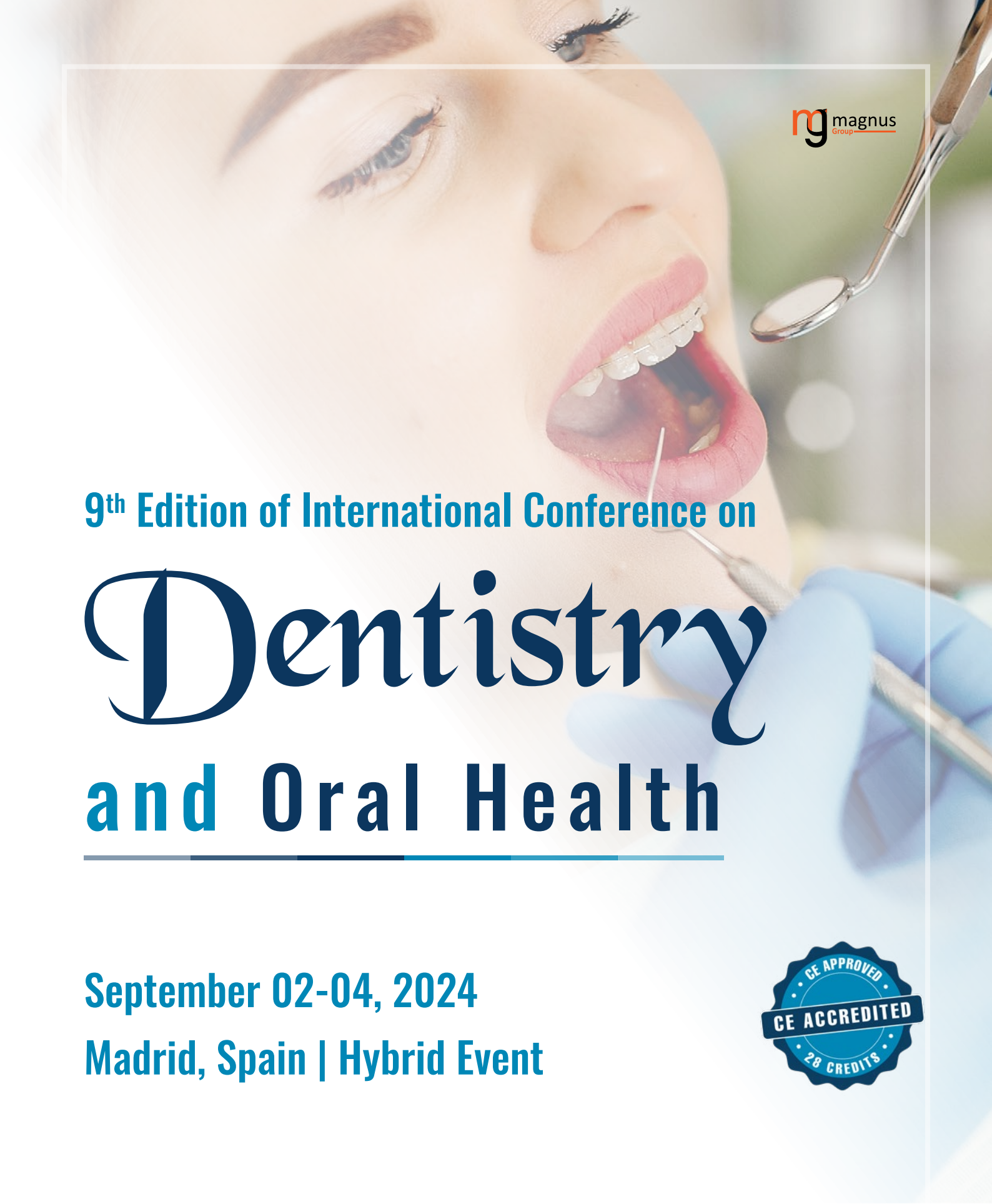

## 9th Edition of International Conference on

# Dentistry and Oral Health

## September 02-04, 2024

## Madrid, Spain | Hybrid Event

CE APPROVED
CE ACCREDITED
28 CREDITS

Venue: Rafaelhoteles Atocha

C. de Méndez Álvaro, 30, 28045 Madrid, Spain

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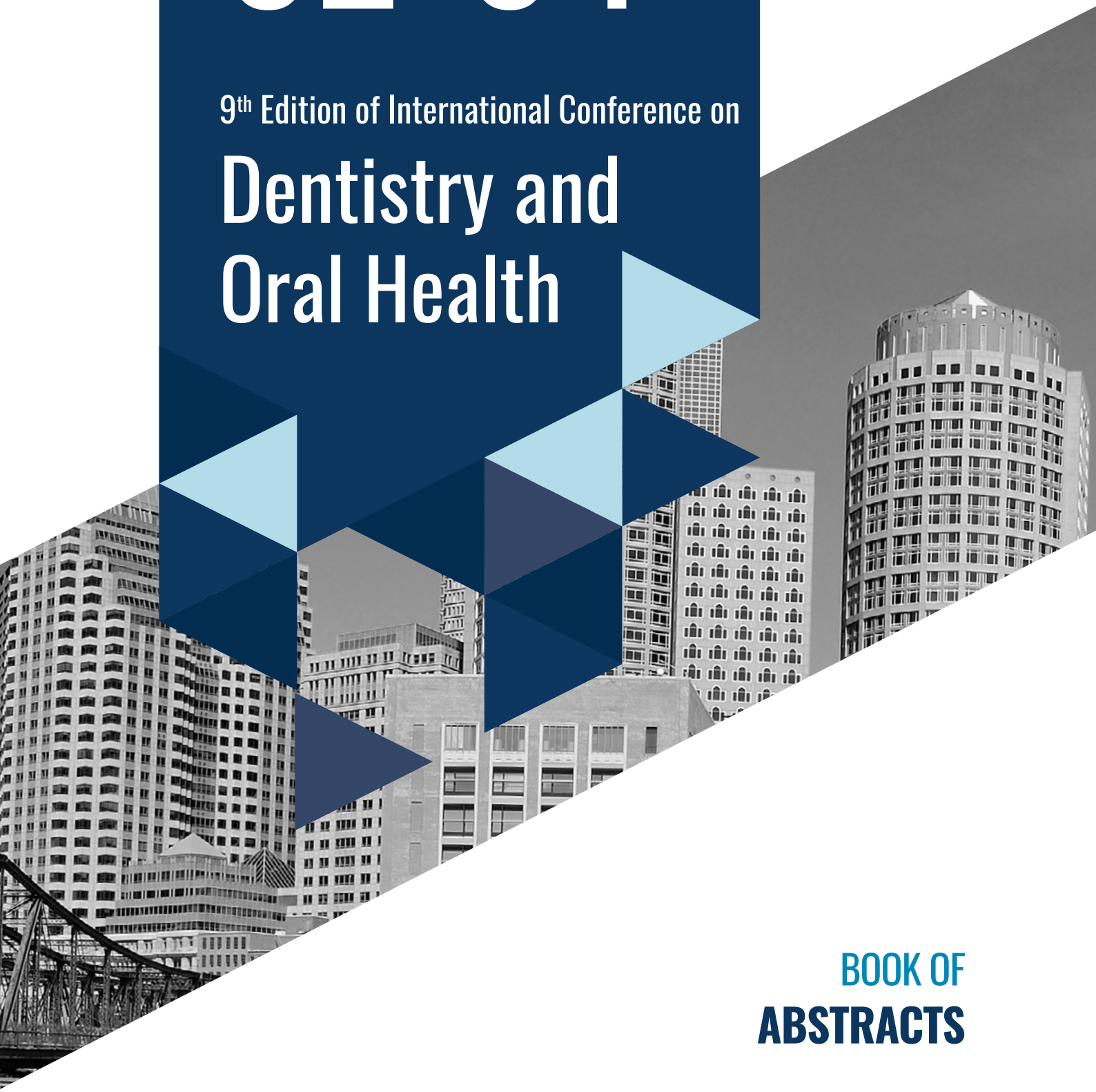
# 02-04

9th Edition of International Conference on

# Dentistry and Oral Health



BOOK OF

**ABSTRACTS**

# Keynote Speakers

**David Gillam**
Queen Mary University of London, United Kingdom

Jaap Boehmer
Rijnstate Hospital, Netherlands

Steven J Traub
American Institute of Oral Biology, United States

Zvi G Loewy
New York Medical College, United States

Yasser Khaled
Marquette University, United States

Preetinder Singh
Academy of Oral Surgery, United States

Rolf Ewers
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Hariharan Ramakrishnan
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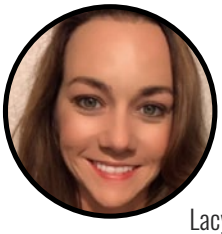
Laurindo Moacir Sassi
Erasto Gaertner Hospital and Mackenzie Evangelical University Hospital, Brazil

Maggie Augustyn
Untangle Me, LLC, United States

Andrea Scribante
University of Pavia, Italy

Maurizio Pascadopoli
University of Pavia, Italy



Lacy Walker
Shared Hygiene, LLC, Germany

*Thank You All...*

# Speakers

**A Queen Alice**
AIIMS, India

**Abdulrahman Almalki**
Prince Sattam Bin Abdulaziz University, Saudi Arabia

**Aditya Singh Patel**
Sharad Pawar Dental College & Hospital, India

**Ahmad Hashridz Bin Ruslan**
Universiti Sains Malaysia, Malaysia

**Ahmed Mohamed Hebeshi**
Prosthodontist at Egyptian Ministry of Health, Egypt

**Amitha H. A, VS Dental**
College and Hospital, India

**Anurag Tripathi**
George Medical University, India

**Arshia Rashid Baig**
Sharad Pawar Dental College and Hospital, India

**Ashley Bond**
Chief Dental Billing Officer at Wisdom, United States

**David Williams**
OMFS Musgrove Park Hospital, United Kingdom

**Debora do Canto Assaf**
Universidade Franciscana, Brazil

**Deep Shah**
Molar Bear Dental Studio, India

**Duc-Minh Lam-Do**
Montreal Tongue-Tie Institute, Canada

**Eduardo Rubio**
Argentinian Catholic University, Argentina

**Elishan Aruliah**
Prince of Wales Hospital, Australia

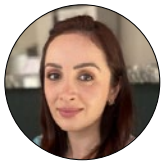
**Emmanuel Samson**
Government Medical college Miraj, India

**Gaurav Mishra**
King George's Medical University, India

**Gaurav Vishal**
Prathima Cancer Institute, India

**Jackson Martins Kalinoski**
Implants Clinica Odontologica, Brazil

**Jamal Hassan Assaf**
Federal University of Santa Maria and Private Clinic, Brazil



**Jessica de Oliveira Rossi**
University of São Paulo, Brazil

**Jonathan Bonanno**
Chief Psycho & CE Computech, United States

**Kanika Gupta Verma**
Teerthankar Mahaveer University, India

# Speakers

**Khoa Le, Eyes of AI**
Chief Executive Officer, Australia

**Lujain AlSahman**
King Khalid University, Saudi Arabia

**Luke Chung**
Royal Darwin Hospital, Australia

**Madhulika Banerjee**
Vishnu Dental College, India

**Maedeh Ghorbanpour**
Islamic Azad University, Iran (Islamic Republic of)

**Mark Rozenbilds**
Royal Darwin Hospital, Australia

**Mihajlo Petrovski**
Goce Delcev University, North Macedonia

**Mohamed Azhari**
International University of Rabat, Morocco

**Ozair Erfan**
Herat University, Afghanistan

**Pantelejmon Trpchevski**
Medical University – Varna, Bulgaria

**Pradnya S Jadhav**
Government Dental College & Hospital, India

**Ramesh Nagarajappa**
The Oxford Dental College, India

**Sachin Shashikant Metkari**
Nair Hospital Dental College, India

**Salah Mohammed Hafedh**
CEO of Genesis Medical & Cosmetics, Yemen

**Shveta Setia Thareja**
SGT University, India

**Teslimat Ajeigbe**
Alder Hey Children's Hospital, United Kingdom

**Vijay Kumar S**
Amrita Vishwa Vidyapeetham, India

**Yeganeh Arian**
Kerman Medical University, Iran (Islamic Republic of)

**YuYeon Jung**
Catholic Kwandong University, South Korea

*Thank You All...*

# Welcome Message

**David Gillam**

Queen Mary University of London, United Kingdom

Dear Attendees, Presenters, Organizing Committee and Distinguished Guests

The invitation to write this welcome message is both an honour and a privilege and as such I am very grateful to be the Organizing Committee of ICDO 2024. I would like to warmly welcome you to the 9th Edition of International Conference on Dentistry and Oral Health which will be held in the historical city of Madrid or alternatively on-line (if you are unable to present in-person). With the theme of this year's conference Observing Recent Advances and Leveraging Innovation in Dentistry, you will have the opportunity to listen to well-known speakers on a wide range of topics over the course of the conference. There will also be an opportunity for colleagues to present their area of expertise to their colleagues, which in turn will help foster cooperation between colleagues across the research world. I hope that you will not only enjoy the conference but also establish links for future research as well as foster friendships that will endure for years to come.

# Welcome Message

**Yasser Khaled**

Marquette University, United States

Dear Conference Attendees,

It is an honor and great pleasure to write a few welcome notes towards International Conference on Dentistry and Oral Health. We are living in the era of ever-escalating national crisis of oral health problems and its related comorbidities in both adults and youth. A multi-disciplinary approach linking basic, clinical and public health research is desperately necessitated to advance our understanding of the growing pandemic of oral health issues. It will be a great opportunity for the participants from all around the world including young and senior researchers, scientists, clinicians and academicians to gain knowledge with the up-to-date research in oral and dental care.

# ABOUT
# MAGNUS GROUP

Magnus Group, a distinguished scientific event organizer, has been at the forefront of fostering knowledge exchange and collaboration since its inception in 2015. With a steadfast commitment to the ethos of Share, receive, grow, Magnus Group has successfully organized over 200 conferences spanning diverse fields, including Healthcare, Medical, Pharmaceutics, Chemistry, Nursing, Agriculture, and Plant Sciences.

The core philosophy of Magnus Group revolves around creating dynamic platforms that facilitate the exchange of cutting-edge research, insights, and innovations within the global scientific community. By bringing together experts, scholars, and professionals from various disciplines, Magnus Group cultivates an environment conducive to intellectual discourse, networking, and interdisciplinary collaboration.

Magnus Group's unwavering dedication to organizing impactful scientific events has positioned it as a key player in the global scientific community. By adhering to the motto of Share, receive, grow, Magnus Group continues to contribute significantly to the advancement of knowledge and the development of innovative solutions in various scientific domains.

# ABOUT
# ICDO 2024

Magnus Group invites you to the 9th Edition of the International Conference on Dentistry and Oral Health (ICDO 2024), happening from September 02-04, 2024. This hybrid event, held both in the vibrant city of Madrid, Spain and virtually, centers on the theme ORAL: Observing Recent Advances and Leveraging Innovation in Dentistry. The conference will focus on modern dental practices and oral healthcare, aligning with global health goals.

ICDO 2024 will be a key platform for collaboration, bringing together researchers, scientists, dentists, and industry experts. The event will foster the exchange of innovative ideas, expertise, and the building of professional networks, encouraging co-development of policies and partnerships among dental professionals and stakeholders.

With an agenda packed with keynote addresses, oral presentations, poster sessions, and panel discussions, attendees can look forward to an inspiring experience that drives the future of dentistry and oral health, contributing to global health initiatives.

# ABOUT
## CE Accreditation

The Continuing Education (CE) credits available at ICDO 2024 hold significant value for participants, recognizing and affirming their dedication to continuous learning and professional growth. Earning CE credits brings numerous advantages, such as advancing one's career, upholding professional credentials, expanding knowledge base, and fostering networking opportunities. By attending ICDO 2024 and acquiring CE credits, individuals showcase their commitment to ongoing education, elevate their professional standing, and open doors to career progression. Moreover, meeting a minimum CE credit requirement is often obligatory for maintaining certifications or licenses in various fields. The ICDO 2024 Conference not only offers ample networking chances with peers and experts but also facilitates the expansion of professional connections and the cultivation of potential collaborations. Notably, each attendee will receive a total of 28 CE credits at the conference.

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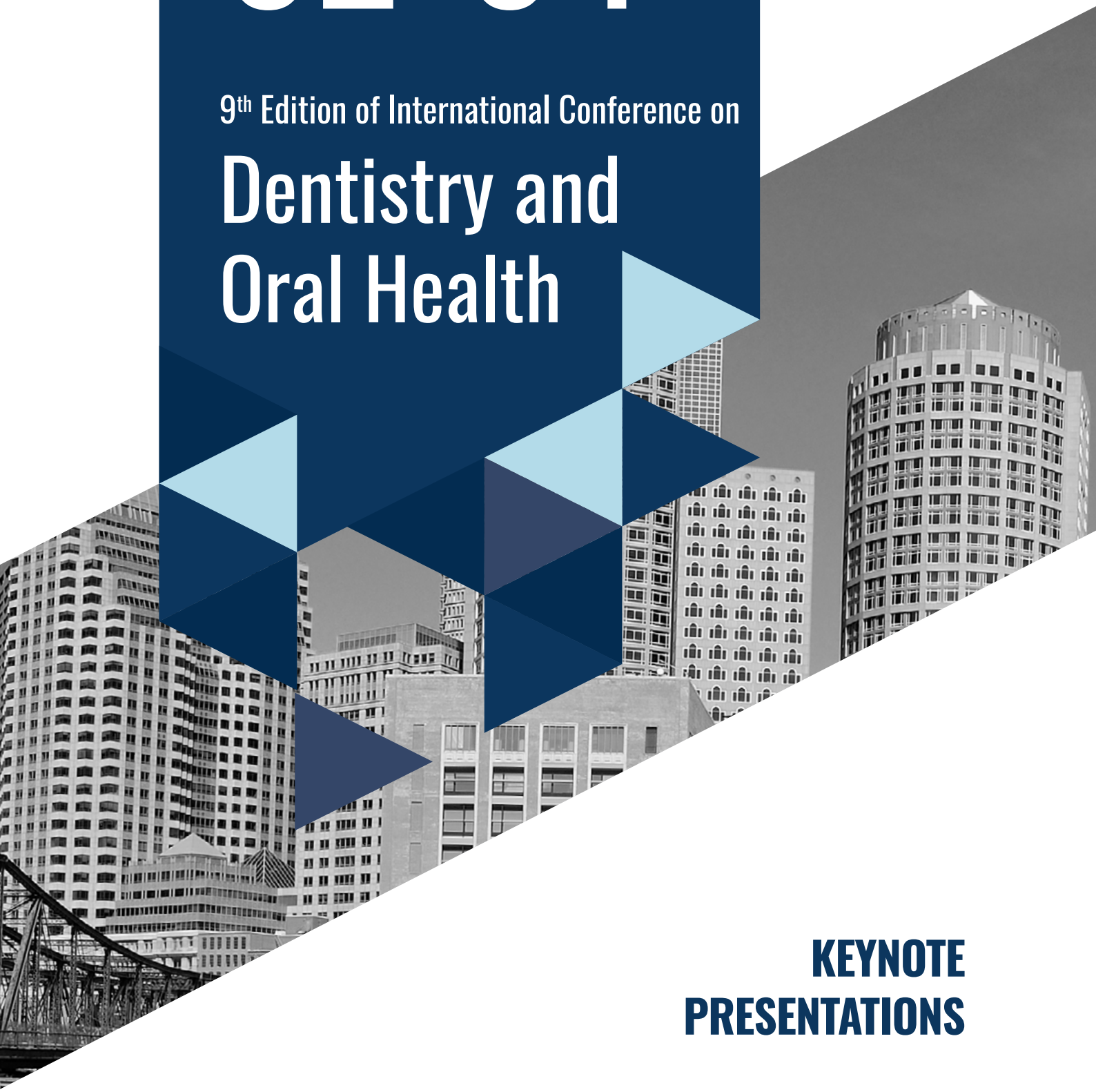


## KEYNOTE PRESENTATIONS

## Clinical applications of ozone in dentistry

In recent years, ozone has gained attention in dentistry due to its broad-spectrum antimicrobial activity and potential therapeutic applications. Ozone can be administered in three different forms, in relation to the various fields of dentistry which are involved. Gaseous ozone can be administered for the management of dental caries and the remineralization of early carious lesions by promoting the deposition of minerals such as calcium and phosphate onto tooth surfaces. Moreover, it is used for disinfection and sterilization in dental settings due to its rapid action against bacteria, viruses, and fungi. It is an effective tool for disinfecting dental instruments, operative surfaces, and dental unit waterlines, contributing to infection control, and ensuring patient safety. Instead, ozonated oils and ozonated water can be employed in the disruption of oral biofilms to promote periodontal healing as an adjunct to conventional mechanical debridement therapy, for the disinfection of root canals in endodontics, and for soft tissues healing. These benefits are supported by evidence, making it a viable treatment option. However, additional research is necessary to clarify the best protocols, safety considerations, and long-term effectiveness to fully utilize ozone in improving dental care outcomes.

