures. While specific references to gum diseases and dental powders are not directly quoted, his observations on teeth and oral hygiene practices are acknowledged in historical studies.

For instance, a historical overview mentions:

355 B.C.E. – **Hippocrates,** a Greek doctor, invented a powder to clean teeth."

These insights highlight the early recognition of oral hygiene's importance in ancient Greek medicine, even if direct textual evidence is limited.



COURTESY OF THE WELLCOME COLLECTION

In ancient Rome, dental care practices included procedures akin to modern tooth extractions, emphasizing the importance of separating the gum from the tooth before removal. **Aulus Cornelius Celsus**, a Roman medical writer from the 1st century CE, detailed such methods in his work De Medicina.

Celsus on Tooth Extraction:

Celsus described the process of extracting a painful tooth when medicinal treatments failed:

"But if a tooth gives pain and it is decided to extract it because medicaments afford no relief, the tooth should be scraped round in order that the gum may become separated from it; then the tooth is to be shaken. And this is to be done until it is quite moveable: for it is very dangerous to extract a tooth that is tight, and sometimes the jaw is dislocated."

This passage highlights the meticulous approach Roman physicians took to dental extractions, emphasizing the need to carefully separate the gum tissue to prevent complications such as jaw dislocation.

Gum Disease Treatments:

Roman medical writers also addressed gum diseases. They believed that teeth could become loose due to root weakness or gum disease and treated this by cauterizing the gums, then covering them in honey swilled with mead. Afterwards, medication was placed on the teeth. If the tooth became painful, it would be extracted. This procedure involved "scraping" the tooth in "round order" and then shaking the tooth until it could be safely removed.

These practices underscore the advanced understanding Roman physicians had of dental health and their efforts to treat oral ailments effectively.

For a comprehensive exploration of Celsus's work, the Perseus Digital Library offers the full text of **De Medicina, including Book VII, Chapter 12**, which discusses dental procedures.

These historical insights reveal the foundational role ancient Roman medical practices played in the evolution of dental care, with techniques that resonate with modern periodontal and prosthodontic procedures.

Targeted Laser Treatment: The Modern Solution for Hemangiomas

By Dr. Allen Honigman

A hemangioma is a benign vascular lesion composed of an abnormal overgrowth of blood vessels. These lesions can appear anywhere on the body and are often recognizable as red or purplish raised areas on the skin or mucosal tissues. While many hemangiomas regress naturally over time and require no intervention, some grow larger, causing physical or functional issues such as interference with eating or speaking, or emotional concerns when located in highly visible areas. In certain cases, hemangiomas may bleed, ulcerate, or lead to cosmetic distress, significantly affecting a person's quality of life.

Modern advancements in laser technology have revolutionized the treatment of hemangiomas, offering minimally invasive, effective, and cosmetically favorable solutions for patients who seek intervention.

The Difficulties of Traditional Treatments

Hemangiomas, although benign, can present notable clinical challenges due to their vascular nature and propensity for complications. Traditionally, these lesions were managed conservatively, adopting a "watch and wait" strategy due to the risks of surgical excision, which include significant bleeding and potential scarring.

Surgical removal with traditional techniques, such as scalpel excision, often posed more risks than benefits, particularly for vascular lesions located in delicate or functionally critical areas.

Historically, alternative treatments such as cryosurgery, electrosurgery, and sclerotherapy have been explored. However, these methods carried their own limitations and risks. Cryosurgery, while effective for smaller lesions, often caused tissue damage and pigmentary changes. Sclerotherapy—a process involving the injection of sclerosants—introduced risks such as skin necrosis, allergic reactions, and systemic toxicity. As such, the need for a safer, more reliable treatment modality remained unmet until the introduction of laser technologies.

Transforming Hemangioma Management with Lasers

The advent of laser technology has transformed the management of vascular lesions, particularly hemangiomas. Among the available options, the free-running digitally pulsed Nd:YAG laser has emerged as a gold standard for treating deeper vascular lesions. Unlike continuous-wave lasers or carbon dioxide (CO_2) lasers, the Nd:YAG laser's wavelength enables moderate absorption by hemoglobin, allowing for deeper tissue penetration without compromising surrounding structures. This unique property makes it ideal for managing hemangiomas that extend beyond superficial layers.

A pivotal 2006 study demonstrated the efficacy of the free-running Nd:YAG laser, reporting a remarkable 94% clearance rate of venous lake hemangiomas after a single treatment session. These results underscore the effectiveness of this technology, not only in eradicating vascular lesions but also in addressing patient concerns about scarring, recurrence, and cosmetic outcomes.

Why Nd:YAG Lasers Are Superior

When compared to other laser systems, the Nd:YAG laser's advantages become evident. Continuous-wave diode lasers, while effective for superficial lesions, lack the penetration depth needed for larger or deeper hemangiomas. On the other hand, CO_2 lasers are effective in ablating surface lesions but often result in significant tissue damage, leading to scarring and pigmentation changes that compromise aesthetic outcomes.

In contrast, the free-running digitally pulsed Nd:YAG laser strikes a balance between efficacy and tissue preservation, providing predictable outcomes with minimal side effects. Additionally, the Nd:YAG laser minimizes the need for multiple treatment sessions, reducing overall patient burden. Its ability to precisely target hemangiomas while sparing surrounding healthy tissue makes it a preferred choice among clinicians, particularly for lesions located in cosmetically sensitive or functionally critical regions.

Case in Point: Hemangioma Removal

A female patient in her late 40s presented with a large vascular lesion on the lateral border of her tongue (Fig. 1). The lesion had been present for over 20 years, and the patient had not been previously offered any treatment. After discussing the clinical situation, the patient agreed to treatment using the free-running digitally pulsed Nd:YAG laser (PerioLase MVP-7). The procedure was explained to her in detail. Local anesthesia was administered while ensuring the lesion itself did not blanch. For smaller lesions, a topical anesthetic like tricaine blue could be used.

Treatment was performed in noncontact mode with the PerioLase MVP-7 free-running pulsed Nd:YAG laser. The laser fiber tip was gently moved back and forth over the lesion, allowing the energy to be absorbed by the stagnant blood in the lesion until the lesion turned completely white. Care was taken to maintain a 1 to 2 mm distance from the tissue and to focus only on the lesion to avoid damage to surrounding healthy tissue. The procedure was completed in less than one minute (Fig. 2).

The treatment duration, laser settings, and energy delivered were appropriately matched to the size of the lesion. The patient was informed that, as the body cleared the debris and reabsorbed the tissue, a sore would form within approximately two weeks (Fig. 3), with full healing expected after another two weeks.

At the four-week follow-up appointment, there was no evidence of the hemangioma (Fig. 4).

Figure 1: Initial Presentation

Figure 2: Immediate post treatment

Figure 3: 2 weeks post -treatment

Figure 4: 4 weeks post -treatment

For decades, treating hemangiomas has been a challenging clinical issue, requiring a balance between effective outcomes and minimizing risks. As a board-certified periodontist who teaches and practices advanced laser techniques, I am grateful for this game-changing advancement. Patients love this treatment because it's fast, effective, and provides remarkable cosmetic results with minimal scarring and recurrence. This reliable, minimally invasive technique addresses both clinical and aesthetic concerns, whether the hemangiomas are in visible areas of the lips or deeper intraorally.

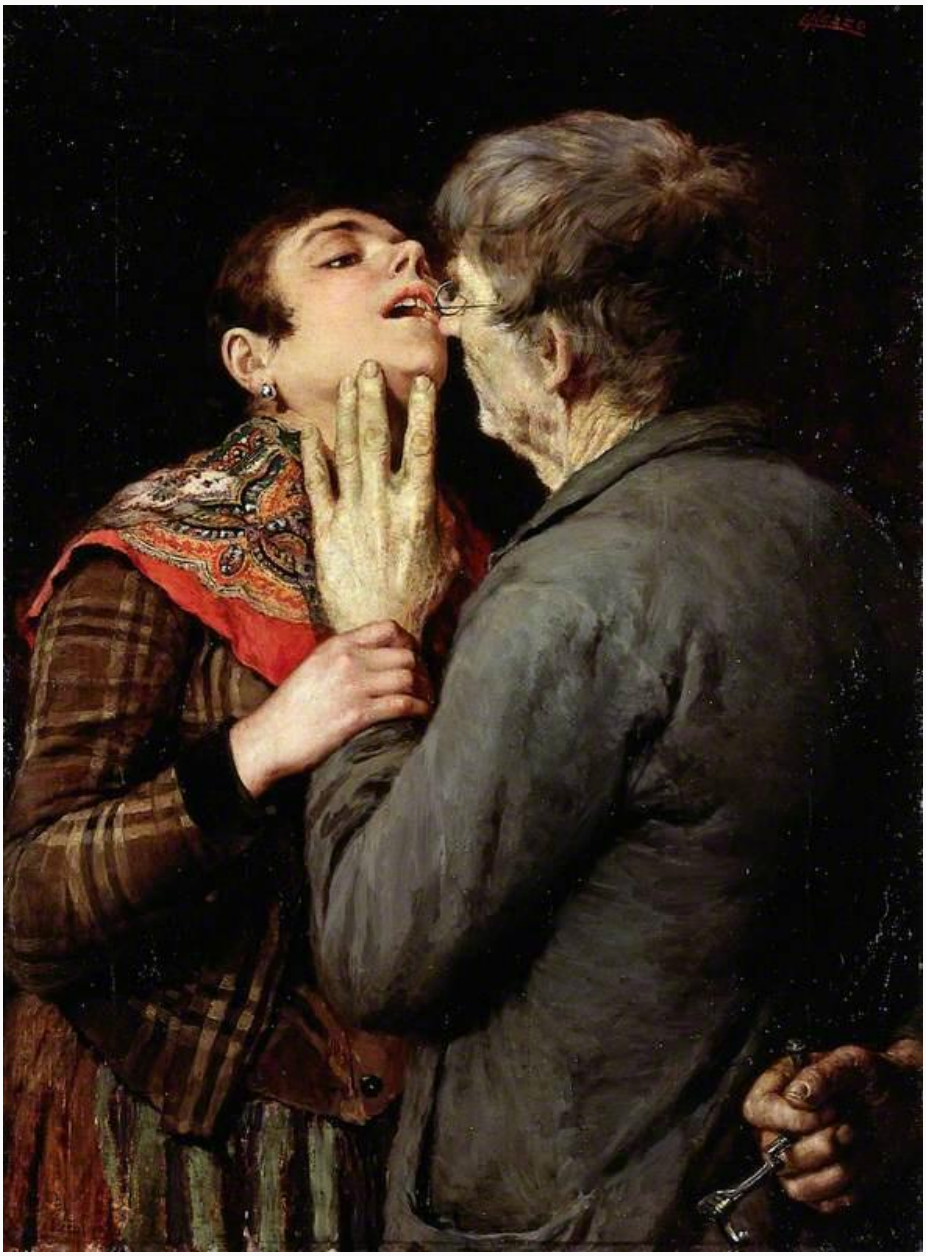
For doctors, referring patients to a periodontal practice equipped with this technology means connecting them with a service that prioritizes safety, precision, and exceptional cosmetic outcomes. Embracing this modern standard of care means offering patients renewed confidence and a treatment experience that prioritizes their satisfaction and well-being—an outcome every clinician and patient can celebrate.

THE HISTORY OF PERIODONTICS

MEDIEVAL PERIOD (500–1500 CE)

Dentistry was largely performed by barbers and general physicians. Gum disease was treated with rudimentary methods like herbal poultices and cauterization.

- Avicenna, a Persian polymath, described gingival diseases and their management in his Canon of Medicine.



Luciano Nezzo (b.1856)
Wellcome Collection

Portrait of Avicenna; anon.,
COURTESY OF THE WELLCOME COLLECTION

Avicenna, known as **Ibn Sina (980–1037 CE)**, was a Persian polymath whose seminal work, The Canon of Medicine, profoundly influenced medical science, including dentistry. In this comprehensive encyclopedia, Avicenna addressed various oral health issues and their treatments, reflecting an advanced understanding of dental care for his time.