**Audience Take Away Notes**

- Audience will understand the mechanisms of ozone administration in dental setting, its benefits and advantages.
- Clinicians will be given a glance on ozone use in dentistry, in details on oral cancer and periodontal disease.
- This presentation could help clinicians in the design of future clinical studies aiming at gathering further evidence on ozone in dentistry.

**Andrea Scribante[1,2*], Maurizio Pascadopoli[2*]**

[1]Unit of Dental Hygiene, Section of Dentistry, Department of Clinical, Surgical, Diagnostic and Pediatric Sciences, University of Pavia, 27100 Pavia, Italy

[2]Unit of Orthodontics and Pediatric Dentistry, Section of Dentistry, Department of Clinical, Surgical, Diagnostic and Pediatric Sciences, University of Pavia, 27100 Pavia, Italy

### Biography

**Andrea Scribante** currently works as an Associate Professor at the School of Dentistry, School of Dental Hygiene, and at the Postgraduate Program in Orthodontics (University of Pavia, Italy). He is a Clinical Resident of the Unit of Orthodontics and Paediatric Dentistry, Section of Dentistry, Department of Clinical, Surgical, Diagnostic and Paediatric Sciences, University of Pavia. He actively participates in academic publications and has signed over 130 publications on Scopus/PubMed indexed international Journals. He is also the Editorial Committee/Editorial Board Member of many international journals, and a Top peer reviewer in Publons.

**Maurizio Pascadopoli** is an Orthodontic Specialist at the Postgraduate Program in Orthodontics of the University of Pavia. He is currently a Research Fellow at the same University. Clinical Tutor for the teaching of Oral Pathology, he is author of publications in indexed and impacted international journals. Its interests are ozone applications in dentistry, the clinical use of probiotics for periodontal purposes, and the use of modern technologies in Orthodontics.

## Clinical diagnosis and management of dentin hypersensitivity, practical suggestions for its diagnosis and management

The aim of this presentation is to consider the problems that may be associated with diagnosing dental pain, in particular Dentin Hypersensitivity (DH) and to advise on the management on the condition. It is evident from reading the published literature that clinicians are not routinely examining their patients for DH or considering eliminating other possible causes of dental pain (differential diagnosis) prior to any subsequent management. One of the problems that clinicians face when trying to diagnose dental pain, is that there are several clinical conditions that may elicit the same clinical symptoms as DH. It is therefore important that the clinician eliminates any other possible cause of dental pain by recording a thorough medical, dental, and social history together with a well conducted clinical examination with the relevant tests before a correct diagnosis of DH is determined. Furthermore, the collection of information relating to the aetiology, predisposing factors and clinical symptoms associated with DH is also relevant to the successful management of the condition. DH is by its definition, a diagnosis of exclusion which focuses the clinician to conduct a differential diagnosis leading to a definitive conclusion, however in some instances, this can be a prolonged process particularly in a new patient. During the presentation several strategies for successful management of DH will be proposed highlighting the importance of prevention and motivation of the patient together the appropriate in-office (professionally applied) and over the counter products to help resolve the problem and its impact of the individual's quality of life.

**Audience Take Away Notes**

- To highlight the problems in diagnosing dental pain, in particular Dentine Hypersensitivity (DH).
- To help clinicians identify the key clinical features of conflicting dental conditions prior to making a definitive diagnosis.
- To help clinicians use a management strategy that may help them in the treatment of DH.
- To highlight the importance of prevention and motivation in the management of DH.


### Dr. David G Gillam

Centre for Oral Bioengineering, Institute of Dentistry, Barts and the London School of Medicine and Dentistry QMUL., London, UK


**Biography**

Dr. David Gillam graduated from Edinburgh University in 1977 and has clinical experience in both academic, general dentistry, and periodontology. Besides his work in academia, David has many years of industry experience as well as having conducted laboratory and clinical research with leading oral health companies. Currently he is a Reader at the Barts London School of Medicine and Dentistry (QMUL). He has considerable expertise concerning dentine hypersensitivity and periodontal disease and is internationally regarded on these subjects. David was also a co-inventor of Ultradex Recalcifying and Whitening – a nano hydroxyapatite toothpaste and Oral Rinse with Professor Hill and colleagues as well as being a co-inventor with Professor Robert Hill and colleagues with Biomin toothpaste (a bioactive low fluoride formulation). He has written over 150 papers as well as writing several books and book chapters on various dental conditions.

## The oral/systemic link demystified: Tell your mom you are a real doctor!

Periodontal disease is chronic inflammation unchecked. Why does this occur? What is the sequence? This program will explain and simplify the downward spiral of periodontal disease—from beneficial acute inflammatory response to chronic unresolved inflammation with its direct impact on systemic health.

**Audience Take Away Notes**

- Achieve a clear and simple understanding of the progression of periodontal disease from a clinical, cellular, and biochemical level
- Discover the local/systemic link pathway of action between periodontal disease and systemic disease
- Learn about the relationship of periodontal disease to other chronic inflammatory diseases of aging
- Learn about a simple new chairside test to measure oral inflammation and evaluate treatment success


### Fay Goldstep

International Speaker, Canada


**Biography**

Dr. Fay Goldstep has served on the teaching faculties of the Post-graduate Programs in Esthetic Dentistry at SUNY Buffalo, the Universities of Florida (Gainesville), Minnesota (Minneapolis), and has been an ADA Seminar Series speaker. She has written and lectured nationally and internationally on Proactive/Minimal Intervention Dentistry, Oral Inflammation, Soft-Tissue Lasers, Electronic Caries Detection, Bioactive Dental Materials and Innovations in Hygiene. Dr Goldstep has been a contributing author to four textbooks and has published more than 100 articles. She is a Fellow of the American College of Dentists, International Academy for Dental-Facial Esthetics, American Society for Dental Aesthetics and the Academy of Dentistry International. She sits on the editorial boards of Oral Health Journal (healing/preventive dentistry), Dental Tribune US Edition, Dental Asia and REALITY. She has been listed as one of the leaders in continuing education by Dentistry Today since 2002.

## BCS: The king of dental implants

Bicortical Screws (BCS/BECES), are entirely smooth surfaced implants increasingly used in intraoral applications, providing a stable anchor for dental prostheses and oral rehabilitation. Intraoral BCS implants are used to retain dentures, bridges, and crowns, improving oral function and aesthetics. They are particularly useful in patients with limited bone availability or instability of the prosthetic device.

Intraoral BCS implants are placed in the jawbone, (maxilla and mandible), integrating with the surrounding bone to provide a secure anchor for prosthetic devices. This innovative solution offers improved stability, comfort, and speech clarity. The implants are made from biocompatible materials, minimizing the risk of adverse reactions.

The use of BCS implants in intraoral applications has revolutionized oral rehabilitation, offering a reliable and effective solution for individuals with dental defects or tooth loss. With proper care, intraoral BCS implants can last for many years, significantly improving oral function and overall well-being.

This case series of BCS implants showcases various clinical situations that had been successfully managed.

**Audience Take Away Notes**

- They need to understand first wat bcs implants means, and then attend a clinical course.
- Learning to place BCS implants will increase their clinical income
- This research could be used by other faculty to expand their own research or teaching
- BCS implants provide amazing clinical solutions

**Prof Dr. Hariharan Ramakrishnan**

Principal and Professor of Prosthodontics and Implantology, Thai Moogambigai Dental College and Hospital, Dr. MGR Educational and Research Institute, Chennai, Tamilnadu, India

**Biography**

Hariharan Ramakrishnan did B.D.S (Bachelor of Dental Surgery): College Studied: Ragas dental college & Hospital, Chennai, Tamilnadu, India. M.D.S (Master of Dental Surgery): Specialty: Prosthodontics and Implantology College Studied: Saveetha Dental College & Hospital, Chennai, India. P.G.D.H.M (Post Graduate Diploma in Hospital Management): University Studied: Madurai Kamaraj University, India. Fellowship in Laser Dentistry: World clinical laser institute, USA, Certificate in BPS (Biofunctional Prosthetic System), CADET, in association with Schaan, Leichenstein, Scholar of International Team for Implantology. Certificate in BPS (Biofunctional Prosthetic System) CADET, in association with Schaan, Leichenstein, 2013. Certificate in Cortico basal Implantology, International Implant Foundation, Munich, Germany. 2021, Specialist training in immediate functional loading. National Award Winner: Prestigious AKS Global Faculty Award 2020, India. National Award Winner: Prestigious KTK Bharat Shiksha Gaurav Purushkar Award, 2021, India. Recipient of the Best Educationist Award, 2022. The award was Presented to me on February 20, 2022 by KTK Outstanding Achievers and education foundation. New Delhi, India. Recipient of the Best Researcher Award, 2022. The award was presented on May 14, 15, 2022 by INSO Awards, International Research awards on Science, Technology and Management, Chennai, India. Recipient of Eminent Educationist of India Award", 2022. The award was presented on November 22, 2022 by KTK Outstanding Achievers and education foundation. New Delhi, India. Recipient of 'Cureus Laureate Title from American Journal Cureus (ISSN- 2168-8184), for extraordinary contributions to the Journal. The title was conferred on me by Journal's editor-in-chief. Recipient of the Pride of India International Award", 2023. The award was presented to Hariharan Ramakrishnan on February 19, 2023 by KTK Outstanding Achievers and education foundation. New Delhi, India. Editorial Board Member positions in National and International Journals. Journal of Clinical Prosthodontics and Implantology (ISSN: 2582- 9904), Official publication of the Tamilnadu and Pondycherry State branch of Indian Prosthodontic Society, India. Online Journal of Dentistry and Oral health (ISSN: 2641-

1962), USA. Acta Scientic Dental Sciences (ISSN: 2581- 4893), India. Journal of Dental health and oral research, India. Austin Journal of dentistry and oral disorders (ISSN: 2572- 7710), USA. Dental and oral health, England, UK. Journal of oral health and craniofacial science (ISSN: 2573- 6191), USA. Madridge Journal of dentistry and oral surgery (ISSN: 2639-0434), USA. Dental Oral Biology and Craniofacial Research (ISSN 2613-4950), Estonia, Europe, USA. Scientific archives of dental sciences (ISSN: 2642- 1623), USA. International Journal of dental medicine (ISSN: 2472-1360, 2472-1387), USA. Reviewer Board Member reviewer, since 2019 to till date for The prestigious Journal of Indian Prosthodontic Society (ISSN: ISSN: 0972-4052, E-ISSN: 1998-4057), Had successfully completed reviewing more than s25 articles. Invited Reviewer for Journal of Clinical and Diagnostic Research (ISSN-0973-709X). Invited Reviewer for Nature Journal – Scientific Reports (ISSN–2045-2322) Invited Reviewer for Springer Nature Journal: BMC Oral Health (ISSN-1472-6831) Invited Reviewer for Springer Nature Journal: Cureus (ISSN-2168-8184). Invited Reviewer for Springer nature Journal: Clinical Oral Investigations (ISSN: 1436-3771) Invited Reviewer for Hindawi Journal: Journal of Healthcare Engineering (ISSN-2040-2309) Invited Reviewer for Plos One.

## Prevention in medicine, especially in dentistry in the Netherlands

In the Netherlands, prevention in medicare is important. In the presentation is shown how it is done in health care in general medicine. Specially in dentistry, the dental profession succeeded to get for the youth till 18 years, nearly no decay. How did they do that? What is the role of the government and Insurance companies? Also the public health organizations worked with the dentists. The lecture gives Idea, what the dental profession can do in this field !


### Dr. Jaap Boehmer DMD

Rijnstate Hospital, Netherlands


**Biography**

Dr. J. Boehmer studied dentistry in Utrecht N.L. and graduated as MS in 1964. He worked in the Rijstate Hospital Arnhem as special Dentist and treated 3000 Children, under 6 years, handicapped persons and drugaddict Patients, with rampant caries under General Anaesthesia. He gave presentations about Prevention in Dentistry on T.V. and at political Parties in the Netherlands and on Congresses. From 1970 till 1980, he was a Member of the Board of the Dutch Dental Association. The Dental Hygienist was then introduced in the Netherlands.

## To present an innovative way to conventional techniques of reconstruction of the middle third of the face with a microvascularized fibular flap

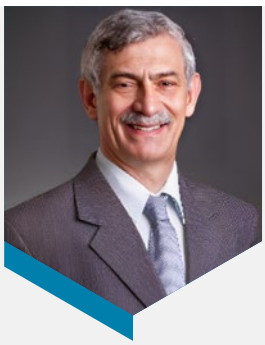
**Introduction**: What factors contribute to large resections of oral tumors? Tumors that reach the face make us more sensitized by their destruction. Each surgical process is a challenge, especially when there is a great reconstruction to be carried out due to the anatomical defect created by the resection of cancer in the region of the head and neck, which motivates the development of new reconstruction techniques. Reconstructions with microvascularized fibula retail are a routine in our institution, so this makes us seek alternatives to give better comfort to patients covering functionality and aesthetic issues.

**Objective**: To show reconstructions with microvascularized fibula retail in large defects in mandible and new technique for the zygomatic–maxilla complex reconstruction and orbital floor, due to the difficulty in rotating the soft tissues, pedicle.

**Method:** 1- For patients whom require complementary therapy with radiotherapy, there is a security time to exercise or indicate radiation treatment. With the variables of more contact surface area between the segments, which facilitates bone neoformation and retail stability, thus decreasing the chance of losses of osseous segments or necrosis. 2- (New technique) after harvesting The fibula free flap in the standard fashion, differentiated osteotomies, modeling and arrangement of the fibular bone segments are performed in the receptor site of the middle third of the face.

**Result**: These variables in the reconstruction technique of the microvascularized fibular retail have raised a satisfactory result in aesthetics and function.

**Conclusion**: These variables in the reconstruction technique of the microvascularized fibular retail have raised a satisfactory result in aesthetics and function. The new technique presented has the advantage in reconstruction of requiring only one flap, promoting the resolution of the technical difficulties of the middle third of the face.



**Prof. Dr. Laurindo Moacir Sassi PhD, MSc**

Erasto Gaertner Hospital Cancer, Center Mackenzie Evangelical, University Hospital, Brazil

### Biography

Prof. Dr. Laurindo Moacir Sassi is a Oral & Maxillofacial Surgery; PhD; MSc; DDS; Department's Chief Oral and Maxillofacial Surgery (Chief in Chair Oral and Maxillofacial Surgery). Erasto Gaertner Hospital Cancer Center-Curitiba–PR, Brazil; Residence Coordinator of (CTBMF)-Erasto Gaertner Hospital Cancer Center; Member of the (CTBMF) Service-Department of Otorhinolaryngology, Mackenzie Evangelical University Hospital-Pr; Member of the Brazilian College of Oral and Maxillofacial Surgery and Traumatology; Member of the Brazilian Society of Stomatology and Oral Pathology-SOBEP; Member International Journal of Oral & Maxillofacial Surgery; Book Author: Manual Prático para Desenvolvimento de Projetos de Pesquisa e Teses. Publishing company: Santos. 2011; Book Author: 25 anos de prevenção de câncer bucal no Paraná: Hospital Erasto Gaertner (1989 a 2013) Publishing company: Appris. 2013.

## Unmasking the impact of nutritional & airway deficiencies

Have you ever looked at someone and wondered if they might be lacking something essential—whether it be sleep, vitamins, minerals, oxygen, or water? Our face is a narrative, revealing our past, present, and can even give glimpses of our future. This course will delve into the art of recognizing deficiencies in sleep, nutrients, oxygen, and hydration by analyzing the face and mouth. The face not only reflects our current airway health and its development during childhood but also reveals our dietary habits, sleep quality, and hydration levels. Understanding the facial and oral indicators of these deficiencies is crucial for yourself and for guiding your patients toward optimal health.

In this insightful course, we will delve into the intricate relationship between nutrition and its effects on oral and systemic health. With a focus on understanding the consequences of inadequate nourishment, we will unravel how deficiencies in essential nutrients can manifest in various aspects of our physical, mental, and oral well-being. The goal of this course is to shed light on the significance of maintaining a balanced and nourishing diet, empowering you with the knowledge to make informed choices for a healthier and more vibrant life for you and your patients.

**Audience Take Away Notes**

- Recognize nutritional deficiencies observable on the face and within the oral cavity
- Recall the role of optimal nutrition in influencing overall well-being
- Evaluate the dental patient for potential airway problems that might impact their lifespan
- Comprehend the impact of systemic problems on both skin and oral health

**Lacy Walker RDH, BS, CDA, FAAOSH**

Shared Hygiene, LLC,
Kaiserslautern, Germany

**Biography**

Lacy Walker, RDH, BS, CDA, FAAOSH is a registered dental hygienist, speaker, author of the book Choices, and owner of Shared Hygiene LLC, with 25 years of experience in the dental field. She has worked in a psychiatric hospital, cosmetic, DSO, periodontal, and general private and military practices. Lacy is the CE director for A Tale of Two Hygienists podcast, a fellow with AAOSH, the public relations chair and President-Elect for the American Academy of Dental Hygiene. Lacy is one of the founding members of RDH Connect, is passionate about the oral-systemic connection, and has been published in Dr. Bicuspid, RDH magazine, DACE, and RDH Connect.

## Beyond the drill: From struggle to success

In this captivating lecture, Dr. Augustyn, a seasoned dental professional, shares her remarkable story of turning a struggling practice, Happy Tooth, into a beacon of generational wealth. With raw honesty and inspiring vulnerability, she reveals the challenges, triumphs, and invaluable lessons learned along the way. Dr. Augustyn delves into key concepts, strategies, methodologies, and tools that propelled her practice from financial uncertainty to absolute abundance. She fearlessly addresses the pain points that plague many dental professionals, asking the tough questions and offering practical insights: How can I break free from the limitations of a stagnant practice? What would happen if I only had $100 in the bank? Is it possible to overcome that? From figuring out who you are to living your truth, she covers it all. Dr. Augustyn specializes in making your learning experience both empowering and enjoyable. You'll walk away with actionable wisdom and a renewed sense of purpose in your own dental journey.

**Audience Take Away Notes**

- Examine and disassemble fear associated with a failing practice by showing proof that change is possible
- Demonstrate how inspiration, motivation and guidance from our own tribe can be used as hope that success is not just imaginable but also achievable
- Encourage asking for help from coaches and consultants, as well as family, friends and colleagues
- Create an environment for honest conversation for both our challenges and celebrations

**Maggie Augustyn DDS, FAAIP, FICOI**

Untangle Me, LLC, United States

**Biography**

Dr. Maggie Augustyn, FAAIP, FICOI, a general dentist, author, and inspirational speaker, has dedicated her life to helping others find empowerment, healing, and connection. Her personal journey, shaped by resilience and a deep empathy for others, has led her to become a leading voice in dentistry and a beacon of hope for those seeking their own path to self-actualization.

## Dealing with peri-implantitis: An insight to various treatment regimens

As one in six patients receiving implant therapy are likely to show signs of peri-implant diseases with varying degrees of severity throughout the lifespan of the implants, clinicians will be confronted with peri-implant complications requiring appropriate management. The ideal management of peri-implant infections should focus both on infection control of the lesion, detoxification of the implant surface, and regeneration of lost support. Treatment options can be surgical or nonsurgical. Host's medical status, defect configuration, aesthetic outcome, ability to access for plaque control post-treatment, and the patient's wishes are key factors to consider. The purpose of this presentation is to provide a contemporary synopsis on the management of peri-implantitis with emphasis on explantation.

**Preetinder Singh**

Academy of Oral Surgery, United States

**Biography**

Preetinder Singh (MDS) is working as a Senior Professor in Department of Periodontology & Oral Implantology in SDD Hospital & Dental College, India and as a Senior Consultant in various dental offices around the country. Dr. Singh is the Ambassador for American Academy of Oral Surgery. He is the Editor in Chief of Journal of Periodontal Medicine & Clinical Practice and Associate Editor of various other famous journals. He was awarded the Best Graduate Award and Gold Medal by Kurukshetra University, Haryana, India during his BDS, based on his outstanding academic record. He has a keen interest in academics, research and clinical practice. He has around 55 research publications in various national and international journals of repute. Dr. Singh is an invited senior reviewer for 5 leading international journals indexed in PUBMED. He also has three textbooks published internationally, attached to his career till date. Dr. Singh has a great interest in periodontal & implant research field and is an invited keynote speaker for corporate lectures on his expertise in dentistry at a national & international level. He also holds a place of doing the first study in India on use of recombinant PDGF in treatment of gingival recession defects. He is presently working on microsurgery, advanced Implantology, PRF, LANAP etc. Under his guidance and work, his department was awarded as the centre of excellence in dental implants in his state.

## The synergy in functional load of short dental implants and fiber reinforced substructures in free fibula transplants

This multi-center retrospective study evaluated the survival and success of short and extra short locking-taper dental implants placed in both maxillary and mandibular iliac crest-, fibula-, and scapula grafts.

A total of 49 patients were treated across five study sites and received 186 implants in iliac crest-, fibula-, and scapula grafted sites. Out of those patients, 34 received prostheses. Kaplan-Meier survival analysis was used to assess the survival and success rates of both implants and prostheses. Multivariate Cox regression was used to correlated study covariates to implant survival outcomes.

The overall thirteen-year implant survival rate was 86.2% (95% confidence interval: 81.6-94.0%), while the implant success rate was 78.9% (95% confidence interval: 62.3-87.7%.) The prosthesis survival rate at 12.8 years after prosthesis insertion was 89.4% (95% confidence interval: 62.5-95.4%); while the prosthetic success rate was 81.2% (95% confidence interval: 62.0-93.7%.) Implant placement in the mandible, patient age, systemic conditions, and irradiation after implant surgery were correlated with reduced implant survival; while maxillary implant placement, antiresorptive drug use, and tooth loss due to trauma were correlated with improved survival.

Short and extra short locking-taper dental implants provide a viable solution for the restoration of dentition in patients receiving iliac crest-, fibula-, and scapula grafts for maxillary or mandibular reconstruction.

**Rolf Ewers*, Vincent J Morgan, Mauro Marincola, Paolo Perpetuini**

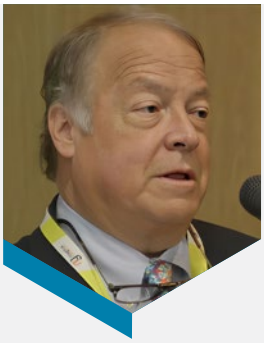
Emeritus Head of the University Hospital of Cranio-, Maxillofacial and Oral Surgery in Vienna/ Austria

### Biography

Professor Rolf Ewers is currently Chairman of the CMF Implant Institute Vienna, Austria. Raised in Germany, he studied Medicine and Dentistry in Freiburg, Germany. His Residency was started as a first year Surgery Resident at the Downstate University in Brooklyn, USA, continuing his training as a Cranio-Maxillo-facial and Oral Surgeon and finishing with his PhD in Freiburg, Germany. Since 1980, he was for 9 years Deputy Chairman of the University Hospital for Oral-Maxillofacial Surgery in Kiel, Germany. Until October 2012, for 23 years he was the Chairman of the University Hospital of Cranio-Maxillofacial and Oral Surgery in Vienna, Austria.

## Immediate molar implant surgery

This lecture includes a historical review of dental implant techniques and materials dating from 1982 to 2024, a 42 year experience. Special attention is paid to immediate maxillary and mandibular molar implants over an 11-year period of time from 2007 to 2018, citing over 800 consecutive cases in his office-based practice. In particular, the focus includes use of the palatal root space for maxillary molar implant anchorage. This is in opposition to socket preservation and socket grafting, with titanium being proven as the ultimate socket presrevative material.



**Steven J Traub**

American Institute of Oral Biology, United States

### Biography

Dr. Traub graduated from Creighton University School of Dentistry in 1978 following which he complete a 3-year Oral & Maxillofacial Surgery residency at Cook County Hospital in Chicago, Illinois, USA. He then enjoyed a full-time solo practice in his home town of Albuquerque, New Mexico USA until the summer of 2023. More recently, he has accepted a teaching position at Creighton University Dental School as a clinical professor in the Oral & Maxillofacial Surgery department. He is on the Board of Directors of the American Institute of Oral Biology (AIOB), still practices surgery part-time in Albuquerque, and is becoming certified by the International Academy of Independent Medical Legal Evaluators, being the first in his field in that organization. He has placed dental implants since 1982 and still does major facial traumatic reconstructive surgery.

## Diagnosis and management of Burning Mouth Syndrome (BMS)

Burning Mouth Syndrome (BMS) is the medical term for ongoing or recurring burning in the mouth without an obvious cause. Burning mouth syndrome can include a burning feeling in the tongue, lips, gums, throat, or roof of the mouth. Other symptoms may be thirst, a dry mouth, a bitter or metallic taste in the mouth, loss of taste and mouth tingling, stinging or numbness. Burning mouth syndrome usually comes on suddenly, but it can develop slowly over time. Often the specific cause can't be found. The frequency of symptoms can vary widely, from all day every day to sporadic. The feeling of burning can be severe, as if you injured your mouth with a very hot drink. Burning Mouth Syndrome (BMS) is a clinical diagnosis made via the exclusion of all other causes. No universally accepted diagnostic criteria, laboratory tests, imaging studies or other modalities definitively diagnose or exclude Burning Mouth Syndrome (BMS).

**Yasser Khaled BDS, MDSc, MMSc**

Director, Predoctoral Program in Oral Medicine, TMD and Orofacial Pain, Marquette University - School of Dentistry, P.O. Box 1881, Milwaukee, WI 53233

### Biography

Dr. Yasser Khaled is ason of a diplomat. He has visited 23 countries and worked and studied in 3 different continents around the world. He has a BDS from Ain Shams University, Egypt; a MDSc in Oral Pathology from the same university; a MMSc in TMD/ Orofacial Pain from the University of Alberta, Canada and finally, a GPR and Oral Medicine Certificate from Atrium Health, USA. He was awarded with hundreds of certificates from all around the world. He has won the Lester Burkett award from the American Academy of Oral Medicine for the best research in 2017. He has been a member of the Marquette University Academic Senate since 2018 until now.

## Models to assess microbial dysbiosis and oral microbiome transplantation

Innovative medical devices have enhanced health care and improved the overall quality of life. Although providing significant medical benefits, there are unfortunately a myriad of diseases that can be attributed to the presence of medical devices. Microbes can colonize on a medical device surface and cause infections, and at times can even lead to malfunction of the device. Microbial species are present either as planktonic cells or incorporated into biofilms. Biofilms evolve from the planktonic state and are characterized as dense micro-communities that grow on inert surfaces and encapsulate themselves with secreted polymers. When organisms form a biofilm, they are able to adapt to environmental change by altering their gene expression patterns. The biofilm structure and corresponding change in gene expression can protect the microbes from disinfectant agents or antibiotics. The resultant biofilm can pose a serious public health issue.

While different types of medical devices harbor biofilms, dental prostheses are some of the most pervasive. The majority of the oral microbes are commensal organisms. Those that are pathogenic microbes can result in oral infections, and at times initiate systemic diseases. The physical nature of biofilms and the survival mechanisms they possess, whether phenotypic adaptability or genetic resistance, leave them impervious to antibiotic treatment. Given the lack of response to traditional antimicrobial therapy, biofilm infections currently pose a great challenge to the world of medicine and odontology.

Despite the difficulty of eradicating biofilms, several conventional strategies do exist to control them. Methods to remove the biofilms include mechanical, chemical or biologic. In this study we focus on (a) the existing chemical methods and demonstrate novel activities and benefits associated with the chemical methods and (b) the application of novel natural products to elicit unique anti-biofilm activities.

**Audience Take Away Notes**

- An understanding of how denture wearers are at risk for systemic disease.
- An appreciation of the complexity of the oral microbiome.
- A general understanding of biofilm development.
- A description of emerging chemical and biological methods to control oral biofilms.

**Irene Berger[1], Adina Kagan[1], Rebecca Bock[1], Shira Nahon[2], Dr. Zvi Loewy[1,3*]**

[1]Touro College of Pharmacy, New York, NY

[2]Touro College, Lander College for Women, New York, NY

[3]New York Medical College, Valhalla, NY

**Biography**

Dr. Zvi Loewy is a senior academic leader and an experienced global pharmaceutical – biotechnology executive. He leverages a diversified background in big-pharma senior management, biotech startup creation and academia. Dr. Loewy has served as a board member of the New Jersey Bioscience Center Incubator since 2010. Dr. Loewy's international experience has included leading international research teams, championing the penetration and commercial launch of healthcare products world-wide, and leading open innovation in the Mid-East. Dr. Loewy received his PhD in Molecular Biology from the Albert Einstein College of Medicine. Dr. Loewy has over 25 issued patients.

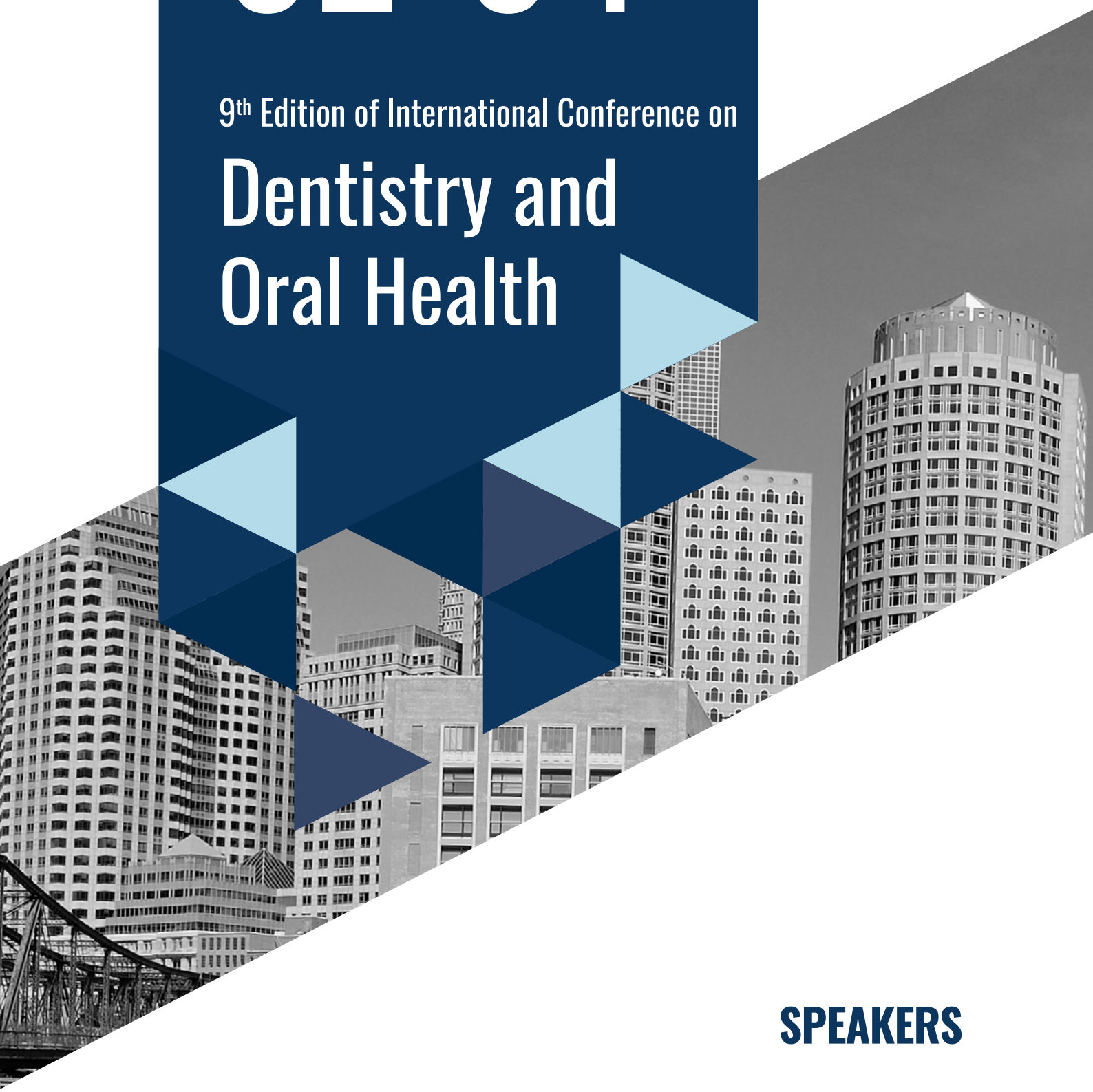
# BOOK OF ABSTRACTS

SEPT

# 02-04

9th Edition of International Conference on

# Dentistry and Oral Health



## SPEAKERS

**Dr. A Queen Alice MDS, PHD, PG Dip (Public Health), FICOI**

Assistant Professor, AIIMS, (All India Institute of Medical Sciences, Kalyani, West Bengal-741245)

# Impact of masticatory movements using dentures on brain activity as an early interventional tool to senile neuronal cognitive dysfunction

Total edentulism can have a markedly deleterious effect on an individual's well-being. There is a drastic demographic shift in different parts of the world resulting in an increase in ever 'super-aged' population due to an ever-increasing population and advances in medical technology. Complete tooth loss has been included as one of the ten leading causes of Years Lived with Disability. There is a drastic increase in the incidence of complete edentulism, along with other chronic Non-Communicable Diseases (NCDs). It is hypothesized to have a debilitating effect on cognition and memory, apart from more apparent impairments such as function and esthetics.

Depending upon the strength of the movements in the oral and maxillofacial area, there may be changes in the brain activity. Therefore, mastication stimulate the cerebral cortex activity and may be helpful in preventing degradation of a brain function. The process of ingesting food was considered a complex harmonization of memory conditioned reflexes, conscious and unconscious recognition.

**Audience Take Away Notes**

- By leveraging innovative solutions such as establishing masticatory movements in completely edentulous elderly population may reinnervate trigeminal nerve stimulation and shows progress in improving the neuronal cortical functioning.

**Biography**

Dr. Queen Alice completed BDS from Dr MGR Medical University, Chennai, India & MDS in Prosthodontics & Dental Implantology at Sri Ramachandra University, Chennai. She received her PhD degree from Annamalai University, Chidambaram, India. With two decades of work experience, she is currently working as an Assistant Professor in Department of Dentistry at AIIMS, Kalyani. (All India Institute of Medical Sciences) She serves as an scientific editor in reputed dental journals. She has many publications in PUBMED & SCOPUS indexed journals. Her expertise spans a wide range of domains such as QOL of Geriatric Denture Wearers, AI applications in Dentistry, Advanced Digital Dentistry, Biomarkers in Saliva & GCF and Dental Biomaterial Tribology.

**Abdulrahman Almalki BDS, MS, FACP, FRCDC**

Department of Prosthodontics, Prince Sattam Bin Abdulaziz University, Al-Kharj, Riyadh, Saudi Arabia

## Clinical applications for monolithic CAD/CAM implant-retained overdentures: Current applications and future direction

This presentation will focus on the clinical applications of monolithic CAD/CAM implant-retained overdentures, exploring both current uses and potential future directions. The discussion will cover the latest advancements in digital dentistry, focusing on the precision and efficiency that CAD/CAM technology brings to the fabrication of implant-retained overdentures. We will examine case studies demonstrating successful implementations and highlight the benefits of using monolithic materials for these prosthetic solutions, including improved strength, aesthetics, and patient satisfaction. Future trends and ongoing research in this field will also be discussed, providing a comprehensive overview of where the industry is headed.

**Audience Take Away Notes**

- Enhanced understanding of CAD/CAM technology.
- Practical application in clinical settings.
- Cost effective approach to provide implant overdentures.
- Understand ideal planning and implant consideration for overdentures.
- Efficient design process for reliable prosthesis.
- Improve patient outcomes and reduce number of total appointments.

**Biography**

Dr. Abdulrahman Almalki earned advanced education in prosthodontics and MS from the University of Pennsylvania, PA, United States. He is a Fellow of the American College of Prosthodontists (FACP) and the Royal College of Dentists of Canada (FRCDC). Currently, he serves as an Assistant Professor in the Department of Prosthodontics at Prince Sattam Bin Abdulaziz University. Dr. Almalki has published numerous research articles in peer-reviewed journals and is actively involved in clinical research focusing on digital dentistry and implant prosthodontics.

**Dr. Aditya Singh Patel[1*], Dr. Arshia Rashid Baig[2]**

[1]Professor and Head of the Department, Department of Conservative Dentistry and Endodontics, Sharad Pawar Dental College & Hospital, Sawangi (Meghe), Wardha, Maharashtra, India

[2]Reader (Associate Professor) Department of Conservative Dentistry and Endodontics, Sharad Pawar Dental College & Hospital, Sawangi (Meghe), Wardha, Maharashtra, India

## Study design in research

Selecting a study design is one of the preliminary stages in the setting up of a research project. The two core categories of study designs that now exist are observational and interventional. The most straightforward design among all the observational study designs is the descriptive one. It enables the investigation and categorization of the allocation of one or more variables by the researcher, autonomous of any underlying theories or other assumptions. The subtypes of descriptive study design are covered in this presentation along with their advantages and disadvantages.

**Audience Take Away Notes**

- Can learn about different types of study designs
- Help to select study design in their research
- Can be used by other faculty to expand their own research or teaching
- This provides a practical solution to a problem that could simplify or make a designer's job more efficient
- It improves the accuracy of a design, or provide new information to assist in a design problem

**Biography**

Dr. Aditya Singh Patel (BDS, MDS, PhD) currently working as Professor and Head in the Department of Conservative Dentistry and Endodontics at Sharad Pawar Dental College and Hospital, Sawangi (Meghe), Wardha. He completed his BDS in the year 2004, MDS in the year 2010 and PhD from Sharad Pawar Dental College & Hospital, Sawangi (Meghe), Wardha. He has more than 60 publications to his credit, contributed in more than 12 textbooks with 10 copyrights.

**Ahmad Hashridz Ruslan[1*], Ashwini M Madawana[2], Mohamad Arif Awang Nawi[3]**

[1]Orthodontics Unit, School of Dental Sciences, Universiti Sains Malaysia, Health Campus, Kelantan, Malaysia
[2]Paediatric Dentistry Unit, School of Dental Sciences, Universiti Sains Malaysia, Health Campus, Kelantan, Malaysia
[3]Biostatistics Unit, School of Dental Sciences, Universiti Sains Malaysia, Kelantan, Health Campus, Malaysia

# Clinical effectiveness of different types of maxillary protraction devices in cleft patient: A systematic review and network meta-analysis

In individuals with complete cleft lip and palate, maxillary growth is often hindered by the repair of the cleft lip and palate, leading to a Class III skeletal pattern and anterior crossbite. Traditionally, facemasks have been used for mild maxillary retrusion in these patients, though their orthopedic effects are limited, especially in cases of unilateral cleft lip and palate. Side effects of facemasks can include molar mesialisation and proclination of upper incisors. For moderate or severe maxillary retrusion, the accepted treatment is maxillary advancement with orthognathic surgery post-growth period, though this leaves patients untreated during childhood and adolescence.

Some studies have suggested that using modified surgical miniplates for skeletal anchorage with face mask treatment can enhance orthopedic effects. The Bone Anchored Maxillary Protraction (BAMP) protocol, involving miniplates in the maxilla and mandible with Class III intermaxillary elastics, has been introduced to improve midfacial growth and prevent unwanted vertical growth in the lower facial region.

Therefore, the purpose of this study was to evaluate the efficacy of the various maxillary protraction devices in patients with cleft lip and palate. The research examined two treatment approaches for maxillary protraction: class III elastics attached to mandibular and maxillary mini plates and facemasks attached to mini plates.

**Audience Take Away Notes**

- The audience will gain valuable insights into the latest treatment protocols for managing maxillary retrusion in individuals with cleft lip and palate. By understanding the efficacy of various maxillary protraction devices, including the Bone Anchored Maxillary Protraction (BAMP) protocol and facemasks attached to miniplates, practitioners can make informed decisions about the most appropriate treatments for their patients.
- Orthodontists and Surgeons: They will be able to choose the most effective treatment methods for correcting maxillary retrusion, potentially improving patient outcomes and reducing the need for invasive procedures.
- Paediatric Dentists: They can better plan early interventions and coordinate with orthodontists and surgeons to provide comprehensive care for young patients.
- Healthcare Providers: They will understand the benefits and limitations of different treatment options, allowing for more accurate counselling of patients and their families.
- This research provides a robust foundation for further academic exploration and can be integrated into teaching curricula. Academician and clinicians can use this information to:
- Expand Research: Investigate long-term outcomes of different maxillary protraction methods, explore new techniques, and study patient-specific responses to treatments.

- Enhance Teaching: Develop case studies and clinical training modules based on the latest protocols and offer specialized courses on craniofacial orthodontics.
- Other benefits.
    - Interdisciplinary Collaboration: Promotes collaboration between orthodontists, surgeons, and pediatric dentists, leading to comprehensive patient care.
    - Patient Education: Provides a basis for educating patients and families about the available treatment options and expected outcomes.
    - Improved Clinical Protocols: Encourages the development of standardized clinical protocols that can be widely adopted to improve patient outcomes.
    - Policy Development: Informs healthcare policymakers about the needs and challenges in treating craniofacial abnormalities, potentially leading to better healthcare policies and funding for research and treatment programs.
    - Enhanced Quality of Life: By effectively managing maxillary retrusion, patients can achieve better functional and aesthetic outcomes, improving their overall quality of life.