Dental and Oral Health in The Canon of Medicine

Avicenna's Canon encompasses discussions on oral diseases, dental hygiene, and therapeutic interventions. He identified over 80 herbal remedies for managing oral and dental conditions, emphasizing the importance of natural substances in treatment protocols.

Sums Tips

Specific Treatments and Remedies

Avicenna recommended various natural substances for dental care, including:
Herbal Remedies: He introduced more than 80 herbal treatments for oral diseases, utilizing plants rich in essential oils.

Sums Tips

Analgesics and Anti-Inflammatories: Avicenna's Canon lists numerous substances with analgesic and anti-inflammatory properties, derived from plants, animal products, and minerals, tailored for dental pain and inflammation.

Gingival Recontouring: A Comprehensive Approach to Smile Design

By Dr. Richard Amato

Creating a balanced and aesthetically pleasing smile is an intricate process that involves precise attention to the ratios of teeth, gingival architecture, and buccal corridors. A harmonious smile not only enhances facial aesthetics but also contributes to overall confidence and well-being of our patients. In the realm of cosmetic dentistry, tools like lasers have made procedures like gingivectomy more accessible and efficient for dental providers. Laser Gingivectomy, also known as Laser Gingival Recontouring is a remarkable and minimally invasive procedure to treat areas that have inadequate tooth height due to pseudo-pockets or gingival overgrowth. However, while this procedure can yield remarkable results in some cases, it can also lead to complications if not performed with proper prior evaluation and diagnosis. The key to differentiating between success and failure lies in understanding the concept of biologic width. This critical aspect dictates whether a simple Laser Gingival Recontouring or a more complex Aesthetic Crown Lengthening, a surgical procedure that removes both boney hard tissue and soft tissue, is necessary for achieving optimal results.

Dr. R. Amato
Advanced Periodontics

Diagnosis and Evaluation

The cornerstone of any successful dental procedure, particularly full mouth, full-arch, esthetic procedures, is accurate diagnosis and comprehensive evaluation. Smile design goes beyond surface structure aesthetics; it requires understanding of the underlying bone and how the interplay of tooth structure, gum, and bone contributes to the final treatment plan and outcome. Periodontal charting, radiographic analysis, tissue biotype analysis, smile shape and harmony analysis are all essential steps in this process. A thorough assessment allows the clinician to determine the most appropriate treatment path. Central to this evaluation is the concept of biologic width, which is the distance established by the junctional epithelium and connective tissue attachment to the root surface of a tooth, the height between the deepest point of the gingival sulcus and the crest of the alveolar bone. The average biologic width is 2.04 mm, but it can range from 0.75 to 4.3 mm depending on the patient. So what does this mean? In laymen's terms it is how much gum the body needs to have on top the of the bone. If the body needs 3 mm of gum above the bone and the gum is trimmed leaving only 1mm the body will rebound and regrow that gum. This is why bone needs to be removed in some cases to have the gum line remain in both a stable and desirable position. Evaluation of the biologic width as well as gingival phenotype will determine viable treatment options. Respecting this space is crucial to prevent adverse outcomes, such as gingival rebound, where the body attempts to re-establish its natural anatomy. Simply put if the gum is trimmed causing the edge of the gingival margin to be too close to the crest of bone it will grow back to reestablish this biologic width distance. If biologic width is violated during a laser gingivectomy, and restorative materials like veneers are placed within this zone, the initial results may appear stunning. However, over time, the body's attempt to restore biologic width can result in compromised aesthetics and function, with results ranging from bone loss around teeth to inflamed red gingival margins or in some cases even the development of granulation type tissue around the veneer margins. Correct diagnosis and holistic understanding are key to successful outcomes.

Beyond Gingivectomy and Crown Lengthening

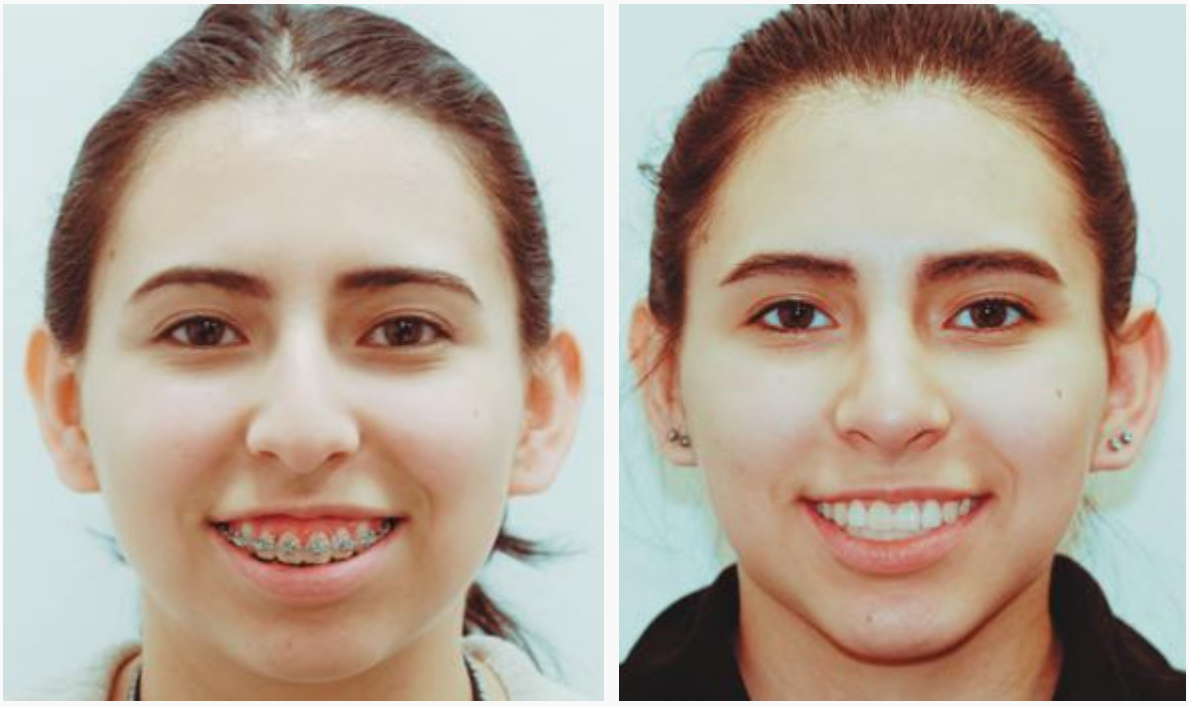
In some cases, patients present with challenges that extend beyond what gingivectomy or crown lengthening alone can address. For instance, gummy smiles in patients with already properly portioned teeth will not benefit from removing gum. In these scenarios a full-face proportion analysis will often point to maxillary excess. Cases of maxillary excess, where the upper jaw is disproportionately long, collaboration with an Oral Maxillofacial Surgeon and Orthodontist are necessary. The oral surgical team can surgically reduce the vertical dimension with orthognathic surgery and the orthodontic team can ensure proper tooth position throughout the process (Fig. 2). Every case demands a thorough analysis of the patient's facial structure, including the upper, midface, and lower face, as well as the gingival and tooth support structures. A comprehensive evaluation allows dental teams to work together across specialties, combining their expertise to develop a treatment plan that meets patients' needs and expectations. A team approach ensures all aspects of patients' smiles are considered, leading to an optimal and sustainable results.

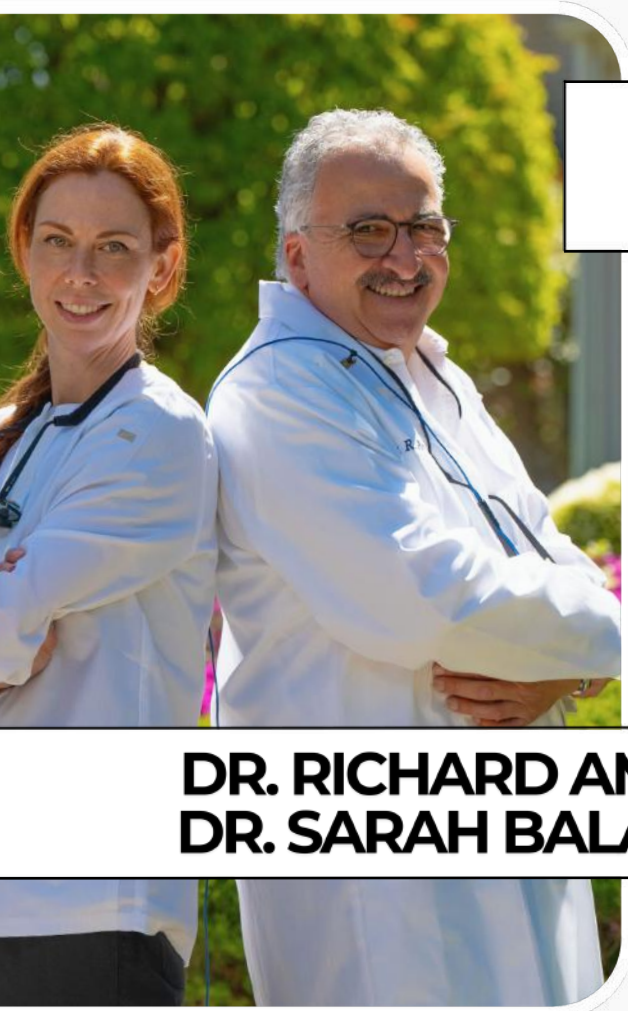
Crown lengthening and gingivectomy are powerful tools in the pursuit of an ideal smile, but their success depends heavily on proper evaluation, diagnosis, and interdisciplinary collaboration. Understanding the critical role of biologic width is essential in determining the appropriate treatment for each patient. While lasers have simplified procedures like gingivectomy, they must be used with caution to avoid compromising long-term results. In cases where gingivectomy or crown lengthening alone is insufficient, additional treatments such as orthodontics and orthognathic surgical intervention may be necessary to achieve the desired outcome. By adopting a comprehensive, team-based approach to smile design, dental professionals can provide patients with results that are not only aesthetically pleasing but also functionally sound and sustainable.

Figure 1:

Aesthetic Gingival Recontouring performed by Dr. Richard Amato with laser in private practice Advanced Periodontics and Dental Implant Center of Connecticut.
https://www.connecticutperiodontist.com/

Fig 2: Orthognathic Surgical Case (Lefort 1, BSSO, Genioplasty, Rhinoplasty). Courtesy of Sami A. Nizam, II, MD, DMD, Board-Certified Oral & Facial Surgeon currently practicing in Montgomery, AL, at his Facial Cosmetic Surgery practice, Alabama Surgical Arts. https://www.alabamasurgicalarts.com/





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Challenging the Status Quo: Serving Unmet Needs and Enhancing Dry Mouth Care

BY SARAH BALASTER

In today's dental landscape, the commodification of services has transformed care into a transactional experience, often prioritizing cost over patient-centered outcomes. This shift has depersonalized interactions with patients, eroded trust, and left many needs unmet. As dental professionals, we face the challenge of navigating a market that reduces complex care to a mere product, undervaluing the comprehensive and transformative service we provide. This challenge, however, presents a profound opportunity to redefine our role within the medical community and reinforce the value we offer as essential healthcare providers.

The key to redefining value in dental care lies in adopting a Value-Based Care approach, which shifts the focus from cost alone to the tangible improvement in health outcomes. Value, in this context, is measured by the enhancement of a patient's overall health and quality of life, not merely the delivery of individual procedures. By embracing this approach, we as providers can transcend the commodified model and deliver care that genuinely improves patient well-being.

Embracing Value-Based Care in Dentistry

Incorporating Value Based Care into dentistry requires a shift in mindset—a move from treating dental procedures as isolated events to considering the broader implications of our work on patients' lives. For example, the success of dental implants is not just about osseointegration or aesthetic appeal; it's about restoring function, enhancing comfort, and improving the patient's overall quality of life. This means addressing not only the technical aspects of implant placement but also the underlying conditions that may affect long-term success, such as periodontal health and systemic factors.

Addressing periodontal disease before implant placement, for instance, is crucial for full-mouth care. It sets the stage for successful implant outcomes and aligns with the principles of Value Based Care by prioritizing long-term health over short-term gains. By treating periodontal issues comprehensively, we enhance the durability of implants and reduce the likelihood of complications, thereby adding real value to our patients' care.

Moreover, Value Based Care encourages us to look beyond the immediate clinical outcomes and consider the patient's broader experience. This includes understanding and addressing often-overlooked conditions such as dry mouth, which can significantly impact patient satisfaction and quality of life.

Aquoral: Revolutionizing Dry Mouth Care

Dry mouth, or xerostomia, is a condition that affects approximately 22% of adults, with even higher rates among older populations and those using CPAP machines or managing multiple medications. Despite its prevalence and impact on oral health, xerostomia is often underdiagnosed and undertreated in dental practices. There are many causes ranging from medication side effects, autoimmune disease, head and neck cancers, and lifestyle choices. American Dental Association states that reduced salivary flow can cause difficulties in tasting, chewing, swallowing, and speaking; it can also increase the chance of developing dental caries, demineralization of teeth, tooth sensitivity, and/or oral and periodontal infections. Addressing dry mouth is not just about relieving discomfort; it's about improving the overall health and well-being of our patients.

The most frequent cause of dry mouth is the use of medications with a patients risk of dry mouth symptoms increasing in proportion the number of medications they take. Studies showing the prevalence of symptoms of dry mouth among individuals 20–80 years as 17% in those taking no medication, 33.5% in those taking 3 medications and 67% with the use of more than or equal to 7 medications. Certain drugs, including antidepressants, antihistamines, antihypertensives, and antimuscarinics, are not the only ones that impact a patients' salivary flow but these are particularly implicated. Another cross section of the population found in our practices that are impacted by dry mouth are CPAP users. For example, about 33 million adults in the United States use a CPAP machine to treat obstructive sleep apnea and 40% of patients on CPAP therapy experience dry mouth , with users discontinuing use of their needed appliance due to discomfort and symptoms there is a clear need for dry mouth relief.

Traditional treatments for dry mouth, such as water-based solutions, chewing gum, or systemic medications like cevimeline and pilocarpine, either fall short of providing lasting relief or come with side effects. Water-based solutions are often bulky bottles, need frequent reapplication, and do not offer long-lasting moisture, while systemic medications can cause uncomfortable side effects, such as sweating, frequent urination, and diarrhea, making them less tolerable for patients. Aquoral, a revolutionary prescription-based lipid solution, offers a significant advancement for dry mouth care in an applicator that can fit in a pocket. Unlike traditional water-based treatments, Aquoral's lipid-based formulation provides moisture that lasts up to six hours—twice as long as many over-the-counter alternatives and it doesn't wash away when consuming water based beverages. This extended duration of relief means patients can experience sustained comfort without the need for constant reapplication, enhancing their overall quality of life.

Aquoral's innovative approach is rooted in its Oxidized Glycerol Triester (OGT) technology, which creates a protective layer over the oral mucosa, offering superior lubrication and moisture retention. This is particularly beneficial for patients who experience dry mouth during sleep, such as CPAP users, who often suffer from disrupted sleep due to the need for frequent sips of water. With Aquoral, these patients can enjoy longer periods of uninterrupted sleep, significantly improving their overall well-being.

Integrating Aquoral into a practice addresses a critical aspect of patient care while enhancing service offerings. By effectively screening for and managing dry mouth, we improve outcomes and satisfaction within our patient base, distinguishing our practice in a crowded market and demonstrating a commitment to comprehensive care. Embracing innovations like Aquoral and incorporating a Value-Based Care approach allows dental professionals to transcend the commoditized model of care, offering truly patient-centered services. This not only improves patient outcomes but also reinforces our role as essential healthcare providers, focusing on the whole patient and delivering transformative care that redefines our value in the eyes of patients and the broader medical community. By prioritizing long-term health outcomes and patient satisfaction, we position ourselves as leaders in modern dental healthcare, capable of providing effective and meaningful care.

In-Office Dispensing: A Strategic Advantage

Incorporating in-office dispensing into your practice offers a powerful way to enhance patient care while improving practice efficiency and profitability. Aquoral is available for distribution through an in-office dispensing model. Offering Aquoral on-site can eliminate the need for patients to make separate pharmacy trips, improving adherence to treatment plans and increasing patient satisfaction. Additionally, in-office dispensing presents a significant revenue opportunity, allowing practices to capture the full value of product sales while ensuring competitive pricing. This model supports a Value-Based Care approach by prioritizing long-term oral health outcomes, as patients are more likely to follow recommended treatment regimens when they have easy access to products that address their conditions effectively. By strategically offering in-office dispensing solutions, practices position themselves as trusted, patient-centric providers. This enhances clinical outcomes, boosts revenue, and strengthens loyalty, ultimately fostering a practice culture that values comprehensive, innovative, and convenient patient care.

Early Modern Period (1500–1800 CE)

Pierre Fauchard (1678–1761): Known as the "Father of Modern Dentistry," Fauchard described periodontal diseases and their link to tartar in his seminal work, Le Chirurgien Dentiste. He advocated for tartar removal to maintain gum health.

Periodontal instruments were refined during this era for scaling and cleaning teeth.

19th Century

The industrial revolution brought advancements in dental instruments and understanding.

John Riggs (1811–1885): An American dentist, Riggs, popularized treatments for "Riggs' disease," now known as periodontitis.

The first periodontal schools and societies were established, like the American Academy of Periodontology (AAP) in 1914.

THE HISTORY OF PERIODONTICS

Pierre Fauchard

COURTESY OF THE WELLCOME COLLECTION

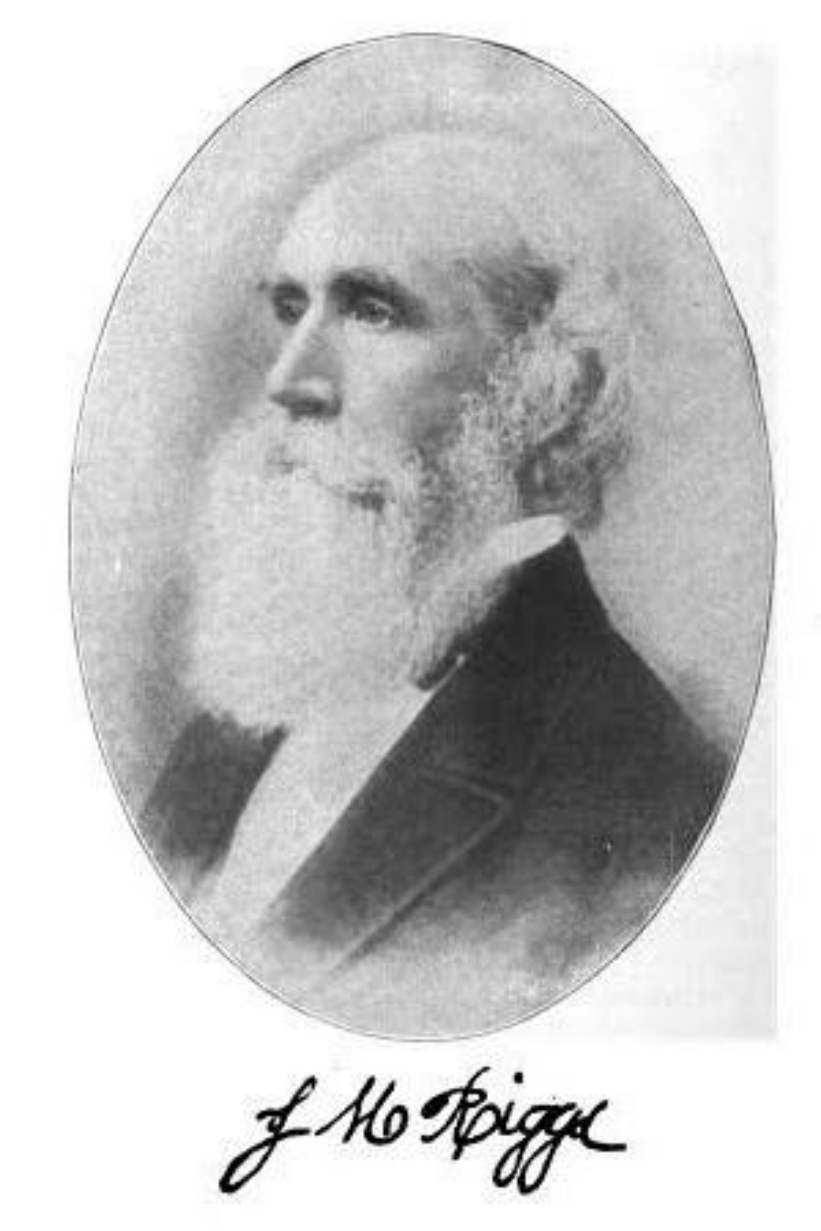
Pierre Fauchard (1678–1761), often hailed as the "Father of Modern Dentistry," made significant contributions to various dental disciplines, including periodontology. His seminal work, **Le Chirurgien Dentiste** ("The Surgeon Dentist"), published in 1728, laid the foundation for contemporary dental practices.

Contributions to Periodontology:

Understanding Periodontal Disease: **Fauchard** provided detailed descriptions of periodontal diseases, particularly pyorrhea (gum disease), recognizing the importance of healthy gums in maintaining overall oral health. He emphasized the need for early detection and treatment to prevent tooth loss.

Scaling and Root Planing: He advocated for the removal of dental tartar and plaque through scaling, understanding that debridement of root surfaces was essential in treating gum diseases. This practice is a cornerstone of modern periodontal therapy.

Preventive Care and Oral Hygiene: **Fauchard** emphasized the importance of preventive care and oral hygiene, providing a basis for modern dental hygiene protocols.



John Mankey Riggs

COURTESY OF THE WELLCOME COLLECTION

John Mankey Riggs (1811–1885), an American dentist from Hartford, Connecticut, is widely recognized as a pioneer in the field of periodontology. His innovative approaches to diagnosing and treating periodontal disease significantly advanced dental science in the 19th century.

Contributions to Periodontology:

Identification and Treatment of Periodontal Disease: Riggs specialized in treating what was then referred to as "pyorrhea alveolaris," a severe gum infection leading to tooth loss. His effective treatments led to the condition being commonly known as "Riggs' disease."

Advocacy for Oral Hygiene: Riggs emphasized the importance of maintaining oral hygiene to prevent gum diseases, laying the groundwork for modern preventive dentistry.

Historical Context:

During Riggs' era, the understanding of periodontal diseases was limited. His work brought attention to the significance of gum health and its impact on overall dental well-being. Notably, he was associated with Horace Wells, a pioneer in the use of anesthesia in dentistry, and was present when Wells tested laughing gas for tooth extraction. Riggs was the dentist who performed the extraction during this demonstration.