**Biography**

Dr. Hashridz Ruslan is an esteemed Specialist Orthodontist and Orthodontic Dental Lecturer at Universiti Sains Malaysia. He completed his Bachelor of Dental Surgery in 2016, Universiti Teknologi Mara (UiTM). In 2023, he graduated with Doctor of Clinical Dentistry in Orthodontic from The University of Edinburgh and earned the Membership of Orthodontics from The Royal College of Surgeons in Edinburgh. He is currently active in doing research and supervising both undergraduate and postgraduate students including Master and Doctorate level. With boasting years of experience, he is passionate about transforming smiles through precision care.

**Ahmed Mohamed Hebeshi**
Prosthodontist at Egyptian ministry of health, Egypt

## Chairside digital denture

Edentulism is not an eventual, healthy occurrence in an adult population. But it is most often the result of repeated tooth extractions from the combined pathologic processes of dental caries, periodontal disease, or a method to reduce the costs associated with dental treatment. A complete denture is a removable acrylic replacement for teeth and bone lost in an entire dental arch. Complete dentures are relatively economical, easy to fabricate and repair, and provide a level of esthetics and function acceptable to many patients. In recent years, an increasing number of reports have indicated the efficacy of denture fabrication using Computer-Aided Design/Computer-Aided Manufacturing (CAD/CAM) technology. The ability of additive manufacturing to mould multiple materials in combination based on CAD data influences the overall quality, the mechanical properties of printed parts, the total cost, and the manufacturing time. The milling process wastes large quantities of denture base material, and more recent 3D prototyping promises a more sustainable additive approach by using less denture resin.

**Audience Take Away Notes**

- Understand the concept of 3D printing
- Understand the difference between 3D printed denture and milled denture
- Understand chairside 3d printed denture workflow

**Biography**

Ahmed Mohamed Hebeshi holds a Bachelor of Oral and Dental Surgery from Ain Shams University, Egypt. Diploma of oral and maxillofacial surgery (Al-Azhar university, Egypt). Master of oral and maxillofacial prosthodontics (Ain shams university, Egypt). Hospital management Diplome (Zagazig University, Egypt). PhD in prosthetic dentistry (Suez Canal University, Egypt). Associate alumni of clinical research, Harvard Medical School (Harvard Medical School, USA). Dr. Ahmed Hebeshi published a lot of paper in the field of prosthodontics and implant dentistry.

**Dr. Amitha H.A[1*], Dr. Umaima Nadaf [2]**

[1]Assoiciate Professor, Department of Pediatric Dentistry, V.S Dental College and Hospital (under Rajiv Gandhi University of Health sciences, Bengaluru) India
[2]Postgraduate student, Department of Pediatric Dentistry, V.S Dental College and Hospital (under Rajiv Gandhi University of Health sciences, Bengaluru) India

# Comparative evaluation of antimicrobial effect of salivary Adrenomedullin (ADM) in children with Early Childhood Caries (ECC) and the caries free children

ECC (Early Childhood Caries) can begin early life of children (infant to preschooler) and progress rapidly in those who are at high risk, and If left untreated, leads to pain, bacteraemia, alteration in growth and development, premature tooth loss, speech disorder, increase in treatment costs, loss of confidence and negative affect on the successor permanent teeth. Hence prompt diagnosis and treatment becomes imperative.

Antimicrobial Peptides (AMPs) are a diverse class peptides that play a role in host defence of the oral cavity and other locations. Many AMPs have multiple functions and properties that influence aspects of innate defence and colonization by microorganisms. The various functional families of antimicrobial peptides in the oral cavity include; cationic peptides, neuropeptides, antimicrobial peptides showing bacterial agglutination and adhesion, metal ion chelation and protease inhibition activity against bacterial cell wall. (Michael Grö schl., 2009)

AMPs serve as effective biological molecules in the immune activation, inflammation and wound healing and are being extensively researched upon for clinical applications. Moreover, Development of caries in children has been linked with the low-level expression of a- defensins (Tao et al., 2005).

The purpose of the current study was to utilise the ELISA technique for accurate quantitation of salivary Adrenomedullin in the Children with ECC and the Caries free group using the Human adrenomedullin ELISA KIT to assess the antimicrobial effect.

Since only a few studies have been conducted studying the antimicrobial properties of salivary Adrenomedullin (Adm) and its function in the host's innate defence pertaining to the oral health, the current study would be the first of its kind that would try to assess the role of Salivary Adm in the paediatric age group particularly in Children with Early childhood caries and comparing the levels of Adm in normal children.

Salivary adrenomedullin levels could be a possible diagnostic tool in measuring the severity of ECC, an in-depth study into the immunological and microbiological characteristics of ECC becomes imperative to assist in prevention, proper diagnosis and treatment.

## Biography

Dr. Amitha H.A (presently working as Associate Professor in the Department of Pediatric dentistry) completed her under graduation (B.D.S) from A.B Shetty Institute of Dental Science and MDS (Pediatric dentistry) from V.S Dental and Hospital (under RGUHS Bangalore). As an undergraduate, she was a top student in the subject of Community dentistry and Oral medicine and also securing second rank in conservative dentistry under RGUHS (2002-2007). As a post graduate, she secured 5th rank in pediatric Dentistry. As an Assistant and Associate Professor in Department of pediatric and preventive dentistry in V.S dental College and Hospital, she presented numerous poster and papers in various National and International Conferences with several national as well as international publications in her name. She has also undergone training in Nitrous oxide Inhalation management of Special Children. She also recently presented a study for 6th Edition of International Conference on Dentistry and Oral Health (ICDO 2022) Organized by Magnus international conference (London).

**Dr. Anurag Tripathi (MDS), Professor**
King George Medical University, Lucknow, India

## Role of pulp volume method in assessment of age and gender in Lucknow, India - An observational study

Age and gender determination are required in forensic for victim identification. There is secondary dentine deposition throughout life resulting in decreased pulp volume and size. The study was done for age and gender determination using pulp volume.

**Context**: A study to estimate age and determine sex in adults by dental pulp volume method using CBCT in Lucknow population.

**Aims**: To evaluate pulp volume method to determine the age and gender of the patient.

**Settings and Design**: An in-vitro, cross-sectional, retrospective data based, observational study on individuals having age range between 18-70 years, with a sample size of 90. The subject's scans were randomly selected according to the exclusion/ inclusion criteria's.

**Methods and Material**: The data of Maxillary Central Incisors (CI) and maxillary Canine (C) of the selected sample were assessed for pulp volume using a software with a cutting tool for measurement of the pulp volume.

**Statistical Analysis**: Chi Square Test, Arithmetic Mean, Standard deviation, Pearson's Correlation, Linear & Logistic regression analysis.

**Results**: The Pearson correlation coefficient between the tooth pulp volume (CI & C) and chronological age suggested that pulp volume decreased with age. The validation of the equations for sex determination showed higher prediction accuracy for CI (56.70%) and lower for C (53.30%).

**Conclusions**: Pulp volume can be a reliable indicator for age estimation and gender prediction.

**Keywords**: Age estimation, Gender prediction, CBCT, Pulp volume.

**Key Messages**: CBCT obtained pulp volumes of CI and C can be utilized for age estimation and sex determination.

**Biography**

Anurag Tripathi has been working in the government institution King George's Medical University since 16 years with research guidance for post graduates. He has more than 25 papers published in national and international conferences. He is a member of various national and international bodies. And also he has a membership of several national and international Professional Associations

**Dr. Arshia Rashid Baig[1*], Dr. Aditya Singh Patel[2]**

[1]Reader (Associate Professor), Department of Conservative Dentistry and Endodontics, Sharad Pawar Dental College and Hospital, Sawangi (Meghe), Wardha, India

[2]Professor & Head of the Department, Department of Conservative Dentistry and Endodontics, Sharad Pawar Dental College and Hospital, Sawangi (Meghe), Wardha, India

# The future of dentistry: Artificial intelligence

Artificial Intelligence (AI) has shown remarkable growth over the past few years. Advancement in digitized data acquisition, machine learning and computing organization, applications of AI are intensifying into those areas which are confined to human specialists. When applied to medicine and dentistry, AI has incredible ability to enhance patient care and reform such health care fields.

In Dentistry, AI is considered for various purposes, precisely identification of normal and abnormal structures, analysis of dental images followed by diagnosis of diseases and predicting possible treatment results.

Enormous increase in patient information documentation, there is need for utilizing intelligent software to assemble and document this data. From the basic phase of recording a patient's history to data handling followed by extracting the data for diagnosis, artificial intelligence has countless applications in dental field. Artificial intelligence is not a replacement of a dental surgeon but it is important to be accustomed with the possibility to integrate such technology advancement in future for benefit of dental practice. This presentation describes the current and future applications of AI in various specialties of dentistry.

**Audience Take Away Notes**

- They will learn about the application of AI in dental practice
- They will be able to use AI in dental practice
- AI will help as an adjunct in daily dental practice
- This research could help for the other faculty to expand their research or teaching
- This provides a practical solution to a problem that could simplify or make a designer's job more efficient
- It improves the accuracy of a design, or provide new information to assist in a design problem
- AI helps in detection, diagnosis and treatment plan

**Biography**

Dr. Arshia R Baig BDS, MDS (Conservative Dentistry and Endodontics), currently working as a Reader (Associate Professor) & pursuing PhD (Artificial Intelligence in Dentistry) in the Department of Conservative Dentistry and Endodontics at Sharad Pawar Dental College & Hospital, Sawangi (Meghe), Wardha. She completed her BDS in the year 2010 and MDS (Conservative Dentistry and Endodontics) in the year 2015 from Maharashtra University of Health Sciences, Nashik (India). She is a Certified, approved adjunct faculty under Societat Gestora Formacio Terciaria Slu, Andorra (Europe). Dr. Arshia R Baig is the Editorial review board member in Journal of Operative Dentistry and Endodontics, Reviewer in Journal of International Society of Preventive and Community dentistry, BioMed Central Oral Health Journal (London, UK) and Journal of Natural Science, Biology and Medicine. She has 13 Publications to her credit.

**Ashley Bond**

Ashley Bond Speaks and Co-founder and Chief Dental Billing Officer of Wisdom, SCN & DEW member, Saint Louis, MO, USA

## Secrets to getting paid faster: From mastering claim submissions to winning appeals

In the intricate world of dental insurance, ensuring that your claims are accepted and paid in a timely manner is paramount to maintaining the financial health of your practice. This presentation combines the art of crafting the perfect claim with advanced strategies for addressing and overcoming rejections, denials, and appeals. Attendees will gain a comprehensive understanding of the entire claims process, from initial submission to successful appeal, learning how to navigate common pitfalls and implement best practices to maximize reimbursements.

Drawing on years of experience in the dental industry and insights from managing a successful dental practice, the session will cover critical topics such as identifying and avoiding common reasons for claim rejections, effective communication with insurance companies, and the meticulous documentation required for a successful appeal. Whether you're looking to refine your claim submission process or need robust strategies to tackle stubborn denials, this presentation will provide you with the tools and knowledge to ensure your practice gets paid every time.

**Audience Take Away Notes**

- The essential components of a perfect dental insurance claim.
- Common reasons for claim rejections and strategies to avoid them.
- Effective communication techniques with insurance companies to facilitate smoother claim processing.
- Detailed steps for managing rejections, denials, and appeals to ensure successful outcomes.
- Tips for organizing and streamlining the claims process to enhance efficiency and accuracy.
- Attendees will be able to apply these strategies directly to their daily operations, improving their ability to submit flawless claims and effectively manage and overturn rejections and denials. This will lead to faster payments and reduced financial stress for their practices.
- The methodologies and strategies discussed can be utilized by other faculty to enrich their curriculum on dental billing and insurance claims management, providing practical solutions that enhance teaching and research in this field.
- This presentation offers practical solutions that streamline the claims process, making it more efficient and reducing the workload for those involved in dental billing.
- The strategies and techniques presented will improve the accuracy of the dental billing and claims submission process. By providing detailed guidelines on crafting perfect claims and effectively managing rejections and appeals, attendees will gain new information and practical tools to enhance their current systems. This will lead to more precise submissions, reducing errors and increasing the likelihood of timely payments, thereby addressing common design problems within the dental insurance claims process.

## Biography

Ashley Bond, Co-Founder and Chief Dental Billing Officer at Wisdom, has revolutionized dental billing with her expertise and innovative solutions. Starting at her father's dental practice, Ashley gained invaluable firsthand experience, fueling her passion for streamlining operations and enhancing financial performance. Her work, published in platforms like Dr. Bicuspid and AADOM, has guided dental professionals nationwide. As a respected member of the Speaking Consulting Network and AADOM Speaker/Consultant Alliance, Ashley's insights drive industry growth. Under her leadership, Bond Dental Billing saw a 600% growth, leading to its acquisition and the founding of Wisdom. Ashley continues to inspire and empower dental professionals to achieve efficiency and profitability.

**David Williams**
OMFS SHO Musgrove Park Hospital, Taunton, UK

## Assessment of the frequency of use and effectiveness of CBCT in surgical extractions or expose and bond procedures of impacted teeth in orthodontic treatment

This presentation will discuss the use, effectiveness, and current guidance regarding the use of Cone Beam Computed Tomography (CBCT) imaging for patients undergoing surgical management of impacted teeth as part of orthodontic treatment, with the aim of providing more confidence to clinicians when choosing whether to use CBCT imaging.

An audit of CBCT use in patients undergoing surgical management of impacted teeth as part of orthodontic treatment was carried out between 01/01/22 and 01/01/24 in the maxillofacial surgery service at Musgrove Park Hospital, Taunton, UK. Retrospective data collection was performed to capture use of 2D imaging and CBCT, justification and reporting, pre-operative assessment of tooth position, position at time of surgery and flap approach.

The results and analysis of this data will be discussed, with implications and recommendations of CBCT use in clinical practice. Alongside this, a questionnaire was performed assessing the attitudes of CBCT use amongst operative clinicians in the hospital. This was used to gauge their knowledge of CBCT, confidence, personal justifications, and whether they feel more confident performing surgery having taken a CBCT. These attitudes and perceptions will also be discussed.

The ultimate aim of carrying out this audit was to create department guidelines for effective CBCT use. Based on the findings, effectiveness, and benefits alongside existing guidance from SEDENTEXCT and EADMFR, these guidelines were produced. Furthermore, a flowchart to follow when deciding whether CBCT is clinically necessary was also created.

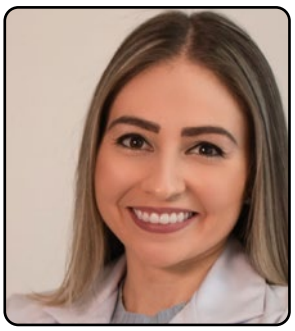
We feel both the guidelines and flowchart may of benefit in guiding clinicians in the use of CBCT and may provide them more confidence in this regard.

**Audience Take Away Notes**

- CBCT is a relatively new imaging choice that can be of great clinical benefit. This presentation aims to provide enhanced knowledge of CBCT as well as current guidance, thereby improving clinician confidence when choosing to use CBCT.
- Provide information on current European guidelines for CBCT use and indications in clinical practice. Choosing appropriate clinical cases for use of CBCT, improving surgical confidence and patient outcomes/experience.
- Effective use of CBCT may reduce surgical operating time and operator stress.
- CBCT may be more effective in supernumerary position and identification, and therefore improve ease of procedure and surgical outcomes.

## Biography

Dr. David Williams studied Dentistry at the University of Plymouth, UK, graduating in 2023 with Honours. He is currently undertaking foundation training, working in the Maxillofacial unit at Musgrove Park Hospital, Taunton, UK.



**Débora do Canto Assaf[1*], Mariana Marquezan[2]**

[1]PhD. Professor, Dentistry Course, Universidade Franciscana (UFN), Santa Maria, Rio Grande do Sul, Brazil

[2]PhD. Professor, Dentistry Course, Department of Stomatology, Universidade Federal Santa Maria (UFSM), Santa Maria, Rio Grande do Sul, Brazil

# Can malocclusion and respiratory disorders impact school performance? Results of a cross-sectional study

**Objectives**: The aim of this study was to evaluate the association between malocclusion, sleep-disordered breathing and poor school performance in children.

**Methods**: This was a cross-sectional study with a sample of 547 children in the mixed dentition phase, between 07 and 13 years old, pupils at state schools in the city of Santa Maria -RS. A two-stage cluster random sampling procedure was adopted, with nine schools being randomly selected, according to the different administrative regions. The sample was evaluated and the data were obtained by applying questionnaires, and performing dental and speech examinations. Structural Equation Modeling (SEM) was used to test the pathways between demographic, socioeconomic, and oral health measures on school performance. The SEM was composed of the measurement model of latent variables and the structural model by associations between the variables. Academic performance was measured by three variables: Parents' perception of the students' academic performance, learning problems, and school failure. Subsequently, the structural model analyzed the magnitude and direction of the paths between the variables observed and latent variables.

**Results**: Male gender, older age (11-13 years), lower level of maternal education, sleep-disordered breathing, oral or oronasal breathing mode were directly associated with poor school performance. Children who did not receive exclusive breastfeeding in the first 6 months of life also showed a direct association with worse performance. In addition, non-exclusive breastfeeding indirectly impacted sleep disorder via oral or oronasal breathing mode.

**Conclusion**: The initial hypothesis that malocclusions would play an important role in children's sleep quality was not proven in this study, however, we have shown the influence of sleep-disordered breathing on school performance. Moreover, we highlight the importance of exclusive breastfeeding in the first 6 months of life for the prevention of sleep-disordered breathing.

**Keywords**: School Performance, Malocclusion, Sleep Disorders.

**Audience Take Away Notes**

- The public will receive consistent data about the association between malocclusion, sleep-disordered breathing and poor school performance in children;
- Understand which factors are associated with low school performance
- Knowledge of the importance of exclusive breastfeeding in the first 6 months of life for the prevention of sleep-disordered breathing.

**Biography**

Dr. Débora do Canto Assaf is a Professor (Dentistry) of the Universidade Franciscana in Santa Maria, Brazil. She is a specialist in orthodontics since 2018 at Orthodontic Study Group, São Paulo, Brazil, and is also a specialist in TMD and Orofacial Pain since 2022 at Bauru Orofacial Pain Group, São Paul, Brazil. She received his MS and PhD degree in orthodontics in 2019 and 2023 respectively at Federal University of Santa Maria, Brazil. Has been working in a private clinic since 2015 in Santa Maria.

**Dr. Deep Shah**
Molar Bear Dental Studio, Pune, Maharashtra, India

## TMJ – Tipping point of musculoskeletal system

In this scientific presentation, we will elucidate the role of TMJ system balance and its effects on the entire body. Temporomandibular Joint (TMJ) dysfunction represents a pivotal moment in the musculoskeletal system, often serving as a tipping point where various physiological and biomechanical factors converge. It is the only joint in the body where both left and right sides must work in synchronization. The TMJ, a complex joint connecting the jaw to the skull, plays a crucial role in chewing, speaking, and facial expression. Dysfunction within this joint can lead to a cascade of effects throughout the entire musculoskeletal system.

Key aspects of TMJ dysfunction include its etiology, which encompasses both structural abnormalities and functional disturbances such as bruxism (teeth grinding) and malocclusion. The pathophysiology involves a combination of joint degeneration, inflammation, and muscular imbalance, contributing to symptoms ranging from jaw pain and clicking to headaches, neck stiffness, and even symptoms resembling those of Irritable Bowel Syndrome (IBS).

Treatment approaches vary depending on the severity and underlying causes but often include conservative measures. Understanding TMJ dysfunction requires not only a comprehensive grasp of its anatomical and physiological underpinnings but also an appreciation for its systemic implications. Research suggests connections between TMJ disorders and conditions like fibromyalgia, chronic fatigue syndrome, and even cardiovascular disease, highlighting their broader health impacts beyond localized symptoms.

This presentation synthesizes current research and clinical perspectives to underscore the importance of recognizing TMJ dysfunction as a significant tipping point in musculoskeletal health. By addressing TMJ disorders early and comprehensively, healthcare providers can potentially mitigate downstream effects on overall well-being and quality of life.

**Audience Take Away Notes**

- Etiology and Pathophysiology: From structural abnormalities to functional disturbances like bruxism, understanding the diverse causes of TMJ dysfunction is crucial.
- Clinical Manifestations: Symptoms such as jaw pain, clicking, and headaches often indicate TMJ dysfunction, necessitating prompt diagnosis and intervention.
- Diagnostic Approaches: Clinical examination, imaging, and EMG help in diagnosing TMJ disorders accurately.
- Treatment Strategies: Treatment ranges from conservative measures like physical therapy to surgical options depending on the severity and patient response.
- Systemic Impact: TMJ disorders may correlate with other systemic conditions, emphasizing the need for holistic management approaches.
- Future Directions: Ongoing research aims to further elucidate the complex interplay between TMJ dysfunction and broader health outcomes, guiding future treatment paradigms.