20th Century

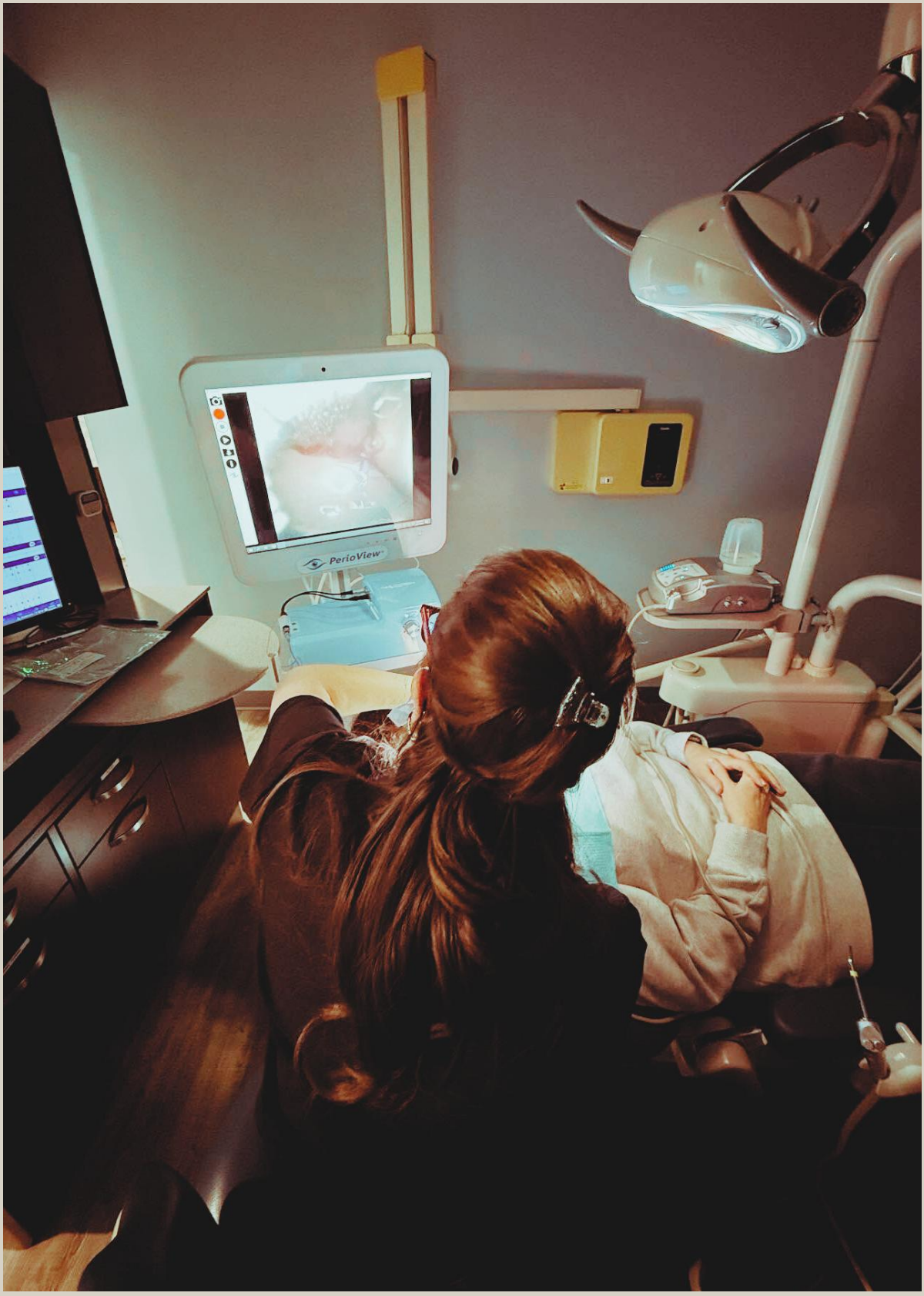
1950s–1970s: Research identified bacterial plaque as the primary cause of periodontal disease. Treatments shifted from purely mechanical approaches to a combination of scaling, root planing, and systemic antibiotics.

Advances in surgical techniques like flap surgery and guided tissue regeneration emerged.

21st Century

Innovations in laser-assisted periodontal therapy, regenerative biomaterials, and minimally invasive techniques continue to shape the field.

A focus on the systemic links between periodontal disease and conditions like diabetes and cardiovascular diseases underscores its importance in holistic health care.


PerioView

Should Dental Endoscopy Evolve To Be The Gold Standard Of Care?

By Kristen Ranaldo, RDH, BSDH

Why has dentistry been treating periodontal disease the same way for the last 50 years? We have seen medicine evolve over time, but there has been such limited advancement in the way we treat periodontitis. For decades, scaling and root planing (SRP) followed by osseous surgery has been considered the gold standard of care. SRP is presently contraindicated and the idea of glassy smooth root surfaces was abandoned years ago. SRP no longer embraces the removal of tooth structure and soft tissue, but there hasn't been a change to our approach to treatment. It is no secret that the basic etiologies of gingivitis and periodontitis are bacterial biofilm and calculus, yet we continue to perform blind SRP. As dentistry advances, we are still using the band-aid approach when treating patients. Is there no other way?

Dr. Lloyd Nattkemper, a periodontist in Monterey, California, purchased the first dental endoscope at AAP in 1993. During one of our discussions, he stated, “no one in the audience had been aware of the technology or had seen what we were seeing before, except with full-thickness flap elevation or on extracted teeth. Roger describes how he and his hygienist, who has carefully trained, were able to effect complete root debridement and see very impressive pocket depth resolution using this device along with ultrasonics and hand instrumentation.

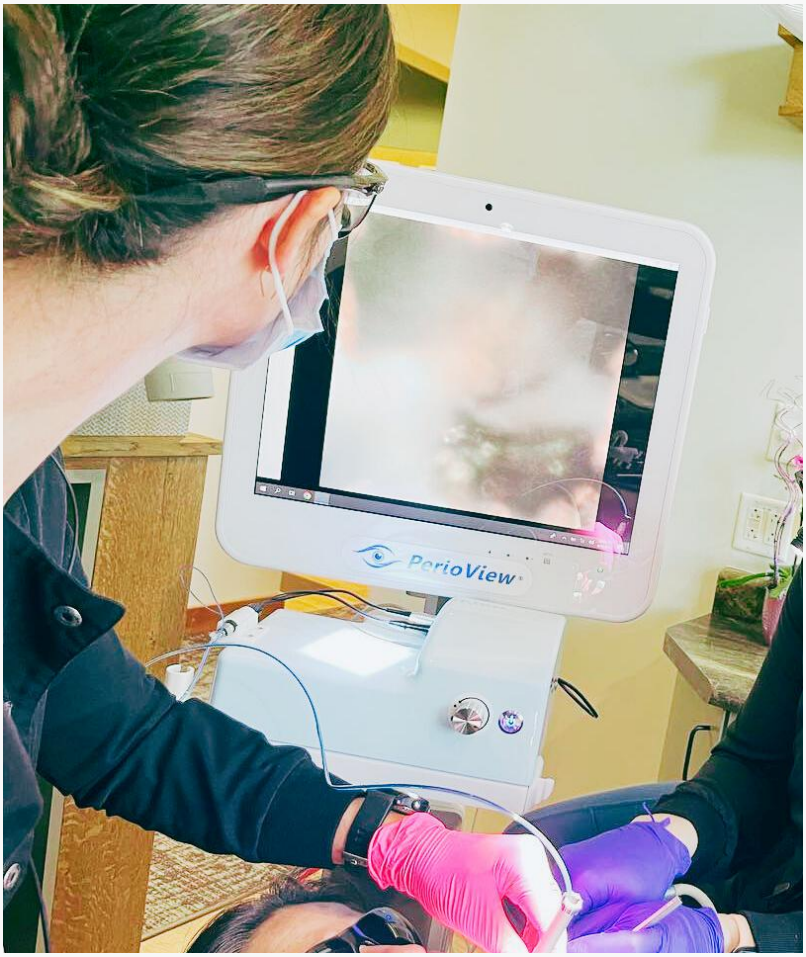
ALL IMAGES COURTESY OF KRISTEN RANALDO

I decided to purchase the device that day—and became one of the first four clinicians in the country to start using it the following Monday." Three decades later, and just a few hundred dental endoscopes in the United States have been sold. Amazingly, most clinicians do not know what dental endoscopy is nor is it taught in dental or dental hygiene school.

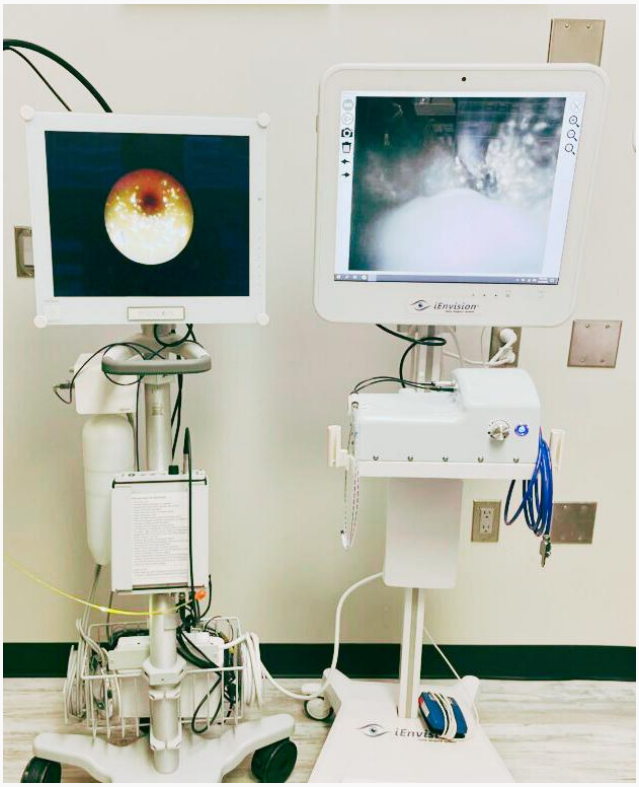
So, what exactly is a dental endoscope? It is an advanced technology that allows the clinician to subgingivally explore and visualize the root surfaces in real time at 100x magnification. Without the necessity of an incision and sutures, a dental endoscope guides the clinician during the process of debriding the root surface free of plaque and calculus, the treatment for periodontitis. It could also be used diagnostically to identify other problems such as subgingival caries, perforations, external root resorption, overhangs, excess cement, and other disease-causing flaws of the tooth root's surface that are not always seen on radiographs or previously required surgery to detect. The camera, or fiber, is covered by a single-use sterile sheath, which sits into four area-specific explorers used to deflect the gingiva so the camera and sheath can be inserted into the sulcus. Over the last decade, lasers in dentistry have dominated the industry for both hard-tissue and soft-tissue applications. Although widely used, there are debates concerning the efficacy of laser periodontal therapy. Why is this? Complete removal of biofilm and removal of biofilm-harboring calculus is the gold standard of periodontal care,

Both with a conventional flap and non-surgical periodontal therapy. According to Wright et al. in 2023, premolars and molars are more difficult to debride nonsurgically and more than 60% of molar sites can present with residual calculus. Another study reported that more than 90% of cases had deposits of plaque and calculus remaining in sites with pocket depths greater than 5 mm after SRP. It has been proven that the use of a dental endoscope results in significantly less residual calculus on the root surface when compared to tactile evaluation in blind scaling, especially in multirooted sites.

Whether it is non-surgical periodontal therapy or laser-assisted periodontal therapy, it's vital to utilize dental endoscopy in tandem with these procedures for greater pocket reduction and more predictable results. Dental endoscopy has been around since the 1980's, however, the advancements in the technology were limited, until recently. The most current endoscope, PerioView, was brought to the market by Dr. Aziz Bohra, a periodontist himself. Dr. Bohra revolutionized his practice with dental endoscopy over the past thirteen years. By leveraging his hygiene team, he was able to expand his practice while maintaining his hygienists



The PerioView endoscope pairs the advancement of technology with state-of-the-art video imaging and display that allows up to 100X more magnification than in the past on an 11"x11" touch screen. This 1.0 mm digital camera lens is 160k pixels, equivalent to 12MP, and allows an area of about 3-5 square mm with a depth of field of 1mm to 20mm. The all-in-one medical-grade computer monitor records still images and video for high-resolution results and patient records. Moreover, PerioView enables multiple services to be applied simultaneously, streamlining practice operations and increasing patient satisfaction. Not only is dental endoscopy more effective, it is less invasive leading to higher patient acceptance.



With this minimally invasive, precise approach, the patient will experience a shorter recovery time, less sensitivity, less recession, and reduced need for re-treatment. Dental endoscopy is not just a SRP alternative, it is a microsurgery that can be performed by itself, with laser-assisted periodontal therapy, and with biologic modifiers. As a mostly hygienist-operated technology, dental endoscopy empowers our profession and allows for career growth. Going on a decade of dental endoscopy experience, it has become something I cannot practice without. Once you see what you are missing in furcations, distal line angles, at the CEJ, and crown margins, it makes your instrument different. Most of us have not picked up our right and left ultrasonics since school, and they are necessary when treating a periodontal patient. With proper implementation, I believe dental endoscopy could benefit all dental and periodontal practices and is a revolutionary approach to treating the high prevalence of periodontal disease.

Medicine is always advancing, shouldn't dentistry follow suit? Dental endoscopy deserves recognition as the new gold standard of care, ensuring precise calculus removal through a minimally invasive approach and delivering consistently reliable outcomes. With this knowledge in mind, how do you envision treating your patients?

Five of my Practice Essentials

Dentistry is a dynamic blend of science, artistry, and a steadfast commitment to patient-centered care. At the heart of our work lies the shared goal of achieving exceptional outcomes through evidence-based approaches tailored to each unique patient. Over the years, my practice has evolved, shaped by experience, innovation, and a dedication to continuous learning. In periodontics, the tools, technologies, and techniques we choose are more than just instruments; they are extensions of our expertise and care. These essentials don't just support clinical success—they elevate the quality of life we can offer to our patients.

In sharing these 5 tools, systems, and resources, I hope to offer insights that have become integral to how I deliver care. These elements inspire me, keep my practice thriving, and enable me to provide comprehensive, compassionate treatment to every patient who entrusts me with their oral health. I am honored to be part of the journey in helping patients achieve better health and grateful for the opportunity to collaborate with exceptional colleagues like you. Together, we can continue advancing the standards of care that define our profession.

1) Lasers - The PerioLase MVP-7, Millennium Dental Technologies

Laser protocols are indispensable tools in my practice, allowing me to deliver advanced care with a focus on patient comfort. The PerioLase® MVP-7, manufactured by Millennium Dental Technologies, is a free-running, pulsed Nd:YAG laser that plays a critical role in performing the patented LANAP® and LAPIP® protocols. These FDA-cleared procedures enable true regeneration on previously diseased root surfaces (LANAP) and the treatment of ailing and failing dental implants (LAPIP). Both protocols are minimally invasive, allowing me to treat periodontal and peri-implant diseases without the need for cutting or stitches. Not all dental lasers are created equal; the PerioLase MVP-7 is the only laser able to perform the FDA-cleared LANAP protocol, a groundbreaking procedure that restores lost bone, cementum, and periodontal ligament function.

With this technology, I can successfully regenerate bone around teeth and implants—without relying on additional biologics—improving long-term outcomes for even the most challenging cases. The laser is equally powerful in maintaining implant health during hygiene visits and preserving compromised teeth, preventing disease progression before it escalates. For advanced implant cases and medically complex patients, I use the BLAST technique to optimize success and stability. As a LANAP clinician for over eight years and a certified instructor at the Institute for Advanced Laser Dentistry, I've seen firsthand the life-changing impact of these protocols for patients. I take great pride in caring for both my patients and those entrusted to me by referring doctors, utilizing this advanced technology to deliver exceptional, tailored treatment. My commitment lies in providing precise, innovative, and predictable results, while upholding the trust and confidence of my colleagues and patients alike.

2) Air Polishing – The Love Hygiene

Air polishing technology has advanced significantly, offering a variety of systems and polishing powders tailored to specific clinical needs. Some air polishing powders, like tagatose, even have antibacterial properties and are gentle enough for use on dental implants and veneers. In my practice, I rely on the Love Hygiene system, which creates a fine mist of heated water and a polishing powder of my choice to effectively and efficiently remove biofilm. This approach not only achieves superior cleaning but also provides patients with a soothing, comfortable experience. In our office, Advanced Periodontics and Dental Implant Center of Connecticut, the Love Hygiene biofilm management system has been lovingly renamed "cloud cleaning" by our patients, a testament to how much they appreciate this gentle, effective, and innovative care. For periodontal maintenance and implant care, the Love Hygiene system remains my personal favorite for biofilm management, combining innovation with exceptional patient outcomes.

3) Dry Mouth Treatment - Aquoral

With one in four patients suffering from dry mouth, it's clear dry mouth is an epidemic hiding in plain sight. Common causes like polypharmacy, CPAP use, autoimmune diseases, and a history of head and neck cancer treatments make identifying and addressing dry mouth a critical part of patient care. Unfortunately, most over-the-counter and topical treatments are water-based, meaning they wash away quickly with eating and drinking, providing only short-term relief.

Many patients may not qualify for or be ready for systemic treatments like pilocarpine, which stimulates salivary flow. For those patients, Aquoral offers an innovative solution. Its patented lipid-based formulation creates a protective layer that doesn't wash away easily, delivering relief for up to six hours—50% longer than most water-based alternatives. With a convenient in-office dispensing model, Aquoral makes it easy for practices to provide immediate care and ongoing support for dry mouth sufferers. Aquoral is a solution I trust, offering a lipid-based barrier that brings relief when traditional options fall short. It's a joy to see my patients find comfort and regain their quality of life.

www.aquoralspray.com

4) Financial Planning with PROVISER

As dental professionals, we often focus so much on patient care that it's easy to overlook the importance of protecting ourselves, our families, and our practices. Financial planning is a cornerstone of long-term success, offering security and peace of mind in a rapidly changing world. From disability and life insurance to malpractice support and strategic financial advice, having a trusted partner to guide you is invaluable.

I personally use PROVISER for my personal and business financial planning needs. They've helped me ensure my family and practice are protected while providing strategies to grow and secure my future. If you're looking for support in this area, I highly recommend exploring options like theirs to safeguard what matters most.

www.proviserprotect.us

5) Custom Kits from Power Dental Group

Looking out for our own health is just as vital as taking care of our patients. Dentistry is a physically demanding profession, and the impact it has on our bodies over time is undeniable. That's why I'm so passionate about equipping myself—and my colleagues—with high quality tools that prioritize ergonomics. Thoughtfully considering our bodies isn't a luxury; it's a necessity for long-term success and well-being.

The dSb Perio Implant Kit, which I developed in collaboration with Power Dental Group, has been a transformative addition to my practice. These instruments are precision-crafted, engineered in the US, and specifically designed with ergonomics in mind. They empower me to work with confidence, efficiency, and comfort.

As dental professionals, we spend the majority of the day in the operatory, relying on our instruments to help deliver the best outcomes for our patients. Why not invest in equipment that prioritizes us too? Your health is your greatest asset—choose solutions that support your body and your practice.

www.powerdentalgroup.com

Teamwork & Appreciation

While tools and systems are essential to delivering great care, it's ultimately the support of our teams and families that makes everything possible. For those of us with children, family support allows us to show up fully in our practices, knowing that someone has our back at home. Without that foundation, the dedication required to practice dentistry would be much harder to sustain.

Equally important is having a skilled office management team that handles the behind-the-scenes work—marketing, organizing, scheduling, following up—everything that keeps the practice running smoothly and ensures our procedures are executed seamlessly. And let's not forget our dental assistants and lab technicians, whose expertise and precision make so much of our work possible. Their commitment and skill enable us to deliver treatments efficiently and effectively, ensuring the highest quality outcomes for our patients.

Great patient care is built on teamwork. Don't underestimate the value of showing appreciation to everyone who supports your practice, because their efforts enable us to care for our patients to the best of our ability. Behind every successful clinician is a team of committed professionals, including hygienists, dental assistants, lab techs, office managers, and a supportive family. From those who maintain the seamless day-to-day operations to loved ones who handle life's invisible responsibilities, their collective support allows us to grow as practitioners, elevate patient care, and continue advancing our profession.

THE HISTORY OF PROSTHODONTICS

Ancient Beginnings

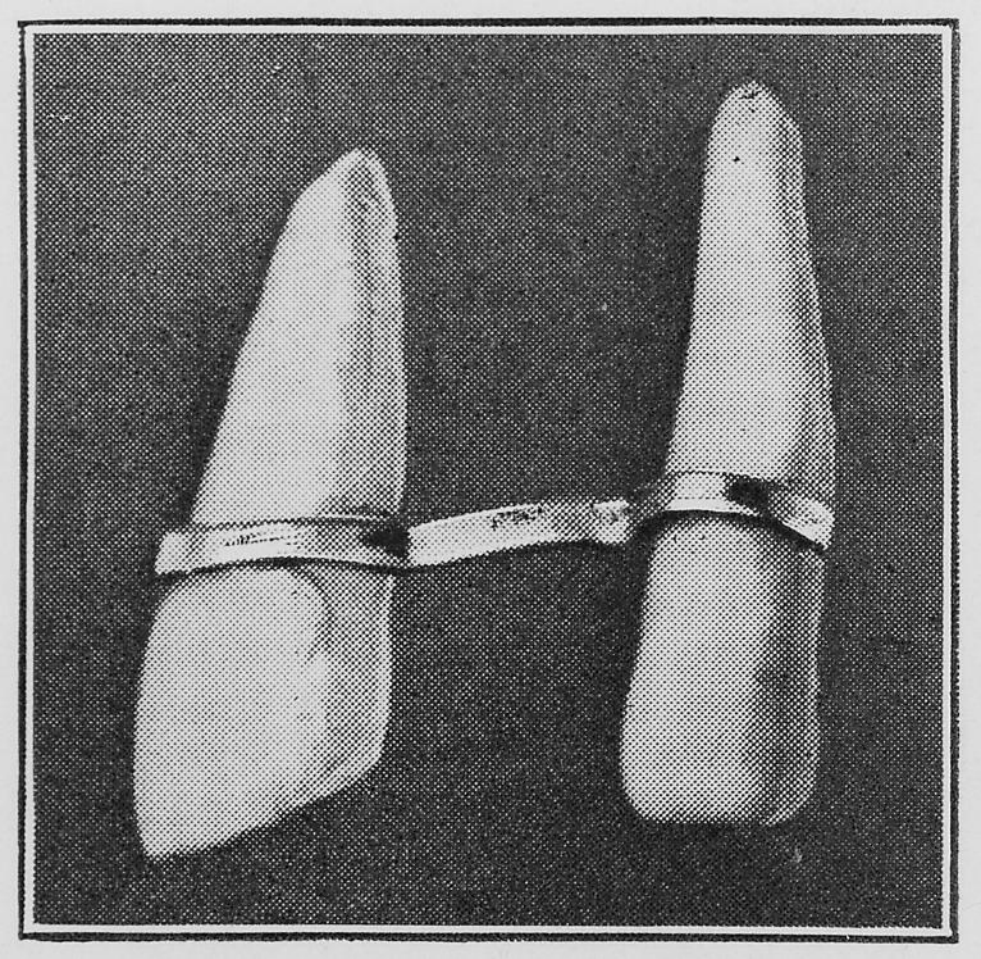
2000 BCE: The Etruscans in Italy were among the first to create dental prosthetics using gold bands and animal teeth.