- Benefits to Audience: This presentation offers several benefits to the audience:
    - It enhances their understanding and ability to diagnose patients effectively, thereby improving the quality of care provided.
    - It equips clinicians to identify untreated or undiagnosed cases with longstanding pain of unknown origin, thereby enhancing their clinical skills.
    - The documented clinical cases presented can further expand researchers' scope in teaching and research within this field.
    - It facilitates the design of more holistic treatment plans than ever before, addressing the comprehensive needs of patients.
    - It offers hope to patients who have lost hope due to unnoticed patterns or symptoms, leading to a painful quality of life.

**Biography**

Dr. Deep Shah earned his BDS from VK Institute of Dental Science in 2014, followed by a year of internship. He served as Chief Dental Surgeon in Pune for a year before pursuing his Masters in Conservative Dentistry and Endodontics from Coorg Institute of Dental Sciences in 2020. Since then, he has continually enhanced his knowledge and skills, delivering numerous lectures at national and international platforms. Dr. Shah has also published scientific work in esteemed journals, contributing significantly to dental research and education

**Dr. Duc-Minh Lam-Do DMD, FAGD, FICOI**
Montreal Tongue-Tie Institute, Montreal, Quebec, Canada

## Demystifying frenectomies: What, When, How

An overview of what consists a Tethered Oral Tissue (TOT) or tie (tongue-tie, lip tie, cheek tie) will be summarized. Classifications of different types of ties. The decisional algorithm to move forward with surgery or not, and why. The different alternatives for surgical technique nowadays, and advantages and disadvantages of each will be discussed. The importance of bodywork and oral myofunctional therapy in pre and post-operative care when a frenectomy is performed. The myths in the medical community about ankyloglossia and lip ties. How tethered oral tissues can affect breastfeeding, speech, swallowing, breathing, craniofacial growth, and more. The history of frenectomies when it started and how it evolved since then. Ankyloglossia assessment tools will be reviewed. Litterature review and evidence-based dentistry for frenectomies.

**Audience Take Away Notes**

- How to screen for tethered oral tissues?
- How to set up a frenectomy practice?
- How tongue-ties affects breastfeeding, snoring and obstructive sleep apnea, eating, palate and maxillary growth?
- When diagnosed, learn how to perform your first frenectomy, or know who to refer to and when
- Treatment sequencing for older children who need oral myofunctional therapy

**Biography**

Dr. Duc-Minh Lam Do received his DMD at the University of Montreal in 2004. He then completed a postgraduate certificate in multidisciplinary dentistry from the University of Rochester, New York in 2005. He continued training in esthetic occlusal rehabilitation, treatment of tongue and lip ties, and treatment of snoring and sleep apnea. He is one of the few LASER dentists in Montreal working with a specialized team of doctors, nurses, IBCLCs, pediatric chiropractors and osteopaths. He also has a network of oral myofunctional therapists and speech and language pathologists to help older children and adults who suffer from tongue-tie. He founded in 2019 the Montreal Tongue-Tie Institute.

**Dr. Eduardo Rubio[1*] DDS, PhD, Mombru Mariano[2] DDS**

[1]Head Oral and Maxillofacial training Program, Argentine Catholic University, Argentina

[2]Adjunct Professor training Program, Argentine Catholic University, Argentina

# Facial asymmetry: A challenge to the dentist

Facial asymmetry it is considered one of the most challenging pathology conditions to treat both for an oral and maxillofacial surgeon, as well as for a dentist. Bite correction could be particularly difficult to achieve because of three-dimensional bone discrepancy between the maxilla and the mandible. Furthermore, a simple dental restauration with an unstable bite, will trigger occlusal problems sooner or later. Condylar hyperplasia is the most common cause of facial asymmetry and could affect patients at any age. Hence, it is possible to correct the asymmetry at young ages with surgery before orthodontic treatment, or at the same time of the orthognathic surgery.

**Audience Take Away Notes**

- You can discover a lot of possibilities in order to plan a multidisciplinary treatment
- You'll be able to give patients a correct treatment with great stability.
- Apart from the functional result, you'll get happy patients with a new face appearance.

**Biography**

Dr. Eduardo Rubio graduated as DDS at the Facultad de Odontología, University of Buenos Aires. PhD from the same University. Specialist in Orla and Maxillofacial Surgery (Argentine Society of OMFS) Master in Health Service Administration at Universidad de Ciencias Empresariales y Sociales. He was Adjunct Professor of Oral and Maxillofacial Surgery till 2003 (retired0. Nowadays he is Head on Oral and Maxillofacial Post graduated Oral and MFS program at Argentinian Catholic University, as well as Head of OMFS Dentistry program at the same University.

**Elishan Aruliah[1*], Lisa Liu[2], Weber Huang[1]**

[1]Department of Oral and Maxillofacial Surgery, Prince of Wales Hospital, Randwick, NSW, Australia

[2]Faculty of Dentistry, University of Sydney, Sydney, NSW, Australia

# Odontogenic orbital cellulitis: Diagnosis and management

**Introduction**: Orbital cellulitis of odontogenic origin is a serious complication of dental infections, which can spread from a periapical inflammatory lesion to the periorbital tissues. Infections extending to the post-septal orbital space can lead to optic neuropathy, endophthalmitis and can be life-threatening when it spreads to the intracranial space, meninges and the brain. There is limited consensus on the management of such cases despite the potentially devastating consequences. Our study aims to present our experience and review the literature to provide a recommendation on recognising, investigating, and treating odontogenic orbital cellulitis.

**Materials and Methods**: OVID-Medline database was used to identify published original papers that addressed post-septal orbital cellulitis of an odontogenic source. 37 papers were identified for inclusion in our study. Demographics, signs, symptoms, investigation results, management, and outcomes were recorded for analysis. We also did a retrospective analysis to discuss a case study.

**Results**: Recent toothache caused by infection of maxillary premolar and molar teeth, or dental procedures including extraction or pulp extirpation of upper posterior teeth often preceded clinical presentation of orbital cellulitis. Notably, cases of severe vision loss were associated with oroantral communications which may have facilitated the uncontrollable spread of infection.

The most common symptoms upon presentation was ophthalmoplegia (75%). 30% of cases resulted in permanent vision impairment, ranging from minor restriction of extraocular muscle movement to complete vision loss. Streptococcus species (63.6%) were the predominantly cultured microorganism, followed by Staphylococcus (15%). Investigation using computed tomography can identify hallmark features such as asymmetrical sinus opacification and proptosis of the globe. 82% of cases ended up requiring surgical intervention alongside antibiotic therapy.

**Conclusion**: Early diagnosis of odontogenic post septal orbital cellulitis based on clinical presentation and radiological findings is critical to avoid serious complications. It is evident that antibiotic therapy is essential in the early management and is typically supported by surgical intervention for drainage and decompression. The potentially life-threatening nature of this condition underscores the importance of aggressive early management.

**Audience Take Away Notes**

- The audience will learn about the consequences of odontogenic orbital cellulitis, how to recognize it, how it commonly presents, how to investigate, prescribing antimicrobial cover, and surgical management.
- It is important for dental practitioners to understand the hallmark signs and potential risk factors from compromised maxillary dentition.
- This research could be used by other faculty to help develop local management guidelines.

## Biography

Elishan completed an MBBS and DMD, before going on to work as an oral and maxillofacial surgery registrar in Australia. He has previous experience working in ENT surgery and plastic surgery in the hospital setting as well.

**Dr. Emmanuel Samson**
Department of Dentistry, Government Medical College & Hospital Miraj, India

## Hydraulic condensation in endodontics

The sealing of both the main root canal and its accessory ramifications, preventing apical percolation. The Epoxy resin–based sealers are commonly used as endodontic sealers but do not possess desirable biological properties, Most of the sealers create a hermetic seal but lack antimicrobial effects.

Hydraulic cements are a group of materials, which hydrate in contact with water and also interact with environmental fluids.

Hydraulic Calcium Silicate-Based (HCSB) materials were introduced as endodontic materials with high bioactivity. While the most commonly used (HCSB) material derived from Portland cement is MTA, These biological properties of MTA are related to its continuous release of $Ca^{2+}$, attributed to its good biocompatibility, mineralized tissue-inductivity and anti-inflammatory properties.

In various studies these materials show promising results intracoronl, intraradicular, and extraradicular. Hydraulic technique consists in employing a single cone with a large amount of sealer, which acts as a filling material providing 3D tight and durable seal, bioceramic sealers could spread into any root canal irregularity and non-instrumented space and has shown excellent adhesive properties to dentin.

**Keywords**: Percolation, Hydraulic cements, MTA, Bioceramic sealers.

**Audience Take Away Notes**

- The new hydraulic condensation concept in endodontic practice
- Knowledge of endodontic sealers will enhance their success rate.
- Bioactive Sealers and new trends can be implemented in routine clinical practice
- The new trends in sealers will improve the success rate of the procedure.
- New Concept can be implemented, save time for the procedure

**Biography**

Dr. Emmanuel Samson Graduated (BDS) from Vasantdada Patil dental college & hospital, Sangli India. Postgraduate, Masters in Conservative dentistry and endodontic (MDS) from Kle's Institute of dental sciences, Belgaum, India in 2003. He worked as an specialist/Consultant in Inlaks hospital, Manipal Cure and Care, as an academician presently working as professor and head, Department of dentistry Government medical College and Hospital Miraj, India.

**Aruna Singh[1], Gaurav Mishra[1]*, Vinay Kumar Gupta[1], Sumit Kumar[1], Atrey J. Pai Khot[2]**

[1]Department of Public Health Dentistry, Faculty of Dental Sciences, King George's Medical University, Lucknow, India

[2]Department of Public Health Dentistry, Goa Dental College and Hospital, Goa, India

# Social media impact on self-perceived oral health practices among patients visiting tertiary care hospital in India

**Background**: Social media is widely used in the medical field, and people often utilize it to learn about their symptoms prior to consulting with a healthcare professional. Hence, the study aims to investigate the influence of social media on self- perceived oral health practices among patients.

**Methodology**: A cross-sectional study design was adopted, with a questionnaire comprising 15 closed-ended questions. The sample size was estimated to be 451 participants based on the findings from the pilot study. The face validity of the questionnaire was assessed by a subject matter expert (0.83%), and the reliability was measured using Kappa statistics (0.86). The percentile was determined to assess the overall self-perceived oral health practices of the participants. The data was analyzed using descriptive analysis, chi-square test, and multivariate regression analysis at statistical significance ($p \leq 0.05$).

**Results**: The majority of participants belonged to urban areas (66.5%), with an average age of 38.19±6.70. The participants in urban 184 (61.3%) and rural 102 (67.5%) believed that social media provided better knowledge regarding oral health, which was statistically significant ($p=0.046$). The majority of the participants, 267 (59.2%), spent more than 30 minutes to 3 hours per day on social media. It was found that participants who possessed professional occupations had increased odds of having good oral health practices on social media ($p=0.043$).

**Conclusion**: The participants believed that social media provided better knowledge regarding oral health, and self-perceived practices among the participants were found to be poor. Social media platforms provide new educational possibilities in the dentistry sector, but their potential is neglected and unappreciated.

**Audience Take Away Notes**

- A greater understanding of self-perceived oral health status could lead to improvements in oral health services and oral health nationally. Social media platforms provide new educational possibilities in the dentistry sector, but their potential is neglected and unappreciated.

**Biography**

Dr. Gaurav Mishra completed his Masters (MDS) in 2011 in the specialty of Public Health Dentistry and currently working as Professor (Jr.Gr.) at Dept. of Public Health Dentistry, Faculty of Dental Sciences, King George's Medical University, Lucknow, Up, India. He has Co-Authored a book titled Dental Health Education: An Integral Part of Dentistry. He has published 1 patent, 1 copyright and more than 50 research articles in national and international reputed journals. He has worked and published extensively related to tobacco control and school oral health programmes along with his routine teaching, training and research activities.

**Dr. Gaurav Vishal**
Prathima Cancer Institute, Warangal, India

# Current trends in the management of osteoradionecrosis with pentoxifylline and tocopherol

Osteoradionecrosis (ORN) is a devastating complication of radiotherapy, and outcomes in alteration of the appearance and function of the oral cavity and jaw that creates substantial deterioration in patient quality of life. Osteoradionecrosis can be spontaneous but primarily related to hypovascular, hypocellular, and hypoxic conditions that exist in bone. Mandibular ORN is more common when compared to maxilla. ORN incidence ranges from 2% to 22% and, in the 70% of cases, ORN occur within 3 years after radiation therapy. Several factors in the literature are interrelated with the risk of developing ORN. These include total radiation dose, dental extractions, poor oral hygiene, tobacco, alcohol use, tumor size, location and staging. In addition to antibiotics, treatment options for osteoradionecrosis includes surgical approaches, hyperbaric oxygen therapy, and combined therapy with pentoxifylline and tocopherol, among this combined therapy with pentoxifylline and tocopherol have been newly introduced. The combined use of pentoxifylline with tocopherol (vitamin E) has been justified by a synergistic antioxidant effect. These are easily available and safe drugs. Researches have shown that this combination noticeably minimizes the chronic damages of radiation therapy. Therefore, the purpose of this paper is to discuss the definition and classifications of ORN, clinical symptoms and diagnosis, pathogenesis and risk factors, basic information on pentoxifylline and tocopherol and current reports of pentoxifylline and tocopherol combined therapy.

**Audience Take Away Notes**

- Numerous factors in the literature are associated with the risk of developing ORN. These include total radiation dose, poor oral hygiene, alcohol, tobacco use, dental extractions, tumor size, location and staging. They can be divided into three main groups:-
    1. Treatment-related factors
    2. Patient-related factors
    3. Tumor-related factors
- Osteoradionecrosis (ORN) of the jaw is one of the most severe and debilitating complications of the head and neck Radiotherapy (RT). ORN incidence ranges from 2% to 22% and, in the 70% of cases, ORN occur within 3 years after RT. The most frequent trigger event is the dental extraction.
- The purpose of this paper is to discuss the clinical symptoms and diagnosis, pathogenesis and risk factors, basic information on pentoxifylline and tocopherol and current reports of pentoxifylline and tocopherol combined therapy.
- The combined use of pentoxifylline with tocopherol (vitamin E) has been justified by a synergistic antioxidant effect. These are easily available and safe drugs. Researches have shown that this combination significantly decreases the chronic damages of RT.

## Biography

Dr. Gaurav Vishal is an Oral and Maxillofacial Surgeon (M.D.S), Fellowship in Oral Oncology and Reconstructive Surgery. He completed M.D.S- Oral and Maxillofacial Surgery from Institute of Dental Sciences, Bareilly, India in 2020 and Fellowship in Oral Oncology and Reconstructive Surgery from Rohilkhand Medical College and Hospital, Bareilly, India in 2021. He has received the Emerging Oral Onco Surgeon Award by HPP Cancer Hospital & Research Institute, with collaboration of Indian Medical Association, Lucknow, India. He has participated in various International conferences as a Speaker and Moderator. He is an expert in the field of Head & Neck Oncology, Reconstructive Surgery, Facial Trauma, Maxillofacial Pathology, Tobacco Cessation and Basal Implantology. He has several International and National Publications to his credit.

**Jackson Kalinoski**

Director of the Periodontology of Implants Clinica Odontologica, Toledo, Paraná, Brazil

## Soft tissue reconstructive approach to peri-implant defects as a therapeutic and preventive option

The presentation consists of technically showing how to plan, indicate and act in cases of soft tissue reconstructions around implants and related natural teeth. The nuances that make all the difference in the results and in the different applications of incisions, scalpel blades, needles and sutures, including how these are made through modern anchoring techniques, which enable great peri-implant aesthetic advances and gains in gingival volume.

**Audience Take Away Notes**

- Dentists and surgeons will learn about how to do diagnoses, indicate and act on soft tissue reconstructive approaches and how to apply on peri-implant defects, techniques to recover and regenerate peri-implantar defects, which comes in a simple and reproducible way to bring another alternative, less morbid and better patient acceptance, include how prevents the removal of tissues from the palate. A new way to protect and stimulate a how to preserve and protect the donor palatal surgical wound with blood concentrates, bringing the benefits of accelerating healing, reducing pain and bleeding in the postoperative period.

**Biography**

Dr. Kalinoski studied Dentistry at the State University of Londrina, UEL, Brazil, and graduated as DDS in 2004. Post graduated as specialist in Periodontics from the State University of Londrina in 2006 and Implandontology at University Cruzeiro do Sul, UNICSUL in 2008. Have already 19 years professional experience. He currently owns a private dental clinic, also acts as a clinical dentist, performing care in various Dentistry specialties. He currently promotes advanced courses in bone and gingival reconstructions for dental surgeons and at the same time, which serves specialties being responsible for the areas of periodontics and implantology.

**Jamal Hassan Assaf**

Department of Stomatology, School of Dentistry, Federal University of Santa Maria, Brazil

## Long term evaluation of dimensional stability of guided bone regeneration in defects class 2 and 3

There is a high level of evidence that survival rates of dental implants placed simultaneously with bone augmentation are similar to survival rates of implants placed into pristine bone. In some prospective studies, the survival rates, after a mean observation period of 12.5 years, for implants either placed simultaneously with guided bone regeneration or placed into native bone were 93% and 95%, respectively, but the studies that evaluated the stability of the augmented bone in the long term are still scarce. Our study was carried out to evaluate the volumetric stability of guided bone regeneration in long term. The stability of Guided Bone Regeneration provides long term security in the aesthetics success of implants placed in these sites. The defects evaluated were class 2 and 3. All sites were operated by the same surgeon. Cone beam computed tomography scans were employed to assess the stability of guided bone regeneration in long term. All measurements were performed by a single examiner. The specific measurement program was used (I-CAT Vision).

**Audience Take Away Notes**

- The public will receive consistent date on the stability of guided bone regeneration in Class 2 and 3 defects, which will contribute to a better understanding of the long-term stability of the GBR.
- The stability of Guided Bone Regeneration in Class 2 and 3 defects provides long term security in the aesthetics success of implants placed in these sites. The clinical cases operated will be presented showing the aesthetics results obtained by over the years.
- The speaker will present clinical cases that he operated on and the results of GBR stability in a follow-up of 3 to 5 years.

**Biography**

Dr. Jamal Hassan Assaf has been an Associate Professor at Federal University of Santa Maria since 1994. He is a Specialist in Periodontics and has a Master`s degree, Doctorate and Post-doctorate in Implantology. He has several articles published and cited in the area of implants in aesthetics regions.

**Jéssica de Oliveira Rossi[1*], Gabriel Tognon Rossi[2], Maria Eduarda Côrtes Camargo[3], Rogério Leone Buchaim[1,4], Daniela Vieira Buchaim[1,5,6]**

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[3]Medical Student, University of Marilia (UNIMAR), Marilia 17525-902, Brazil
[4]Department of Biological Sciences, Bauru School of Dentistry (FOB/USP), University of Sao Paulo, Bauru 17012-901, Brazil
[5]Postgraduate Program in Structural and Functional Interactions in Rehabilitation, University of Marilia (UNIMAR), Marilia 17525-902, Brazil
[6]Medical School, University Center of Adamantina (UNIFAI), Adamantina 17800-000, Brazil

# Effects of the association between hydroxyapatite and photobiomodulation on bone regeneration

Hydroxyapatite (HA)-based ceramics are widely used as artificial bone substitutes due to their advantageous biological properties, which include biocompatibility, biological affinity, bioactivity, ability to drive bone formation, integration into bone tissue and induction of bone regeneration (in certain conditions). Phototherapy in bone regeneration is a therapeutic approach that involves the use of light to stimulate and accelerate the process of repair and regeneration of bone tissue. There are two common forms of phototherapy used for this purpose: Low-Level Laser Therapy (LLLT) and LED (Light Emitting Diode) Therapy. Understanding the mechanisms of laser therapy and its effects combined with hydroxyapatite has gaps. Therefore, this review was designed based on the PICO strategy (P: problem; I: intervention; C: control; O: result) to analyze the relationship between PBM therapy and hydroxyapatite. The bibliographic search, with the descriptors hydroxyapatite and low-level laser therapy and hydroxyapatite and photobiomodulation resulted in 43 articles in the PubMed/MEDLINE database, of which 1 was excluded for being a duplicate and another 33 due to inclusion/exclusion criteria, totaling 9 articles for qualitative analysis. In the Web of Science database, we obtained 40 articles, of which 7 were excluded for being duplicates, 1 for not having the full text available and another 17 due to inclusion/exclusion criteria, totaling 15 articles for qualitative analysis. The most used biomaterial was composed of hydroxyapatite and □-tricalcium phosphate in a proportion of 70%–30%. In photobiomodulation, the Gallium-Aluminum-Arsenide (GaAlAs) laser prevailed, with a wavelength of 780 nm, followed by 808 nm. The results indicated that the use of laser phototherapy improved the repair of bone defects grafted with the biomaterial, increasing the deposition of HA phosphate as indicated by biochemical estimators, spectroscopy and histological analyses.