700 BCE: Early dentures and bridges were made by carving ivory or using human or animal teeth.

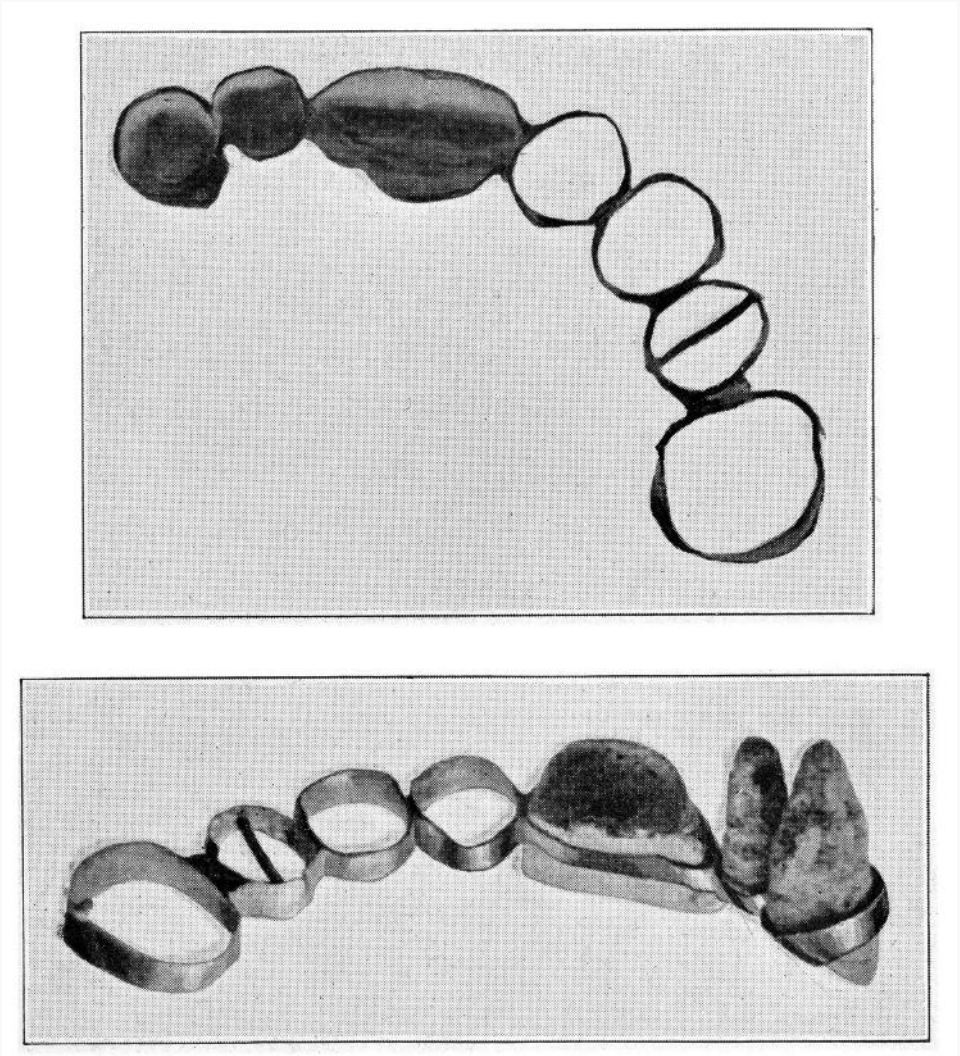
Classical Era

The Romans and Egyptians crafted rudimentary bridges and crowns from precious metals.

Galen (129–216 CE) provided descriptions of tooth anatomy, aiding future developments.



Etruscan prosthetic appliance intended to avoid the bad effects of convergence, or, perhaps to support a purely ornamental artificial substitute. In the Museum of Conte Brushi at Cornet.o



Etruscan appliance for supporting three artificial teeth.

Galen. Line engraving.

Galen of Pergamon (129–216 CE), a prominent Greek physician and anatomist, made significant contributions to the understanding of human anatomy, including detailed observations of dental structures.

Contributions to Dental Anatomy:

Classification of Teeth: Galen identified three distinct types of teeth: incisors, canines, and molars. He described incisors as wide and sharp, suitable for cutting food, with four located at the front of each jaw. Canines, named for their resemblance to dog teeth, were noted to be fewer in number, with one on each side of the jaws. Molars were recognized for their grinding function, though Galen did not distinguish between molars and premolars.

Tooth Development: Galen posited that tooth formation begins in utero and continues postnatally, completing after the skull bones have formed. He believed that teeth were the only innervated hard tissues in the body, a perspective that underscores the complexity he attributed to dental structures.

***Functional Anatomy*:** In his exploration of the digestive system, Galen emphasized the role of teeth in mechanical digestion, noting that they break down food into smaller pieces, aided by saliva, to facilitate further digestion.

Building Smiles, Bridging Gaps:

The Art of Periodontal and Prosthodontic Synergy

By Dr. Nina Cramer & Linda Rhoades, RDH

All Photos courtesy of Village Periodontics and Dental Implant Center:

Dentistry is raising the bar when it comes to providing long-term success to both periodontal integrity and restorative function. Periodontics plays a crucial role in maintaining the integrity of the supporting structures around the teeth, while prosthodontics focuses on restoring not just aesthetics but also the functionality of the oral cavity. By combining these two specialties in one office, patients receive holistic care that not only improves appearance but also enhances the overall health and function of the oral cavity. This collaborative approach enables a seamless integration between strong, disease-free gums and restorative treatment, paving the way for long-lasting, successful outcomes.

Village Periodontics and Dental Implant Center

At Village Periodontics and Dental Implant Center in Oxford, FL, the synergy between periodontal and prosthodontic care has been perfected. This premier practice prides itself on efficient patient treatment and satisfaction. Periodontists Dr. Dennis Davis and Dr. Nina Cramer, together with Prosthodontist Dr. Damian Black, work together harmoniously to provide the utmost in patient care. Their collaboration is facilitated by their shared philosophies and clear communication, with each team member playing an integral role.

The entire office staff, including dental assistants, treatment coordinators, and dental hygienists, are trained in protocols that enhance the team's ability to deliver comprehensive care. In addition to exceptional patient care, Village Periodontics offers a Dental Education Center, where doctors and hygienists participate in continuing education programs. These programs, including regular study club meetings featuring top-quality speakers, not only benefit the practice's team but also foster strong relationships with referring general dentists.

All Photos courtesy of Village Periodontics and Dental Implant Center:

Supporting Restorative Dentistry

A patient's ability to perform regular and effective personal oral hygiene plays a pivotal role in the long-term success of any restorative therapy. Many restorations are contoured with spaces that are difficult to clean, where plaque accumulates and ultimately compromises the success of the prosthetic.

The presence of a periodontist and skilled dental hygiene team ensures that patients receive the necessary periodontal maintenance and hygiene instructions to keep their restorations functional and healthy. Periodontal hygienists and surgical assistants are trained to recommend adjuncts like interdental brushes, floss threaders, oral irrigators, and electric toothbrushes to help patients clean effectively. However, many patients struggle to use these tools correctly.

The in-office hygiene team is instrumental in providing the care and guidance needed to ensure the patient's restoration lasts a lifetime. Regular periodontal care is instrumental in preventing conditions like gingivitis and periodontitis, which, if left untreated, can compromise the support and function of the restorations placed by the prosthodontist.

All Photos courtesy of Village Periodontics and Dental Implant Center:

Synergy in Action

The Synergy Between Periodontics and Prosthodontics

The collaboration between periodontists and prosthodontists is not a mere coincidence but a strategic partnership that influences the effectiveness of many dental treatments.

Dental Implants: Success depends on the health of the surrounding gum and bones. Periodontal health contributes to successful osseointegration, ensuring a long life for the implant and the prosthetic it supports.

Gum Recession: Exposed roots can compromise the stability of adjacent prosthetics. Healthy periodontal environments ensure the stability of natural teeth and restorations.

Alignment and Occlusion: Proper bite alignment prevents uneven wear on restorative surfaces. A well-maintained periodontium supports these functions.

Infection Prevention: Healthy periodontal tissues act as a barrier against oral pathogens, protecting prosthetic devices.

Benefits and Challenges

The collaboration between periodontists and prosthodontists offers a holistic, comprehensive treatment approach that greatly enhances patient outcomes.

Benefits:

- Holistic care that combines functional and aesthetic goals.
- Long-lasting results with minimal complications.
- Better patient education and transparent communication.

Challenges:

Cost: Involving two specialists may increase perceived costs, but it leads to more durable outcomes.

Duration: Multi-phase treatments take time, requiring consultations, surgeries, and follow-ups.

Coordination: Clear communication and close collaboration are essential to avoid fragmented care.

Routine Care: Alternating maintenance schedules with general dentists may be needed.

Emotional Factors: Patients may feel overwhelmed by complex treatments but benefit from private consultations and visual aids.

Restoring Function and Aesthetics

The synergy between periodontics and prosthodontics leads to healthier, more beautiful smiles. Collaboration ensures that a patient's needs are met from both functional and aesthetic perspectives. The end result is not just a smile that looks great but one that functions well for years to come.

Multispecialty care represents the future of comprehensive dental care. By working together under one roof, these specialists provide patients with the highest level of care. The art of periodontal and prosthodontic synergy is a vital aspect of modern dentistry, delivering results that patients can maintain and rely on for a lifetime.

THE HISTORY OF PROSTHODONTICS

Medieval and Renaissance Periods (500–1700 CE)

Dentistry was intertwined with general medicine. Prosthetic teeth were made of materials like bone, ivory, or human teeth.

Ambroise Paré (1510–1590): A French surgeon, Paré designed obturators (early maxillofacial prostheses) for patients with palatal defects.


Ambrose Paré.

Ambroise Paré (1510–1590), a distinguished French barber-surgeon, is often regarded as the father of modern surgery. His extensive contributions spanned various medical fields, including dentistry, where he introduced innovative techniques and instruments that significantly advanced dental care during the Renaissance.

Contributions to Dentistry:

Dental Prosthetics: Paré was among the early practitioners to design and implement dental prostheses. He crafted dentures and artificial teeth to replace lost dentition, enhancing both function and aesthetics for patients.

Innovative Dental Instruments: He developed specialized tools for dental procedures, such as tooth extractors and scalers, facilitating more effective and less painful treatments.

Surgical Techniques: Paré's expertise in surgery extended to dental care, where he applied his knowledge to treat oral and maxillofacial conditions, laying the groundwork for modern oral surgery practices.

18th Century

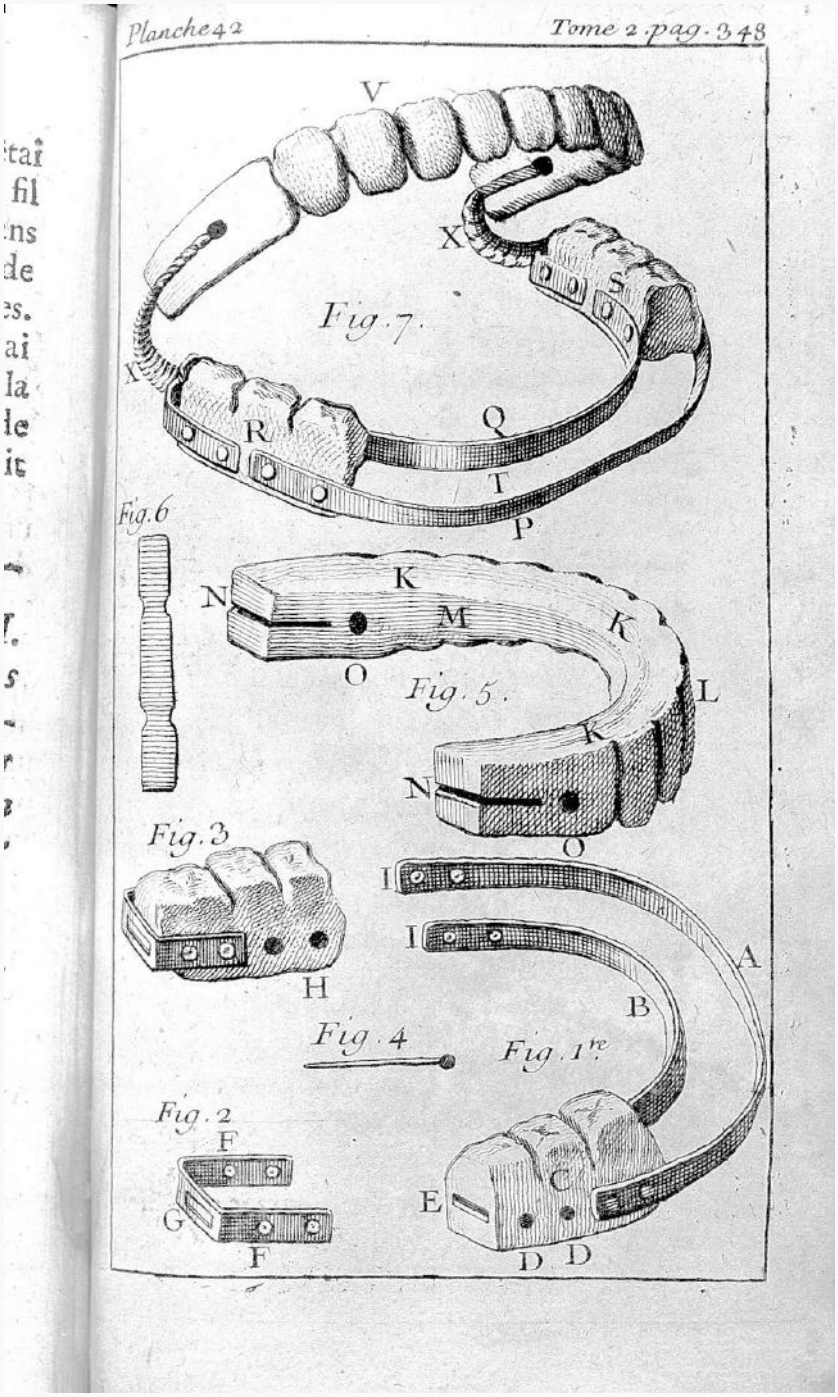
Advancements in materials like porcelain revolutionized denture making.

Pierre Fauchard: In addition to periodontal contributions, he improved denture design by introducing springs and metal bases.

19th Century

Vulcanized rubber replaced ivory and bone as a base material for dentures, making them more affordable.

The invention of dental amalgam provided reliable fillings for decayed teeth.



Teaching Methods to Maintain Their Cleanliness and Health, Enhance Their Appearance, Restore Lost Teeth, Treat Their Diseases, Address Gum Ailments, and Manage Issues Affecting the Surrounding Areas of the Mouth...

BY **Pierre Fauchard**.

Fauchard, Pierre, 1678-1761.

20th Century

1920s–1940s: Prosthodontics was formally recognized as a dental specialty. The American College of Prosthodontists (ACP) was established in 1970.

Advances in materials, like acrylic resins and ceramics, enhanced aesthetics and durability.

Introduction of osseointegration by **Per-Ingvar Brånemark** in the 1950s revolutionized dental implants, providing a permanent solution for tooth loss.

21st Century

CAD/CAM technology, 3D printing, and digital impressions transformed prosthodontic practices.
Biocompatible materials like zirconia and advancements in implantology continue to push boundaries.

Esthetic and functional rehabilitation now incorporates interdisciplinary approaches, combining prosthodontics with periodontics, orthodontics, and oral surgery.

Per-Ingvar Brånemark

The Man Who Gave the World Its Smile Back

By Carl Demadema

Imagine losing your teeth—not just one, but all of them. For centuries, this reality meant a life of discomfort, embarrassment, and struggle, with dentures that slipped and meals that became a chore. But then came a Swedish scientist with a wild idea: what if we could replace teeth so seamlessly that they felt—and functioned—like the real thing?

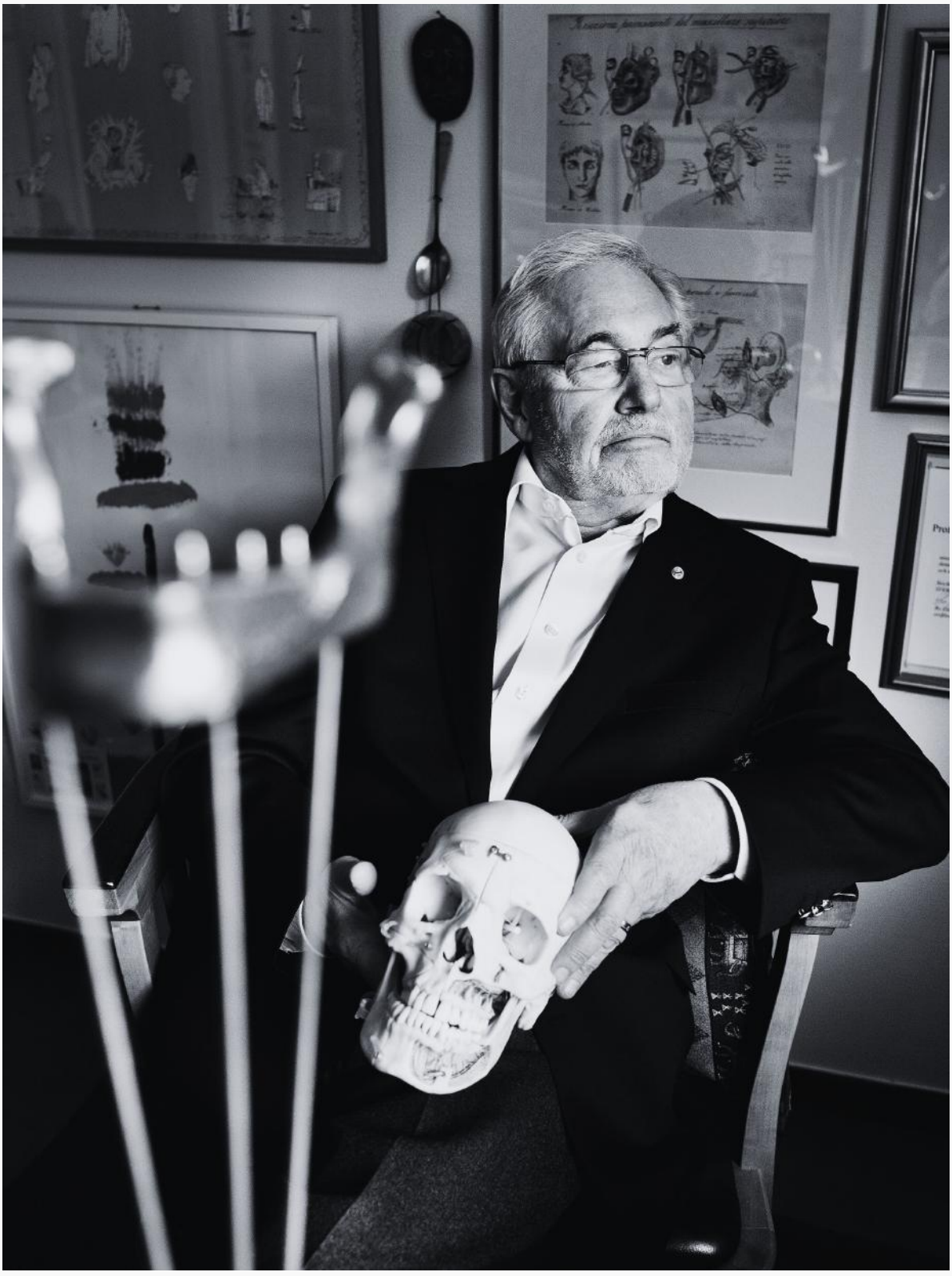
Dr. Per-Ingvar Brånemark wasn't just a researcher; he was a pioneer, a dreamer, and a relentless optimist. In a world skeptical of his vision, he transformed a serendipitous lab discovery into a global revolution in dental care. Today, his name is etched not just in the annals of medicine but in the lives of millions who owe their smiles—and their confidence—to his ingenuity.

This is the story of the man who turned titanium into miracles, changing the face of dentistry and giving humanity a reason to smile brighter than ever before.

Born in Karlshamn, Sweden, in 1929, Per-Ingvar Brånemark showed early promise as a scientist and innovator. After completing his medical studies at Lund University, he began researching blood flow and bone healing. In 1952, while conducting experiments, Brånemark implanted titanium chambers into the femurs of rabbits to observe the bone's healing process. His goal was simple: study how blood vessels formed during recovery.

What he didn't expect was that the titanium chambers would become inseparable from the bone. When Brånemark tried to remove them, he found they were fused as though they had become part of the skeleton. He called this phenomenon "osseointegration."

While others might have dismissed the discovery as a quirk, Brånemark saw its potential. If titanium could integrate with bone so naturally, why couldn't it be used to create stable, long-lasting implants for humans?



Sweden, Gothenburg, 23-02-11.

ALL IMAGES COURTESY OF THE EUROPEAN PATENT OFFICE

Despite the promise of osseointegration, the scientific community was slow to embrace it. "Titanium in bone?" skeptics scoffed. "That's impossible." Brånemark faced years of rejection, ridicule, and doubt. Yet he pressed on, confident in the science behind his findings.

His first major breakthrough came in 1965 when he performed a dental implant procedure on Gösta Larsson, a Swedish man with severe jaw deformities. Larsson had struggled with eating, speaking, and living a normal life due to his condition. Brånemark's titanium implants gave him a new lease on life, restoring both function and dignity. The implants worked flawlessly for the rest of Larsson's life—more than four decades—a testament to the durability of Brånemark's innovation.

"No one should have to die with their teeth in a glass of water beside their bed," Brånemark famously said, highlighting his mission to improve the quality of life for patients worldwide.

While dental implants are the most famous application of osseointegration, Brånemark's work didn't stop there. He collaborated with specialists in other fields to apply his discovery to a wide range of medical devices.

One of his most notable contributions was in the development of bone-anchored hearing aids (BAHA), which use osseointegration to securely attach hearing devices to the skull. This advancement significantly improved hearing quality for patients with conductive hearing loss.

Brånemark also extended his work to prosthetics. By using titanium implants to anchor artificial limbs directly to bone, he created prosthetics that were more stable, comfortable, and natural-feeling than traditional designs. This approach, often referred to as "osseointegrated prosthetics," has helped countless amputees regain mobility and a sense of normalcy.

"No one should feel incomplete," Brånemark said of his work. For him, osseointegration wasn't just about science—it was about restoring wholeness, both physically and emotionally.

Brånemark's journey was far from easy. For years, he struggled to secure funding, faced ridicule from his peers, and battled skepticism. Yet his perseverance paid off. As his implants began to change lives, the medical community started to take notice.

By the 1980s, osseointegration was widely recognized as a breakthrough in medicine. Brånemark founded the Brånemark Osseointegration Center in Gothenburg, Sweden, in 1989 to advance research and training in the field. Today, the center continues to be a hub for innovation, carrying on Brånemark's legacy.

In 2011, the European Patent Office honored him with the European Inventor Award, recognizing his lifetime achievements. "This award isn't about me," Brånemark said humbly at the ceremony. "It's about the people whose lives have been transformed."

Per-Ingvar Brånemark passed away in 2014, but his influence endures. Millions of people around the world benefit from his discoveries every day, whether through dental implants, hearing aids, or advanced prosthetics.

His work has not only transformed dentistry but has also set the standard for patient-centered innovation in medicine. Brånemark's story is a testament to the power of curiosity, perseverance, and the human spirit.

Tokyo, 1963

Brånemark's contributions weren't just about restoring teeth; they were about restoring confidence, dignity, and a sense of self. "We are not just rebuilding bones," he once said. "We are rebuilding lives."

Today, every confident smile and every step taken with a prosthetic limb is a tribute to his vision. The man who once struggled to convince the world of his discovery is now celebrated as one of the greatest innovators in medical history.

Next time you see someone flash a bright smile, remember Dr. Per-Ingvar Brånemark—the man who made it possible for the world to smile again.

Dr. Sarah Balaster

: Disrupting Periodontics with Laser Precision

Highlighted by Becker's Dental Review as one of the "10 Dentists to Know" and listed among the "11 Dentists Making Headlines," Dr. Sarah Balaster has rapidly become a rising star in periodontics. A board-certified periodontist, she honed her leadership skills as the Chief Dental Officer of Adult Specialty and Hygiene at a leading Dental Service Organization. Now, she divides her time between motivational speaking and her private practice in the Greater New York area. Dr. Balaster is also a certified instructor for Millennium Dental Technologies' Institute for Advanced Laser Dentistry (IALD), a non-profit educational organization based in California.

Her journey into periodontics has been anything but conventional. A graduate in Fine Arts from Wesleyan University, Dr. Balaster, formerly Sarah Oshman, also boasts an IMDb page—a testament to her diverse talents. The daughter of a teacher and a prop master, her upbringing in the film and music industry provides a unique lens through which she approaches dentistry and education. Her artistic roots shine through in her visually compelling marketing and social media content, which often pulls back the curtain on the creative process.

Through her content, Dr. Balaster shares her belief in consistent effort and deliberate action as the keys to crafting the life one desires. This philosophy, inspired by her formative years in the entertainment industry, resonates across her motivational talks, podcast, and even her clothing line. Her mission is to inspire others to embrace their narrative and recognize the artistry in crafting a fulfilling career and life.