**Audience Take Away Notes**

- The audience will learn about the application of hydroxyapatite ceramics as bone substitutes, the effectiveness of phototherapy in accelerating bone regeneration, and recent findings on the interaction between phototherapy and hydroxyapatite in bone treatments.
- This work can help in clinical practice in the following ways:
- **Selection of Biomaterials**: Clinicians will be able to make more informed decisions about using hydroxyapatite ceramics as bone substitutes, based on evidence showing the effectiveness of these materials in bone integration and regeneration.

- **Integration with Photobiomodulation Therapy**: Understanding the combined effects of hydroxyapatite and phototherapy (laser or LED) will allow healthcare professionals to optimize treatment protocols, improving clinical outcomes in bone regeneration and healing of bone defects.
- **Treatment Protocols**: Data on specific laser wavelengths and their combinations with biomaterials will aid in choosing the best parameters for phototherapy, providing more efficient and personalized treatment for patients.
- **Improvement of Clinical Outcomes**: With evidence that phototherapy can enhance bone repair when combined with hydroxyapatite, clinicians can apply these techniques to accelerate patient recovery from bone defects, potentially reducing recovery time and improving graft integration.
- **Evidence-Based Guidelines**: The qualitative analysis and results presented provide a solid foundation for developing evidence-based clinical guidelines, contributing to practices based on research and proven outcomes.
- **Education and Training**: The findings can be used to train healthcare professionals on best practices and the effective combination of biomaterials and adjunct therapies, ensuring that the latest and most effective approaches are implemented in clinical practice.
- Therefore, this work can enhance the effectiveness of bone treatments, provide better outcomes for patients, and inform clinical practice with robust evidence.

**Biography**

Dr. Jéssica de Oliveira Rossi holds degrees in Dentistry (2011) and Medicine (2018). She completed her master's degree in the field of bone regeneration, which she finished in 2014. For her PhD (2024), she continued in the same area, focusing on tissue bioengineering using fibrin scaffolds for bone regeneration. She also completed specializations in Implant Dentistry (2013), Medical Forensics (2021), and Occupational Medicine (2022). She has published articles in high-impact international journals and is a member of the research group led by Prof. Dr. Rogério Leone Buchaim, a prominent figure in global bone regeneration.

**Jonathan Bonanno Ph.D**

Industrial/Organizational Consulting, Chief Psycho, San Diego, CA, USA
Talent Acquisition & Optimization, CE Computech, East Rutherford, NJ, USA

## Cultivating psychological safety in dental education and research strategies for professional growth & patient care

Within the ever-evolving realm of Dental Education and Research, nurturing psychological safety stands as a fundamental cornerstone for the comprehensive growth of upcoming practitioners and the progression of dental science in the workplace. This 60-minute educational session is to evaluate the concept of psychological safety within the sphere of Dental Education and Research, summarizing principles gathered that impact oral health, dentistry, and organizational psychology. Attendees will be guided through an exploration of the role psychological safety plays in dental practices, gaining valuable insights into its profound impact on professional development and patient interaction. Moreover, the session will offer actionable strategies tailored to cultivate a supportive work environment conducive to optimal learning and research outcomes.

**Audience Take Away Notes**

- Define and understand the concept of psychological safety in the context of Dental Education and Research
- Recognize the benefits of psychological safety for dental students, practitioners, and researchers in promoting optimal learning and professional growth
- Understand the pivotal role of educators, mentors, and leaders in fostering psychological safety in dental practices to provide optimal patient care through advanced self-awareness
- Learn evidence-based strategies and tools tailored to the dental field to promote and sustain psychological safety to enhance collaboration, innovation, and overall well-being within dental teams and patient communities

**Biography**

Jonathan Bonanno, with over a decade of experience in healthcare and a doctoral education in Industrial/Organizational (I/O) Psychology (in candidacy), he bring's an unique blend of psychological insight and industry expertise to his role. He head's the Talent Acquisition & Optimization (TAO) division as the Chief Talent Officer with Clinical Excel Computech where he emphasize the importance of strategically hiring using evidence-based practices. Outside of work, he has created the Chief Psycho community as a resource for learning to increase self-awareness and further the importance of creating safe and trusting workplaces. Above all, his mantra is to leave others better than he found them. This commitment goes beyond his professional goals; it's a deeply held belief that guides his work.
Credentials:

- PhD, Industrial Organizational Psychology (in candidacy)
- MS, Business Management
- BS, Business Administration
- Certified Talent Optimization Consultant
- Certified Social Behavioral Researcher
- Certified Social and Behavioral Science Conduct Researcher

**Dr. Kanika Gupta Verma**

Professor, Department of Pediatric and Preventive Dentistry, Teerthankar Mahaveer University, Moradabad, Uttar Pradesh, India

## Stem cells: Hypes & hopes in regeneration and repair

The role of dental stem cells has been recently linked to the well-known regenerative capacity of the dental pulp. The rapidly expanding body of literature in this subject attests to the fact that numerous researchers have thoroughly investigated the hypothesis that dental stem cells provide as a very promising therapeutic method to fix structural abnormalities. Stem cells are highly versatile and have played a significant role in the development of regenerative medicine. The technique of replacing or regenerating human cells, tissues, or organs for medicinal purposes is known as regenerative medicine. Although not entirely new, the idea of regeneration in medicine has evolved greatly since the discovery of stem cells and has recently found use in dentistry as a result of the identification of dental stem cells. Dental Pulp Stem Cells (DPSCs), Periodontal Ligament Stem Cells (PDLSCs), Gingival Mesenchymal Stem Cells (GMSCs), Dental Follicle Stem Cells (DFSCs), Stem Cells from Human Exfoliated Deciduous Teeth (SHED), and Stem Cells from the Apical Papilla (SCAP) are among the subpopulations of Dental Stem Cells (DSCs) that have been studied to date.

**Audience Take Away Notes**

- Stem cell research must be carried out, both nationally and internationally, under efficient, competent systems of socially responsible supervision and control if we are to reap the rewards, meet the difficulties, and minimize the hazards

**Biography**

Dr. Kanika Gupta Verma received her Bachelor's in Dentistry from Govt Dental College & Hospital, Amritsar, Punjab in 2005; and Masters in Paediatric & Preventive Dentistry from Guru Nanak Dev Dental College, Sunam, Punjab in 2009. She is fellow in Scientific writing and Clinical trials. She has been working as an active academician since 15 years, with a keen interest in aesthetic and surgical management of children and adolescents. She is teaching both graduates and post graduates in the field of child oral health care. She is presently working as Professor in Dept of Paediatric & Preventive Dentistry, Teerthankar Mahaveer Dental College and Research Centre, Moradabad. She is also a life member of Indian Society of Paediatric & Preventive Dentistry; and Indian Dental Association. She has around 68 national and international publications on her name. She is author and contributor to various books. She has delivered various lectures in National and International Conferences. She is reviewer and editorial board member of various national and international journals.

**Khoa Le[1*], Dr. Sen Le[2]**
[1]Eyes of AI, Chief Executive Officer
[2]Eyes of AI, Chief Clinical Officer

# AI-powered pathology detection: The future of medical diagnostics

Accurate pathology detection is crucial in dentistry, enabling disease identification and guiding treatment. However, conventional methods present limitations such as time-consuming processes, human error, and specialised training requirements. In this lecture, we explore the transformative potential of AI-powered pathology detection, showcasing groundbreaking solutions that enhance diagnostic accuracy and efficiency.

A recent study by Schwendicke F et al. (2022) highlights the superiority of AI detection over human dentists. Leveraging machine learning algorithms, AI swiftly analyses X-rays to identify abnormalities that may go unnoticed. This empowers dentists to catch early signs of tooth decay or oral diseases. AI technology can also uncover unexpected yet significant issues, known as incidental findings.

Untreated dental infections can lead to severe health problems, including jaw bone infections, brain abscesses, and systemic infections affecting vital organs. Delayed caries detection can result in pain, root canal treatment, or even tooth loss. According to the U.S. Centres for Disease Control and Prevention, nearly half of U.S. adults over the age of 30 show signs of gum disease. Research also shows that people with untreated tooth infections are 2.7 times more likely to have cardiovascular problems, such as coronary artery disease. Coronary artery disease is one of the leading causes of death globally (Oral Health Foundation).

This is where AI plays a powerful part-Through a comprehensive 3D mapping of the entire mouth, early pathology and abnormality detection becomes possible. With AI technology, the evaluation process, which traditionally takes around 20 minutes, can now be accomplished within seconds. This allows clinicians to explore what lies beyond the capabilities of the human eye and to also save valuable time when analysing X-ray. To summarise, AI technology has the potential to revolutionise dentistry, providing reliable tools that save time, enhance imaging analysis, and improve patient outcomes.

**Audience Take Away Notes**

- The presentation will show how AI can have a significant impact on the dental industry by providing dental professionals with a more detailed and meaningful way of visualising anatomy and pathology on x-rays.
- The audience will be able to see how AI can provide automatic measurements to aid in treatment planning which reduces the time required to reach a diagnosis and plan treatment appropriately. The automation of manual processes and the ability to analyse a large amount of data using AI can lead to improved diagnostic decisions, patient care and increased productivity.
- The following are just some examples of how AI technology can impact the dental industry.
- Root canal treatment is a highly technical procedure that involves treating the internal chamber of a tooth that is normally covered by the hard tissue of the teeth, i.e., enamel and dentine. AI technology enables clinicians to visualise this internal chamber where the pulp of the tooth resides in three dimensions, allowing for a new level of precision as well as reducing treatment times.

- The technology also addresses the challenges dental surgeons encounter in visualising the surgical site caused by overlying tissue. This is made possible by enabling the manipulation and the removal of these structures. Surgeons will now have complete oversight of all surgical structures and their relativeness to each other, thus enabling safer and more efficient surgical procedures.
- Early detection of pathology allows for early treatment, leading to a significant impact on reducing morbidity and mortality rates. Using AI, automatic detection of pathology will assist clinicians to provide optimal patient care by reducing missed and misdiagnosis.
- In addition to dental clinicians, the technology will also have use in other related industries such as radiology centres, Original Equipment Manufacturers (OEMs), dental corporations, public health organisations, dental education institutions and in patient education.

**Biography**

Khoa Le is a seasoned Machine Learning Specialist, with over two decades of experience in quantitative analysis, advanced computational analytics, Artificial Intelligence (AI), and Machine Learning (ML). His expertise spans a wide range of domains such as supervised and unsupervised machine learning, reinforcement learning, computer vision, natural language processing, and deep learning. Backed by a solid academic background, Khoa holds a Bachelor's degree in Actuarial Studies and Commerce, as well as a Masters in Finance from the prestigious Australian National. Commencing his journey in 2007, Khoa has excelled in creating state-of-the-art machine learning algorithms, specially tailored for various sectors including finance and healthcare, with a particular emphasis on enhancing the accuracy and efficiency of computer vision systems for X-ray analysis.

**Dr. Lujain Alsahman**
Ministry of Health, Saudi Arabia/PhD student, Riyadh, Saudi Arabia

## Diagnosis and management of chronic facial pain

The presentation on Orofacial Pain will delve into the complexities of orofacial pain disorders, encompassing a wide range of conditions such as Temporomandibular Disorders (TMD), neuropathic pain, and pain associated with dental and mucosal issues. By examining the underlying mechanisms, diagnostic approaches, and management strategies, this presentation aims to provide a comprehensive overview of orofacial pain, which is often misunderstood and mismanaged within clinical practice.

**Audience Take Away Notes**

- Understanding Orofacial Pain: Participants will gain insights into the classification of orofacial pain, including the differences between nociceptive, inflammatory, and neuropathic pain. This knowledge will help in recognizing the various presentations of orofacial pain and their implications for treatment.
- Diagnostic Techniques: The presentation will cover essential diagnostic tools and methods for evaluating orofacial pain, emphasizing the importance of a thorough patient history and clinical examination. This will equip attendees with practical skills to improve their diagnostic accuracy.
- Management Strategies: Attendees will learn about evidence-based management approaches for orofacial pain, including pharmacological and non-pharmacological interventions. This information will empower practitioners to create more effective treatment plans tailored to individual patient needs.
- Application in Clinical Practice: The knowledge gained will directly enhance the audience's ability to manage orofacial pain in their practice, leading to improved patient outcomes and satisfaction. This is particularly relevant for dental professionals, as the majority of orofacial pain originates from dental structures.
- Research Implications: The presentation will highlight current research trends in orofacial pain, providing faculty with insights that could inform their own research or teaching. Understanding these trends can foster interdisciplinary collaboration and innovation in pain management strategies.
- This presentation not only addresses the practical aspects of diagnosing and managing orofacial pain but also contributes to a broader understanding of the condition, which can simplify and enhance the efficiency of clinical practice. By improving diagnostic accuracy and treatment efficacy, the insights shared will ultimately lead to better patient care and outcomes in the field of dentistry and beyond.

**Biography**

Dr. Lujain studied Dentistry at the King Khalid University, Saudi Arabia, and graduated with a bachelor's degree with excellence in 2020. Qualified as an employee in the ministry of health. She then joined the Doctor of Science in Dentistry (DScD) in Oral medicine & diagnostic science at King Saud University, Riyadh. She received her The Diploma of Primary Care Dentistry (Dip PCD RCSI) degree in 2021 at the royal college of surgeons in Ireland. She has published more than 7 research articles in (E) journals.

**Luke Chung*, Junaid Panhwar**

Department or Infectious Diseases, Royal Darwin Hospital, Tiwi, Northern Territory, Australia

# Brain abscess following professional dental cleaning; A case report

Brain abscess is a localized infection within the brain, which can be life-threatening. Disorders arising from the oral cavity and dental treatment are among the various causes of brain abscess. We present a case report of an immunocompetent patient who developed a cerebral abscess in the right frontoparietal region after undergoing professional dental cleaning three weeks prior. The patient received neurosurgical intervention with abscess microbiology culture examination showing Streptococcus anginosus group. After admission to the intensive care unit post-operatively, the patient completed an 8-week course of intravenous antibiotics and is now undergoing rehabilitation with improvement in his neurological function. Although rare, this case report highlights that brain abscesses may be caused by transient bacteremia as a result from professional dental cleaning in patients who are immunocompetent.

**Audience Take Away Notes**

- The audience should be aware that professional dental cleaning may be considered a cause of brain abscesses even in immunocompetent and healthy patients.
- To consider examining the oral cavity in patients with intracranial infections to eliminate the possible infectious foci.
- Prevention is better than cure, focus needs to be placed on maintaining a high level of oral hygiene.

**Biography**

Dr. Luke Chung is a dually qualified trainee, having completed his dentistry and medical degree in Australia. He has worked in major tertiary hospitals in Australia and is now working as a maxillofacial/head & neck registrar at the Royal Darwin Hospital in Northern Territory, Australia.

**Dr. Madhulika Banerjee**

Department of Periodontics, Assistant Professor, Vishnu Dental College, Bhimavaram, Andhra Pradesh, India

# Exploring the tactile sensation of haptics in periodontal simulators: Are you ready!

A crucial component of a student's educational experience is the development of fine motor skills in conjunction with the simulation of clinical scenarios. However, there are certain disadvantages to the traditional dentistry education system, including expenses, availability, lack of actual clinical situations and time, clinical supervision, and the finance of raw materials. The advent of the haptics idea allows for the development of a more realistic clinical experience unencumbered by earlier constraints. Additionally, haptics provides students with an infinite number of training hours, allowing them to advance their abilities without worrying about staffing levels or budget. The sense of touch and force feedback may be able to provide more changes to the current learning strategies for the improvement of tactile sensation, thereby raising the standard of educational practices. This presentation offers a thorough understanding of the field of haptics as it relates to improving motor abilities in clinical periodontal procedure training.

**Audience Take Away Notes**

- Haptics can increase user's confidence and safety by eliminating distractions, particularly when performing periodontal surgery, detecting bone defects without flap reflection, and detecting sub-gingival calculus. Haptics does this by giving users clear and unmistakable tactile confirmation.
- It can provide immediate, reliable, and objective feedback in the form of felt hand sensations based on assessment of the process.
- With the use of haptics, dentists may now practice procedures as often as they like without incurring additional costs, and training can be done anywhere. So, from the job's perspective, This technology won't replace you, but a person using it, will.
- Haptic technology is an effective teaching tool that shortens the gap between the virtual and physical worlds and enhances perception, touch, and feel.

**Biography**

Dr. Madhulika Banerjee is currently working as an Assistant Professor in the Department of Periodontics, Vishnu Dental College, Bhimavaram, Andhra Pradesh, India. She was an editor in Indian Association of Dental Students, West Bengal Branch. She has achieved various awards. Dr. Madhulika was awarded as the winner in Education Category, by the Vice-Chancellor of Rajasthan in an award show organized by Her Ka Hunar Award show. Dr. Madhulika has also attended several conferences and presented her papers and posters for the same. She has around 25 publications along with self-published two books in her name.

**Maria Bolat[1]*, Doriana Agop-Forna[2], Norina Forna[3]**

[1]Department of Proshodontics Gr. T. Popa U.M.Ph, Faculty of Dentistry - Iași, Romania
[2]Department of Oral Surgery, Grigore T. Popa U.M.Ph, Faculty of Dentistry Iași, Romania
[3]Department of Proshodontics Gr. T. Popa U.M.Ph, Faculty of Dentistry - Iași, Romania

# Prosthetic systems for complex oral rehabilitation on dental implants with various maintenance and stability elements

Prosthetic systems have revolutionized complex oral rehabilitation, providing robust solutions for patients requiring dental implants. This abstract examines the multifaceted approach to prosthetic systems, emphasizing maintenance and stability elements crucial for long-term success. Dental implants have become a cornerstone of oral rehabilitation, offering a reliable alternative to conventional dentures and bridges. These implants serve as artificial roots, providing a stable foundation for prosthetic crowns, bridges, or dentures. The success of these implants, however, hinges on the intricate interplay of several factors, including the design of the prosthetic components, the materials used, and the methods of maintenance employed.

Maintenance of prosthetic systems is vital for their longevity. Regular follow-up visits and proper oral hygiene practices are essential. Professional cleaning and periodic assessment of the prosthetic components can prevent complications such as peri-implantitis, which can compromise the stability and health of the implant.

**1. Regular Monitoring:** Regular clinical evaluations help in early detection of issues such as loosening of the abutment, wear of the prosthetic material, or inflammation around the implant site. Radiographic assessments and probing depths are standard practices to monitor bone levels and soft tissue health.

**2. Patient Education:** Educating patients on proper oral hygiene techniques, including the use of interdental brushes and water flossers, can significantly enhance the longevity of the prosthetic systems. Patients should be informed about the signs of potential problems, such as bleeding gums or discomfort, to seek timely professional care.

**3. Prosthetic Maintenance:** Maintenance protocols often involve tightening of screws, replacement of worn components, and professional cleaning to remove plaque and calculus deposits. Innovations in prosthetic designs, such as retrievable prostheses, have simplified maintenance procedures, allowing for easier access to the underlying implants without the need for invasive procedures.

In conclusion, the success of prosthetic systems for complex oral rehabilitation on dental implants is a result of meticulous planning, precise execution, and diligent maintenance. The integration of advanced materials, innovative designs, and rigorous maintenance protocols ensures the longevity and functionality of these systems, providing patients with reliable and aesthetically pleasing solutions for their dental rehabilitation needs.

**Audience Take Away Notes**

- We will approach specific clinical cases of prosthesis on implants that will show different prosthetic systems and will facilitate their choice depending on the clinical situation of the patients
- After evaluating the clinical cases from the presentation, we can approach new methods and techniques for the realization of dental prostheses - specific to each patient

- The design of prostheses on implants is different depending on the position of the implants and the occlusion of the patient. There is a connection between the choice of materials from which the prostheses are made and the occlusal pattern of the patient
- Other advantages will be such as the analysis of the periodontal tissues around the implants, the evaluation of the attached gingival thickness to ensure the health of the implants, the types of pressure induced by prostheses on the periodontium

**Biography**

Dr. Maria Bolat studies at Faculty of Dentistry in Iasi, Romania and graduated in 2012. She joined in 2013 the certified program in implantology and the PhD program at the same University. She received her PhD degree in 2017. Meanwhile, in 2014 she obtained the position of an Associate Professor at UMF Iasi. As specializations we mention Implantology, Prosthetics and Orthodontics. From 2023 she is Lecturer at the Dental Prosthetics department of the Faculty of Dentistry in Iasi. Within the discipline she teaches especially at the French language section. She published more than 50 articles in ISi and BDI journals both in the country and abroad.