Recently, in collaboration with Millennium Dental Technologies, Dr. Balaster created striking promotional content for this year's Closing Institute Boot Camp in Las Vegas. Filmed and directed by the creative team at Progressive Dental, these campaigns have garnered significant attention. At the Boot Camp, Dr. Balaster introduces LANAP (Laser-Assisted New Attachment Procedure), LAPIP (Laser-Assisted Periimplantitis Protocol), and BLAST (Laser-Assisted Implant Success Protocol). These innovative laser dentistry protocols exemplify her commitment to integrating cutting-edge techniques with holistic patient care.

Bart Knellinger, CEO of Progressive Dental, shared his own story of collaborating with Millennium Dental Technologies, but this year marks the first time a speaker from MDT will follow his introduction. Geritt Cora, VP and managing partner of Progressive Dental, emphasizes the importance of this addition, noting, "The Closing Institute stands for full-mouth comprehensive dental care, and it's a natural progression to include LANAP in the conversation."

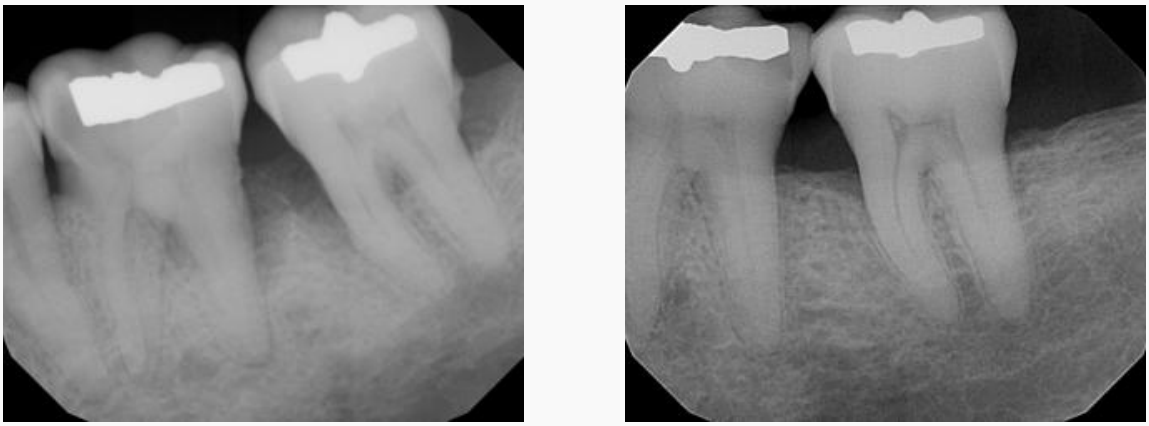
Dr. Balaster agrees, stating, "The comprehensive care LANAP provides extends beyond oral health. By addressing periodontal disease and its associated inflammation, we not only enhance oral health but also significantly reduce its systemic impact on the body." LANAP, a minimally invasive periodontal treatment, utilizes PerioLase MVP-7 technology to regenerate tissue and restore oral health. This innovative protocol underscores the importance of treating the mouth as integral to overall health—a philosophy that defines Dr. Balaster's approach to dentistry and patient care.

ALL IMAGES COURTESY OF SARAH BALASTER

It is a laser mono-therapy meaning it does not use any additional biologics such as bone, membrane or growth factors. The Periolase MVP is a soft tissue Nd-Yag Laser with a 1064 nm wavelength, and designed with 7 multi-variable pulse durations. The wavelength 1064nm is highly absorbed by and can therefore affect inflamed tissues, chromophores within pathogenic bacteria, hemoglobin, and melanin while not being absorbed in water. The LANAP protocol was developed for use with the Periolase MVP-7 in 1990 and received FDA clearance for True Regeneration on previously diseased root surface in the absence of long junctional epithelium following submission of over 28 pages of human histologic evidence in 2016. This laser has been scientifically shown to selectively remove inflamed epithelium without damaging healthy tissue, significantly decrease periodontal pathogens and allow for the formation of a stable blood clot to act as barrier membrane, which allows for the regeneration of the periodontal apparatus (PDL, bone and cementum).

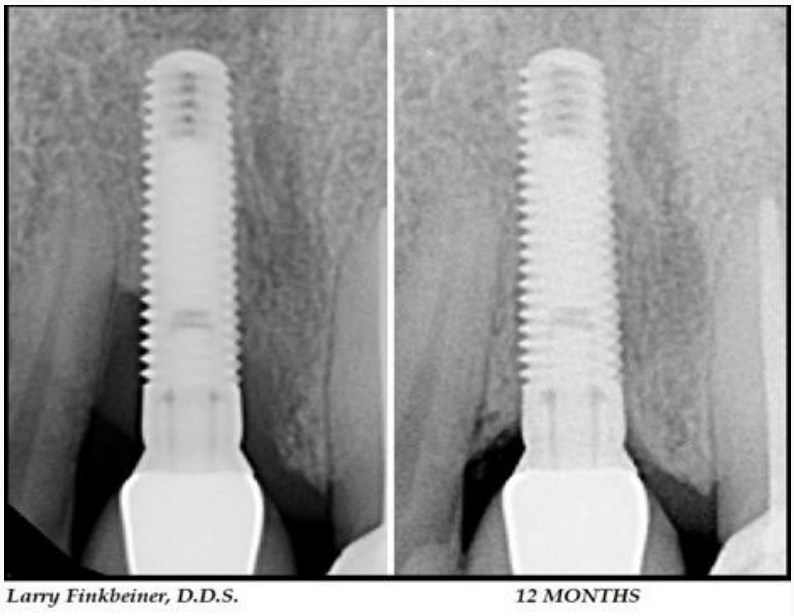
The LANAP protocol effectively kills bacteria in the treated area, providing systemic benefits and supporting overall body health. In a study out of Tufts University, it is shown that 80% of pockets treated with the LANAP protocol culture negative while 100% of pockets treated with traditional periodontal therapy cultured positive. This reduction in bacterial load was still significant at 90 days. Its application extends to treating peri-implantitis around dental implants where the LANAP protocol has been thoughtfully adapted and applied as the LAPIP protocol offering results in line with traditional Guided Tissue Regeneration (GTR) techniques and providing minimally invasive treatment for peri-implant mucositis and peri-implantitis. This scientifically validated procedure, leveraging the basic biologic principles of traditional periodontal regeneration and selective light-tissue interaction, make LANAP and LAPIP predictable and significant advancements in periodontal therapy. These therapies are considered less painful compared to conventional gum surgery, making them more appealing to patients and encouraging treatment among those previously too afraid to seek care. Dawn M. Gregg, DDS, VP of Operations and Training Director at Millennium Dental Technologies, adds, “LANAP & LAPIP clinicians experience higher case acceptance while offering hope to patients with otherwise hopeless teeth and implants.”

Fig 1 : Case Courtesy of Dr. Allen Honigman Periodontist Pre and 12 month post LANAP therapy radiographs.



Pre-Op *12 Month Post-Op*

Fig 2: Case Curtesy of Larry Finkbeiner Pre and 12 months post LAPIP



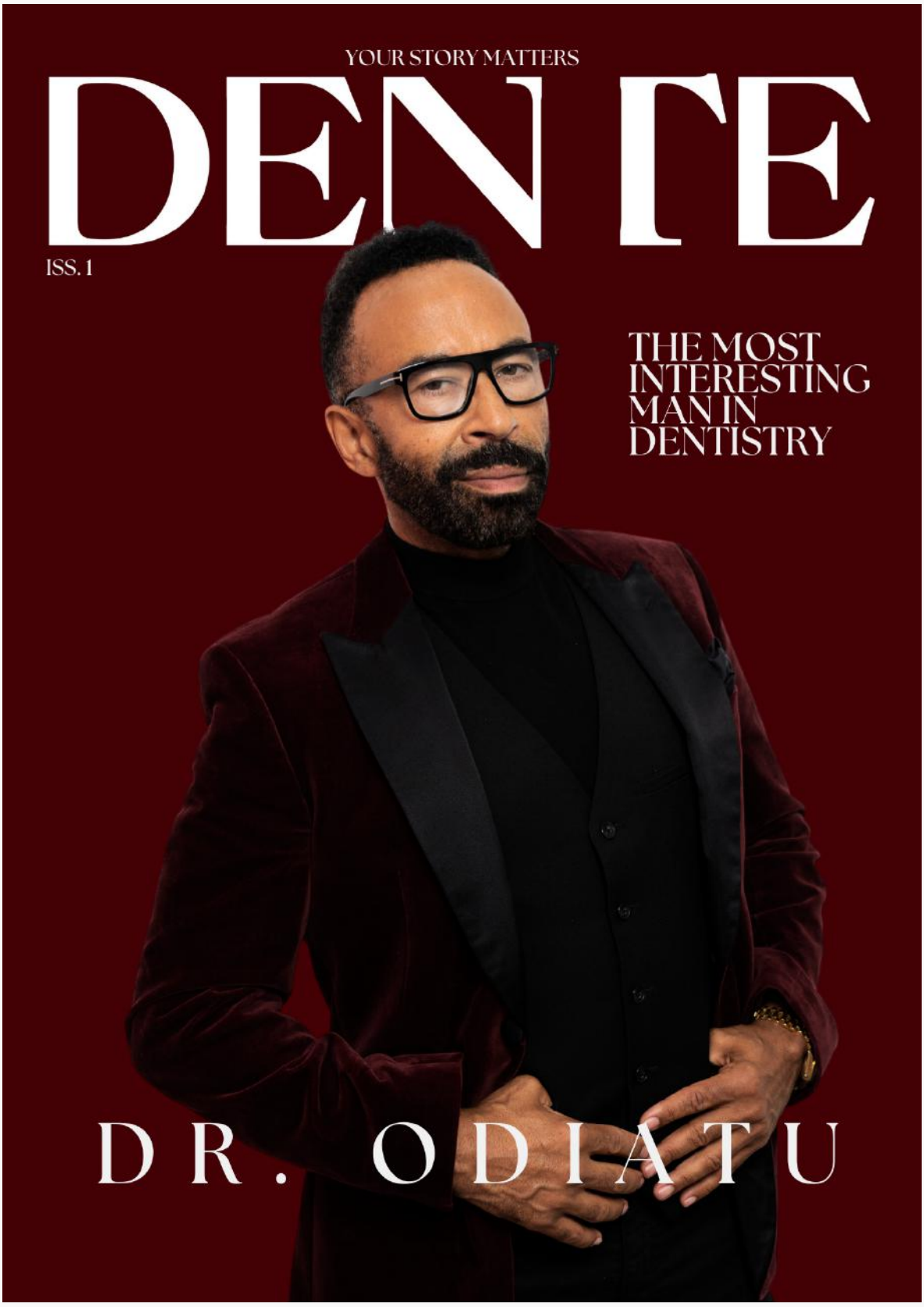
"Treatment methodologies that both appeal to patients and allow clinicians to address untreated oral-systemic disease in a comprehensive way are the driving force that will reshape how a new generation of providers practice." shares Dr. Balaster, who understands the power of visibility and the importance of empowering both patients and clinicians. With a growing fan base and following, she uses her platform to raise awareness about the holistic benefits of modern periodontal treatments empowering individuals to make informed choices about their care, driving change in the industry. "Technology represents change which can be scary, but it's time to put down the scalpel and let the light lead the way,"

Dr. Sarah Balaster

Dr. Balaster's approach to periodontics is a testament to the power of innovation, marketing, and the importance of holistic care. Her work with Millenium Dental Technologies is not just transforming the field but also raising awareness of a new standard for patient care.

To learn more check out relevant content and follow along on socials as the story unfolds: @drsarahbalaster @periolase4lanap @progressive_dental_

Still can't get enough? Dr. Balaster's innovative style of motivational speaking, merch, mailing lists, podcasts, event engagements, and to-dos have been bottled for regular consumption on her website: www.sarahbalaster.com.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