**Maedeh Ghorbanpour[1*], Maryam Jolehar[1], Mosa Gholami[2]**

[1]Assistant Professor, Department of Oral and Maxillofacial Pathology, Faculty of Dentistry, Tehran Medical Sciences, Islamic Azad University, Tehran, Iran
[2]Dentist, Private Practice, Tehran, Iran

# Effect of hydroalcoholic extract of *Camellia Sinensis* on the viability and apoptosis of oral squamous cell carcinoma cell line

**Background and Aim**: In recent years, green tea (*Camellia Sinensis*) has been evaluated in the treatment of different types of cancers due to its various antioxidants, fewer side effects, and lower toxicity. Many studies have shown that green tea has anti-proliferative and apoptosis-inducing effects. The aim of this study was to determine the effect of hydroalcoholic extract of green tea on the viability and apoptosis of oral squamous cell carcinoma cell line.

**Methods**: In this exprimental in-vitro study, oral Squamous Cell Carcinoma (TSCC-1) IBRC C10555 and normal fibroblast cell lines (HuGu) IBRC C10459 were cultured in special plates and after producing green tea extract the cells were exposed to different concentrations of this substance (6.3, 12.5, 25, 50, 100, 200, 400, 800, 1600 and 3200 µg/ml). Then, after 48h of exposure, viability of cells was checked by MTT assay and the rate of apoptotic cells were investigated by flow cytometry (Annexin V-FITC/PI kit) according to the instructions of the manufacturer. One Way ANOVA and Independent sample t-test were used to analyze the amount of living cells data, and One Way ANOVA and One-Sample Test were used to investigate apoptosis.

**Results**: The survival of human TSCC-1 cells decreased significantly with increasing concentration of green tea extract in a dose-dependent manner (p=0.000). As well, the survival of normal fibroblast (HuGu) cells decreased significantly with increasing concentration (p=0.000). Comparing the number of living cells between the two cell lines showed that viable SCC cells were significantly reduced compared to fibroblasts only at a concentration of 3200 µg/ml. In the fibroblast cell line, the amount of apoptotic and necrotic cells increased significantly with the increase in the concentration of the extract. However, in the oral squamous cell carcinoma cell line, the amount of apoptotic cells significantly decreased and the amount of necrotic cells increased significantly with the increase in the concentration of the extract ($P<0.05$).

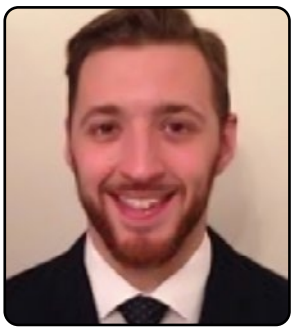
**Conclusion**: Green tea extract was effective in decreasing survival of SCC cells and this effect was more visible at higher concentrations (3200 µg/ml) in killing TSCC-1 cells than HuGu cells.

**Audience Take Away Notes**

- The audience will learn the characteristics of plants and their use in the treatment of different diseases based on scientific research
- This study will guide other audience to perform further studies on different substances
- The use of medicinal plants in combination with chemical drugs will decrease the dose of chemical drugs and so prevents more side effects. But as I said before we should use these plants after scientific confirmation and under the supervision of clinicians

## Biography

Dr. Maedeh Ghorbanpour studied dentistry at Babol University of Medical Sciences and has completed her Master degree in Oral and Maxillofacial Pathology at Shahid Beheshti University of Medical Sciences. She is head of oral and maxillofacial pathology department, Faculty of Dentistry, Tehran Medical Sciences, Islamic Azad University. She has published more than 17 abstracts in different journals and 3 books in Persian language.



**Mark Rozenbilds*, Luke Chung, Mahiban Thomas**

Department of Maxillofacial/Head and Neck Surgery, Royal Darwin Hospital, Darwin, Northern Territory, Australia

# The effects of mandibular wisdom teeth on angle and condyle fractures

**Objectives**: The aim of our study was to evaluate the relationship between mandibular third molars, their positioning within the mandible and the risk of angle or condyle fracture.

**Materials and Methods**: This retrospective study included all patients admitted to the Department of Maxillofacial/Head & Neck Surgery of the Royal Darwin Hospital for open reduction internal fixation of the mandible from January 2020 to March 2024. Patient records and imaging were evaluated. Predictor variables included the mechanism of injury, fracture pattern, presence or absence of mandibular third molars, their impaction status (Gregory & Pell classification) and angulation (Winter classification). The outcome variable was the type of fracture.

**Results**: 475 patients were admitted for repair of a total of 792 fractures. 281 patients suffered a total of 289 angle fractures (mean age 30.6 ▯ 1.2, 80.1% male); 110 patients suffered a total of 127 condyle fractures (mean age 33.5 ▯ 1.2 years, 67.3% male). 23% of the mandible fractures occurred as a single fracture, 68% as a double fracture, 9% as a triple and 1% as a quadruple fracture. The most common site for single fractures was the angle (56%), then body (16%) and condyle (15%). The most common pattern for double fractures was angle/body (32%), angle/parasymphysis (21%) and condyle/body (8%). 39 patients were noted to have mandibular metalwork present from previous fracture repairs (8.2%) 88.6% of all angle fractures had mandibular wisdom teeth present (Odds Ratio (OR) 3.32, 95% Cl (2.23–4.94), p<0.001), whereas only 69.2% of all condylar fractures had mandibular wisdom teeth present (OR 1.46, 95% (0.97-2.19), p=0.072). Mandibular wisdom teeth associated with both angle and condyle fractures were most commonly found to have a vertical angulation (45% and 51%) and A1 level of impaction (59% and 61%, respectively). The most common mechanism of injury was assault (82% and 65%, respectively).

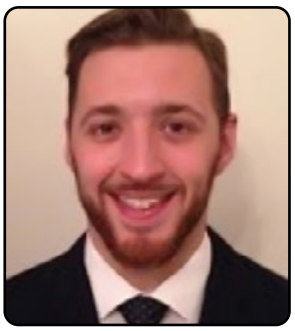
**Conclusion**: Patients with mandibular wisdom teeth present were greater than 3 times more likely to suffer an angle fracture as compared to patients with no mandibular wisdom teeth. There was no statistically significant relationship found between condyle fractures and the presence or absence of mandibular wisdom teeth. Consideration should be given to recommendations for prophylactic extraction of mandibular wisdom teeth in a population more at risk of trauma, as removal may predispose to condylar fractures which are technically more challenging to repair and carry a greater risk of complications.

**Audience Take Away Notes**

- Discussion points to consider when talking with high-risk trauma patients (eg contact sports, boxing etc) about prophylactic wisdom teeth extraction.
- Clinicians will be aware of the most common fracture patterns to assess for after a patient has suffered from facial trauma.
- Supplies further evidence in a controversial field that could be used to expand future research

## Biography

Mark studied Dentistry at Adelaide University, graduating in 2013. After working as a general dentist for 2 years, he moved interstate for public hospital jobs. In 2018 he moved back to Adelaide in order to study medicine, and graduated from the University of Adelaide for a second time in 2021. He began his medical career at Flinders Medical Centre, and has subsequently worked as an unaccredited registrar at both the Royal Adelaide Hospital and Royal Darwin Hospital, where he is currently employed.



**Mark Rozenbilds*, Luke Chung**

Department of Maxillofacial/Head and Neck Surgery, Royal Darwin Hospital, Darwin, Northern Territory, Australia

# Lateral rectus palsy after removal of mandibular metal-work

**Background**: Fortunately, the need to remove metal-work after open reduction internal fixation of the facial skeleton is relatively uncommon. The procedure is typically tolerated well, with patients discharged the same day. An uncommon complication of local anaesthetic administration during these procedures is temporary paralysis of muscle(s). While clinically dramatic, the condition is self-resolving. We present a case of a 27 year old female that developed a unilateral abducens nerve palsy after removal of bilateral mandibular plates and screws.

**Methods**: A 27 year old female was referred to our clinic with complaints of tenderness and discomfort arising from the position of 2 mandibular plates, placed previously during a repair of a mandible fracture. She underwent removal of both plates and screws under general anaesthetic with no intra-operative complications. Prior to extubation, 20ml of 0.25% marcaine with 1:400,000 adrenaline was administered via bilateral closed-mouth blocks.

In the recovery suite she was found to be unable to abduct her left eye; medial, superior and inferior range of movement was maintained. Both pupils were equal and reactive to light; right eye and other facial muscle movements were unaffected. She had no other neurological deficits. After consultation with neurology and ophthalmology teams, she underwent an urgent brain MRI which was clear.

**Results**: Approximately 6 hours after surgery her symptoms had entirely resolved. She was diagnosed with a left abducens nerve palsy attributed to spread of local anaesthetic from intra-operative blocks. She was kept overnight for observation and discharged the following day.

**Conclusion**: Administration of local anaesthetic can be directed, but the spread to surrounding tissues cannot be controlled. This presentation will help clinicians become aware of an unusual complication of local anaesthetic administration, its presentation and how best to manage it.

**Audience Take Away Notes**

- The audience could learn about the clinical presentation and management principles of a lateral rectus palsy
- The audience could learn about an unusual, but clinically dramatic complication of local anaesthetic administration
- This research could be used by other faculty to help develop local management guidelines

**Biography**

Mark studied Dentistry at Adelaide University, graduating in 2013. After working as a general dentist for 2 years, he moved interstate for public hospital jobs. In 2018 he moved back to Adelaide in order to study medicine, and graduated from the University of Adelaide for a second time in 2021. He began his medical career at Flinders Medical Centre, and has subsequently worked as an unaccredited registrar at both the Royal Adelaide Hospital and Royal Darwin Hospital, where he is currently employed.

**Petrovski Mihajlo[1*], Minovska Ana[2]**

[1]Faculty of medical sciences, Goce Delcev University, Stip, Republic of North Macedonia

[2]EternaDent, Private dental office, Skopje, Republic of North Macedonia

# Influence of periodontal therapy on chemical and mineralogical characteristics of root surface

**Introduction**: Dental cementum is an avascular and non-innervated mineralized tissue covering the root surface that is continuously and slowly created throughout life. The distribution of minerals and different chemical elements in mature dental cementum shows great variability, and changes in chemical and mineralogical characteristics also occur during the implementation of different therapeutic procedures in periodontology.

**Aim**: This research was to compare the chemical and mineralogical characteristics after performing three different therapeutic procedures.

**Material and Method**: The examined sample included a total number of 60 teeth in which there was an indication for extraction. All extracted teeth that were part of the sample had stage III and IV of periodontal disease. The total number of teeth that met the criteria for participation in this research were divided into three groups of 20 teeth, according to which of the performed therapeutic procedures was applied: (1) Group I: Teeth that have undergone a therapeutic procedure including usage of ultrasonic instruments and manual instruments. All of them were chemically analysed using ICP with mass spectrophotometry and X-ray diffractometry; (2) Group II: Consisted of teeth in which, after ultrasonic instrumentation, laser-assisted treatment with Er: YAG laser were used that were chemically analysed using ICP with mass spectrophotometry and X-ray diffractometry and (3) Control group: Impacted teeth with an indication for extraction or teeth that are for extraction for a non-periodontal reason. These teeth were chemically analysed using ICP with mass spectrophotometry and X-ray diffractometry.

**Results**: There was a reduction in the calcium present in the treated root surfaces, and the calcium loss was greater in the laser treated root surfaces. There were changes in the ratio of organic and inorganic constituents of cementum observed in root surfaces of treated teeth compared to root surfaces obtained from healthy teeth. The greatest loss of inorganic components in the cement structure was observed in surfaces treated with conventional periodontal therapy. There was a significantly closer ratio of the organic and inorganic part of cementum on root surfaces obtained from laser-treated teeth and healthy teeth. There were insignificant changes in the mineralogical composition of the cementum observed in treated teeth compared to root surfaces obtained from healthy teeth. Root surfaces originating from healthy teeth were dominated by hydroxyl-apatite and carbonate apatite, root surfaces treated with conventional periodontal therapy are dominated by amorphous apatite (indicating loss of the proper crystal structure of apatite), while root surfaces from teeth treated with laser-assisted therapy, apart from hydroxyl apatite, portlandite (calcium hydroxide with a grid similar to brushite) also occurs.

**Conclusion**: Changes in the chemical characteristics of the root surfaces occur during the application of any therapeutic procedure in relation to the surfaces of healthy teeth. There are numerous chemical changes observed in untreated periodontal affected root surfaces compared to root surfaces obtained from healthy teeth.

**Audience Take Away Notes**

- Authors want to present the effects of conventional and laser-assisted periodontal therapy on the chemical and mineralogical characteristics of the dental cementum covering the root surfaces of teeth affected by chronic periodontitis. All these data are compared with those of untreated healthy root surfaces which are assumed which are considered the most adequate, because they originate from unaffected teeth.
- All findings that will be presented indicate that there is essential importance of the chemical and mineralogical characteristics of the root surface and it can be noted that the application of laser-assisted periodontal treatment can contribute to the design of an appropriate biomimetic root surface that is most important for adequate process of healing.
- Based on this, the obtained results will make a scientific contribution in the field of modern therapy of periodontal disease and will confirm the scientific findings, which indicate that the use of laser light gives greater benefit on the healing process of the periodontium after the therapy.
- Presented results and the consequential conclusions of this presentation are important both for the clinical dentists and for the scientific knowledge for the effect of different therapeutic modalities in the periodontology.
- At the end, it is can be noted that laser-assisted periodontal treatment has numerous advantages over conventional therapy. This gives a significant scientific contribution that will have significance in everyday dental practice.
- This presentation is also aimed for avoiding all dilemmas that dental clinicians have about the dental lasers, their superiority and opportunities.
- Nowadays, all technological advances and enhancements have increased the possibilities of available laser systems in everyday dental practice. Among them, the laser devices that produce Er: YAG laser beams seem to have most promising use and are considered to become an indispensable tool in modern dentistry.

**Biography**

Ass. Prof. Mihajlo Petrovski, DDM, PhD, in December 2013, Dr. Mihajlo Petrovski become Master of Dental Sciences (Oral health in institutionalized elderly). In November 2021, become specialist in periodontology. He enrolls PhD studies in the academic year 2017/2018 in the field of Basic and Clinical Research in Dental Medicine (PhD thesis Analysis of micro-tographic and chemical characteristics of the root surface of the tooth after conventional and laser assisted periodontal therapy) and in 2021he becomes PhD in Dental Sciences. In May 2017, Dr. Mihajlo Petrovski becomes teaching assistant at the Faculty of Medical Sciences at University Goce Delchev in Stip.

**Pr. Mohamed Azhari**
International University of Rabat, Morocco

## Analyzing and strategic utilization of supportive structures for obturator prostheses following maxillectomy

The presentation titled Analyzing and Strategic Utilization of Supportive Structures for Obturator Prostheses Following Maxillectomy. will delve into the critical aspect of understanding the anatomical foundations crucial for the success of obturator prostheses post-maxillectomy. It will detail the methodology of anatomical specimen dissection to examine and elucidate the intricate supporting structures involved in stabilizing obturator prostheses. Key anatomical structures including the hard and soft palate, adjacent soft tissues, muscles, and bones will be analyzed, along with their interrelationships and roles in supporting the prosthesis. Additionally, the presentation will explore post-maxillectomy anatomical changes and their implications on prosthesis design and adaptation.

**Audience Take Away Notes**

- A comprehensive understanding of the anatomical structures essential for stabilizing obturator prostheses post-maxillectomy.
- Insights into the methodology of anatomical specimen dissection and its application in studying supporting structures.
- Knowledge of post-maxillectomy anatomical changes and their impact on prosthesis design and adaptation.
- **How the audience can use what they learn**:
    - Apply the knowledge gained to optimize obturator prosthesis design and adaptation for improved patient outcomes.
    - Incorporate anatomical specimen dissection techniques into research or clinical practice to further explore supporting structures and their dynamics.
    - Enhance patient care by developing tailored prosthetic solutions based on a thorough understanding of anatomical considerations.
- **Benefits for the audience**:
    - Facilitates more precise and effective obturator prosthesis design post-maxillectomy.
    - Offers a foundation for further research and exploration into supporting structures in dental and maxillofacial prosthetics.
    - Enhances the quality of patient care by addressing anatomical challenges associated with maxillectomy and prosthetic rehabilitation.

## Biography

Pr. Mohamed Azhari is a Professor at the Faculty of Dentistry of Rabat (FMDR), the Faculty of Medicine, Pharmacy, and Dentistry of Fes (FMPDF), and the International University of Rabat (UIR). He holds a National Diploma of Odontological Specialty (DNSO) from the Faculty of Dentistry of Rabat, Mohammed V University, Rabat, a University Diploma (DU) in Pediatric Dentistry and Prevention from the Faculty of Dentistry, Hassan II University, Casablanca, and a University Diploma (DU) in Head and Neck Anatomy from the Faculty of Dentistry, University of Bordeaux. Additionally, he has earned a Certificate of Higher Studies (CES) in Maxillo-Facial Prosthesis and a CES in Fixed Prosthesis from the Faculty of Dentistry, Paul Sabatier University, Toulouse. Pr. Azhari is an accomplished author of several articles in the fields of prosthodontics and maxillo-facial prosthodontics and has delivered several conferences and communications worldwide.

**Ozair Erfan**

Department of oral and maxillofacial surgery, Herat University/ Stomatology faculty, Herat, Afghanistan

## Custom-made, Zirconia root-analogue implant: A case report

This report demonstrates the clinical use of a modified, anatomic, root analogue customized zirconia implant for immediate replacement of a single-rooted, left second hopeless endodontically treated mandibular premolar. A 37-year-old male patient with chronic apical periodontitis and previous hopeless endodontic treatment with prefabricated metal post and coronal leakage of the left mandibular second premolar was referred, and the tooth was carefully extracted with periotom under local anesthesia. After gentile curettage of the alveolar socket with normal saline, A truly anatomical, root analogue, roughened (sandblasted) zirconia implant modified by different macro-retentions was manufactured by using DICAM file from CBCT milled zirconia blank and after cleaning and sterilization process placed into the extraction socket by tapping at the same day. After four months, a zirconia crown was cemented in place. No complications occurred during the healing period. An excellent functional and aesthetic result was achieved with minimal bone resorption and soft tissue recession at 12 months follow-up. This report describes the successful clinical use of an immediate, single-stage, truly anatomical root-analogue zirconia implant for the replacement of a single-rooted tooth. This novel approach is minimally invasive. Significant modifications such as macro-retentions yielded primary stability and excellent osseointegration. This novel approach is minimally invasive, respects the underlying anatomy, aids socket prevention and cost-saving with good patient acceptance as there is no need for bone drilling, sinus lift, bone augmentation, or other traumatic procedures.

**Audience Take Away Notes**

- It will provide information about root analogue implants.
- It will be useful for audience to learn how they can made their own implant for their customized patients.
- In this presentation will discuss the new protocol, design and procedure for madding root analogue implant.

**Biography**

In 2010, Dr. Ozir Erfan completed his MD degree at Kabul University of Medical Sciences and then joined the specialization program in oral and maxillofacial surgery at Kabul Stomatology Hospital. He graduated after completing the four-year specialization program in 2016. In 2022, he joined the master's program in Oral implantology at Goethe University, Germany, and in 2023, he successfully obtained his master's degree. Since 2018, he has served as a lecturer in the Department of Oral and Maxillofacial Surgery at Herat University as a lecturer and head of the department. He has translated and authored several national and international articles, treatises, and books.

**Pantelejmon Trpchevski[2*], Assoc. Prof. Dr. Boris Sashev Valkov[1,2]**

[1]Conservative dentistry and oral pathology, Faculty of Dental Medicine, Varna, Bulgaria

[2]Faculty of Dental Medicine, Medical University–Varna, Bulgaria

# Methods of root canal obturation and most common mistakes

**Introduction**: The modern field of endodontics offers various methods to obturate root canals: central technique, cold lateral condensation (the gold standard), warm vertical condensation and injection technique.

**Purpose**: Presentation of the various obturation techniques with indications and contraindications, in order to make the correct choice in each individual clinical case and prevent mistakes during obturation.

**Materials and Methods**: A series of different studies have been analyzed in order to provide an overview of the obturation methods, the requirements towards them, the ideal properties that they need to possess, in order to choose the best obturation method.

The presented clinical case was obturated with cold lateral condensation technique: an 87-year-old patient, an ex-smoker, without systemic diseases. Three teeth of the lower jaw were devitalized and obturated with a diagnosis devitalisatio pro causa prosthetica. During the obturation have been used Adseal Plus - Meta resin based sealer, Denco master and Dentsply Sirona auxiliary gutta-percha points.

**Results**: Radiographs taken after obturation show homogeneity up to the very apex with no freshened sealer in the periapical region. After 4 months, I took new radiographs, on which the homogeneity of the obturation is up to the very apex without periapical changes.

**Discussion**: After a thorough review of the literature, we cannot unambiguously decide which is the best method for obturation- clinicians must be well aware of the advantages and disadvantages.

**Conclusion**: Correctly selected obturation technique leads to successful endodontic treatment with a minimum number of mistakes.

**Keywords**: Endodontic Mistakes, Cold Lateral Obturation, Obturation Techniques, Endodontics.

**Audience Take Away Notes**

- This method will be applicable to the audience's daily endodontic practice, particularly to students in dental medicine faculties
- This abstract can help determine the correct clinical choice of obturation technique based on the current clinical case and prevent the most common obturation mistakes. Also can be an inspiration to other faculty members to expand their research or teaching
- This method is a practical solution, especially in the prevention of an extruded sealer, which guarantees us a homogeneously obturated canal to the very end, without periapical changes in the future

## Biography

Pantelejmon Trpchevski, dental student 4 year in Faculty of Dental Medicine, Medical University – Varna, Bulgaria. Head of technical support and member of the management board of ASDM (Association of Students-Dental Medicine-Varna). Member of Student Council of Medical University-Varna. Demonstrator of Anatomy and Cell Biology march-may 2022. Active participant and speaker in few congresses with endodontics session: Dent-X Congress 2024 – Bucharest, Romania, 30th anniversary edition of the International Student Dental Congress-Dental Faculty Skopje 2024-Ohrid, Macedonia. Passive participant: Sofia Dental Meeting 2022, 23 – Sofia, Bulgaria, Shumen Dental Forum 2024 – Shumen, Bulgaria and other lectures and demonstrations in the field of endodontics.

**Dr. Pradnya S Jadhav**

Assistant Professor, Department of Public Health Dentistry, Government Dental College & Hospital Aurangabad, India

# Prevalence of tobacco use and oral precancerous lesions among the public transportation workers and employees in Western Maharashtra (India): A cross-sectional analytical study

Tobacco use is one of the most critical risk factors for different oral diseases. The contributing factors such as socioeconomical aspect, illiteracy, poverty, work stress are the constant physical and psychological due to changing shift, prolonged working hours and lack of knowledge about hazards of tobacco.

The city of Western part of Maharashtra, Pune, India where transport workers like bus conductors and bus drivers who work for prolonged hours and constitute an essential part of urban informal sector, where health is undervalued.

The aim of this Cross-Sectional Analytical Study assessing the oral health status and tobacco related habits-type of tobacco, duration, frequency and oral lesions in bus conductors and bus drivers in a city of Maharashtra, Pune; in a selected group of Public transport workers).

Out of total 1000 study participants, 28% had Leukoplakia whereas 0.8% had OSMF (Oral Sub mucous Fibrosis). This difference was statistically significant ($p<0.05$).

Oral mucosal lesions could be due to infection (bacterial, viral, fungal), local trauma and or irritation (traumatic keratoses, fibroma, burns), systemic disease (metabolic or immunological), or related to lifestyle factors such as the usage of tobacco, areca nut, betel quid, or alcohol. The current study highlighted the oral health status and tobacco habits its adverse effects on the people of this specific population

**Keywords**: Tobacco, Public Transport workers, Oral mucosal lesions and conditions, Systemic random sampling.

**Audience Take Away Notes**

- Knowledge of Tobacco and its critical long-term side effects
- Prevalence of Oral mucosal conditions
- Study can help implement Government organization or NGO, for implementing new projects
- Update knowledge of Practicing Dentist and create Awareness about oral lesions and various factors associated with tobacco, its duration, frequency, type of tobacco, practicing dentist

## Biography

Dr. Pradnya S Jadhav (BDS) from Tatyasaheb Kore Dental College and Hospital, New Pargaon, Kolhapur, India in 2012. Postgraduate, Masters in Public Health Dentistry (MDS) from Sinhagad Dental College and Hospital, Pune, India in 2017. Worked in Various Academic Institutes like: Nanded Rural Dental College and Research Centre, Nanded (2017-2018), Tatyasaheb Kore Dental College and Research Centre, Kolhapur (2018-2019). Sinhgad Dental College and Hospital, Pune (2019-2020) as Senior Lecturer/Assistant Professor. Presently working as Academician, Assistant Professor in Government Dental College and Hospital, Chhatrapati Sambhajinagar (Aurangabad), Maharashtra, India from Feb 2020 till date and ongoing. Presently, I have various National International Research Publications. Special interest areas are Epidemiology, Research, Tobacco counselling, Dental Caries, Surveys, Teaching, Biostatistics and other area of interest involve Data management and Pharmacovigilance.

**Prof (Dr). Ramesh Nagarajappa**

Department of Public Health Dentistry, The Oxford Dental College, Bangalore, India

## Effective utilization of dental informatics in dentistry

Dental public health informatics is the effective utilization of information and information technology for surveillance, prevention, preparedness, and health promotion to improve population oral health outcomes, where the specialists focus on population-level issues and solutions. It combines information technology, computer science, and cognitive science to assist in the management of information from the perspective of healthcare as well as groups of individuals while associating the environment, work, and living places and that's only the tip of the iceberg.

The major spheres in public health informatics are biostatistics, community health education, and Geospatial Information Systems (GIS), including teledentistry, which make wide use of various software programs. It has become critical presently because of the advancements in information technology, new challenges in the public health system, and changes in the Medicare delivery system. In the present scenario, the need for public health informatics is growing because of new challenges related to antibiotic resistance, emerging infections, and chemical and biological terrorism.

The presentation would focus on the significant principles of and challenges against the present-day dental public health informatics, while additionally highlighting the lack of centralization for bespoke systems, the absence of adequate agreed data models, and the scope for further investments in technology and electronic pipelines, which impedes reporting and collection.

**Keywords**: Dental Informatics, Information Technology, Public Health.

**Biography**

Prof Dr. Ramesh Nagarajappa graduated from the prestigious Bapuji Dental College and Hospital, Davangere, India in 1999. I am presently working as a Professor and Head, in the Department of Public Health Dentistry at the Oxford Dental College, Bangalore, India. I have post-graduation teaching experience of over 24 years and have guided both PhD and MDS students. I have also authored 130 publications in various international and national reputed journals. Been a regular reviewer too in many journals. I do have experience in delivering scientific presentations and chairing scientific sessions at various conferences.

**Dr. Sachin Shashikant Metkari B.D.S., M.D.S., Ph.D.**

Associate Professor (Additional), Department of Conservative Dentistry and Endodontics, Nair Hospital Dental College, Mumbai, Maharashtra, India.
Maharashtra University of Health Sciences, Nashik, Maharashtra, India

# Avulsion of permanent tooth: A case report and new guidelines for traumatic injuries

**Introduction**: Injury to the orofacial structure is serious type of traumatic injury and emergency in dental practice. Rapid and precise emergency management is important for attaining the best outcome after this injury. Approximately 0.5-16% of traumatic injuries to the permanent anterior dentition result in tooth avulsion. Immediate treatment of choice for tooth avulsion is reimplantation but is not always possible.

Long-term survival of these reimplanted teeth is not highly successful and may be lost or condemned to extraction at a later stage. Still, not replanting a tooth is an irreversible decision and therefore saving it should be attempted.

This case report presents successful delayed reimplantation of permanent central incisor with 3 years follow up. Patient reported late in tertiary care centre after 17 hours of accidental fall with tooth carrying in sterile saline vial. Decision was made to reimplant the avulsed tooth so that it will not affect aesthetics, function and psychology of growing child. Patient was completely happy with reimplanted tooth after 3 years of follow up.

This presentation also focuses on recommended new guidelines for traumatic injury by American Association of Endodontics (AAE) and International Association of Dental Traumatology (IADT) and their challenges.

**Audience Take Away Notes**

- New recommended guideline for as per American Association of Endodontics (AAE) and International Association of Dental Traumatology (IADT) and their application
- This presentation will help to know how the tooth avulsion case should be approached, treat case
- Methods to stabilize the avulsed tooth
- Various storage media of avulsed tooth
- Prognosis of avulsed tooth

**Biography**

Dr. Sachin Shashikant Metkari studied bachelor of Dentistry at Nair hospital dental college, Mumbai from Maharashtra university of health sciences Nashik, Maharashtra, India. He had done his post-graduation from Government dental college, and his Ph.D. from Pacific Dental college, Rajasthan, India in 2022. He is now working at Nair hospital Dental college, Mumbai, India as Associate Professor (Additional).

**Salah Mohammed Hafedh**
Orthodontics and Dentofacial Orthopedics, Genesis Medical & Cosmetics, Sana'a, Yemen

## Secrets of successful orthodontic treatment

Successful orthodontic treatment involves a comprehensive approach that balances oral health, aesthetics, occlusion, function, and stability. This presentation delves into the essential steps and techniques that contribute to achieving these goals. We begin by defining clear treatment objectives, emphasizing the importance of oral health, aesthetics, occlusion, and functionality. A structured checklist is introduced, which guides practitioners through a systematic process to ensure no aspect of treatment is overlooked.

The presentation then highlights the significance of precise bracket placement and the necessity of repositioning brackets to address specific malocclusion issues. We explore the critical adjustments required in archwires to enhance treatment outcomes. A crucial aspect of the treatment process is focusing on the patient's face, teeth, and smile rather than the orthodontic appliance itself, ensuring a holistic approach to aesthetics and occlusion.

Functional occlusion is another key focus, where we discuss the importance of achieving centric relation, proper anterior and canine guidance, and maintaining a healthy Temporomandibular Joint (TMJ). The anatomical reshaping of teeth, particularly the incisal edges and embrasures, is also covered, providing detailed steps to achieve optimal results.

Lastly, we address the planning of retention strategies and the careful removal of orthodontic appliances, highlighting the importance of bonding lower retention prior to removal and making necessary occlusal adjustments. This comprehensive guide aims to equip orthodontists with the knowledge and tools to enhance their clinical practice and deliver successful orthodontic outcomes.

**Audience Take Away Notes**

- **Defining Treatment Goals**: Understanding the critical objectives of orthodontic treatment, including oral health, aesthetics, occlusion, function, and stability.
- **Using a Checklist**: Implementing a systematic checklist to ensure all aspects of treatment are considered, especially for those new to clinical orthodontics.
- **Improving Bracket Placement**: Techniques for precise bracket placement and the importance of repositioning brackets for specific malocclusions.
- **Adjusting Archwires**: The rationale and methods for making necessary adjustments in archwires to improve treatment efficacy.
- **Holistic Focus**: The importance of focusing on the patient's face, teeth, and smile rather than just the orthodontic appliance.
- **Enhancing Functional Occlusion**: Achieving optimal functional occlusion through centric relation, anterior guidance, and healthy TMJ.

- **Reshaping Teeth Anatomically**: Detailed steps for reshaping teeth anatomically to enhance aesthetics and function.
- **Retention Planning**: Strategies for planning retention to maintain treatment results, including bonding techniques and occlusal adjustments.
- **Appliance Removal**: Best practices for the removal of orthodontic appliances, ensuring minimal disruption to the natural adjustment of occlusal contacts.

**Biography**

Dr. Salah M. Ben Hafedh is an accomplished orthodontist with a distinguished career in dentistry. He earned his bachelor's degree from Sana'a University in 2013, followed by a master's degree from the same institution in 2022. Currently, he is pursuing a PhD at the University of Science Malaysia, where his research focuses on advanced orthodontic techniques and innovations. With a robust clinical background and a passion for orthodontics, Dr. Ben Hafedh has made significant contributions to the field through both his practice and academic pursuits. He is dedicated to improving patient outcomes and advancing the understanding of successful orthodontic treatments. Dr. Ben Hafedh will be presenting his insights on Secrets of Successful Orthodontic Treatment at the upcoming dental conference, sharing his expertise and latest findings with fellow professionals.

**Dr. Shveta Setia**
Department of Prosthodontics, Crown & Bridge and Implantology

## Tips and tricks of ceramic veneers

The success and aesthetic outcome of indirect veneers hinge on the skills of a dental professional and efficient collaboration with the laboratory technicians. This symbiotic relationship is pivotal for achieving outstanding results. Aesthetic success begins with the mindful approach, ranging from minimally invasive to aggressive preparations, aligning with contemporary philosophy of less is more in dentistry.

Embracing a conservative strategy with minimal tooth reduction not only promotes adhesion but also enhances clinical longevity. Advances in ceramic materials, adhesive cements and preparation techniques provide clinicians with a diverse range of restorative options.

This presentation aims to guide practitioners in adjunctive treatments, emphasizing clinically driven approaches, modern classification, and bonding protocols that ensures aesthetics, precision and longevity for optimal outcome.

**Audience Take Away Notes**

- In this engaging presentation, I will delve into the intricate world of indirect veneers offering a comprehensive guide on effective tips and tricks.
- Attendees will gain valuable insights into enhancing design and treatment planning processes, revolutionising their approach to cosmetic dentistry
- **Exclusive insights**: Gain exclusive insights into the intricate world of indirect veneers, unlocking trade secrets and proven strategies for unparalleled success in cosmetic dentistry.
- **Aesthetic brilliance**: Master the art of achieving stunning aesthetics with insider techniques, revolutionizing your approach to color, shape, and translucency in indirect veneer design.
- **Efficiency in practice**: Streamline your treatment planning with cutting-edge strategies, ensuring a patient-centric approach that not only meets but exceeds unique expectations in cosmetic dentistry.
- **Digital Advancements:** Embrace the future of dentistry by integrating state-of-the-art digital tools, enhancing precision in design and treatment planning, and positioning your practice as a leader in modern techniques.
- **Case studies and practical examples**: Benefit from real-world case studies and practical examples, allowing for a tangible and applicable understanding of the presented tips and tricks.
- This session is your gateway to a transformative experience, providing actionable insights that empower you to elevate your skills, deliver exceptional results, and elevate the overall patient experience.

## Biography

Dr. Shveta, a distinguished Prosthodontist, graduated from Kurukshetra University, Haryana, India in 2013 and earned her postgraduate degree from SGT University in 2017. Renowned as a mentor for fixed prosthodontics at VATECH India and the visionary owner of Artistree Dentals and Cosmetic Clinic, she seamlessly combines clinical mastery with unwavering passion. Beyond the dental chair, Dr. Shveta is a dynamic force in social impact, actively contributing to awareness platforms such as Times Now and Hindustan Times. An esteemed member of the Indian Dental Association and Indian Prosthodontic Society, her commitment to dentistry shines through her diverse contributions to clinical excellence, education, and advancing societal oral health awareness.

**Steven J Traub**
American Institute of Oral Biology, United States

## Modern Temporomandibular Joint (TMJ) surgery

This lecture will be a reminiscence of 40+ years of TMJ evaluation, diagnosis, non-surgical, and surgical treatment modalties, and a discussion of long-term outcomes in a private practice setting, involving over 900 cases. The presenter is of the opinion that TMJ meniscectomy is the most reliable and long-term successful method for initial management of chronic TMJ internal derangements that are refractory to conservative non-surgical treatment modalities. The simple criteria for TMJ surgery are: Failed conservative therapy, Positive MRI findings, Chronic narcotic-dependent pain, and Severe limitation of motion. At this point, TMJ meniscectomy can be performed under IV sedation as an out-patient office procedure.

### Biography

Dr. Traub graduated from Creighton University School of Dentistry in 1978 following which he completed a 3-year Oral & Maxillofacial Surgery residency at Cook County Hospital in Chicago, Illinois, USA. He then enjoyed a full-time solo practice in his home town of Albuquerque, New Mexico USA until the summer of 2023. More recently, he has accepted a teaching position at Creighton University Dental School as a clinical professor in the Oral & Maxillofacial Surgery department. He is on the Board of Directors of the American Institute of Oral Biology (AIOB), still practices surgery part-time in Albuquerque, and is becoming certified by the International Academy of Independent Medical Legal Evaluators, being the first in his field in that organization. He has placed dental implants since 1982 and still does major facial traumatic reconstructive surgery.

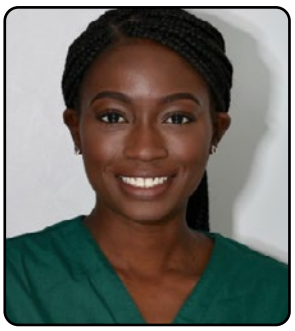
**Steven J Traub**
American Institute of Oral Biology, United States

## Facial trauma 2024

This lecture is a primer for dentists and physicians regarding evaluation of facial skeletal and soft tissue injuries, including emergency, primary reconstructive, and definitive management along with long-term problem care. The major topics of examination, diagnostic radiographic evaluation, airway management, anatomic considerations, and treatment alternatives will be discussed. All of this will be presented using a classic collection clinical cases.

### Biography

Dr. Traub graduated from Creighton University School of Dentistry in 1978 following which he completed a 3-year Oral & Maxillofacial Surgery residency at Cook County Hospital in Chicago, Illinois, USA. He then enjoyed a full-time solo practice in his home town of Albuquerque, New Mexico USA until the summer of 2023. More recently, he has accepted a teaching position at Creighton University Dental School as a clinical professor in the Oral & Maxillofacial Surgery department. He is on the Board of Directors of the American Institute of Oral Biology (AIOB), still practices surgery part-time in Albuquerque, and is becoming certified by the International Academy of Independent Medical Legal Evaluators, being the first in his field in that organization. He has placed dental implants since 1982 and still does major facial traumatic reconstructive surgery.



**Teslimat Ajeigbe**
Alder Hey Children's Hospital, UK

# Primary molars with enamel defects in cleft lip and/or palate patients: A multicentre evaluation

Cleft Lip and/or Palate (CLP) is associated with several dental anomalies, including enamel defects such as hypoplasia or hypomineralisation. The majority of the literature on enamel defects in this cohort is centered around deciduous incisors and permanent incisors/molars - there is little research on enamel defects in primary molars.

A multicentre evaluation was therefore completed with the aims of establishing the prevalence of enamel defects in the primary molars of patients with CLP in England and Wales. Further aims were to find possible associations and determine the dental management of these teeth. Records of 5-year-olds born in 2012/2013 and attending the cleft units in Liverpool (n=104), Manchester (n=128), South Wales (Cardiff, n=97), London (Evelina, n=82) and Cambridge (n= 68, 2012 only) were reviewed.

Of the 461 CLP patients with 5-year-old audit data available, 11% (n=54) had evidence of enamel defects in at least one primary molar. Cleft palate (41%) and unilateral cleft lip and palate (35%) were the most common cleft types associated with enamel defects in primary molars. 13% of cases (n=7) were associated with cardiac co-morbidities and 13% of cases were syndromic (n=7). 23% of affected primary molars were also carious. The most common management for caries-free affected molars was prevention alone (55%) and the most common management for carious affected molars was composite restorations (31%).

It is possible there is a higher prevalence of enamel defects in the primary molars of children with CLP. Conducting a national prospective audit, as well as quantifying the prevalence of primary molars with enamel defects in the general population, will allow for further exploration of this hypothesis in the future.

**Audience Take Away Notes**

- Revision of the dental anomalies associated with cleft lip and/or palate
- Understand the implications of primary molars with enamel defects on the developing dentition
- Revision of the ways primary molars with enamel defects can be managed, particularly in young children
- Understand the avenues and opportunities for further research in this area

**Biography**

Dr. Ajeigbe received her Bachelor of Dental Surgery (with Honours) from the University of Liverpool in 2018. Since graduating, she has worked in a variety of settings including primary care, secondary care and the community dental service. Her clinical interests lie in Paediatric Dentistry, Orthodontics and Oral Surgery. She is currently working as an Academic Clinical Fellow, allowing her to complete research alongside her clinical interests.

**Vijay Kumar S**

Department of public Health Dentistry, Amrita School of Dentistry, Amrita Vishwa Vidyapeetham, Kochi, India

# Retaining innocent smiles: Oral health promotion through health education

Prevention of oral diseases has been the corner stone of Public Health Programs. Prevention can well be achieved by motivation of young population starting from an early age. This approach shall be more apt for a nation with larger population with diversified cultural, language and traditional backgrounds. Oral Health Curriculum should be customised to different school grades with activities encouraging oral hygiene. The concept goes especially significant for children since most permanent teeth erupts at school going age and negligence of oral health will have a long-lasting effect extending into the individual's adult life. The early care of oral health will be significant in reducing the oral disease burden of the entire population for future generations to come.

**Audience Take Away Notes**

- Those in Dental Public Health and Pediatric dental fields can use the framework of various school oral health curriculums to prevent and promote oral health in their community.
- This research could be used by other faculty to expand their own research or teaching
- Oral health curriculum and education or awareness programs have been found to be effective if adapted to the culture and traditions where the students have been brought up.
- It will reduce the overall oral disease burden in the future generations and it will improve the general health and improves quality of life. It will hence improve the health indicators of the nation.

**Biography**

Dr. Vijay Kumar S did his Bachelor[s degree from Manipal University. Manipal in 1999. He completed his master's degree in Public Health Dentistry (MDS) from Yenepoya University, Mangalore in 2011. Ever since, he has been working in Amrita School of Dentistry, Amrita Vishwa Vidyapeetham. Currently he is an Additional Professor in the Department of Public Health Dentistry, Amrita School of Dentistry, Kochi. He has published more than 40 articles including 21 in Scopus indexed Journals.

**Yeganeh Arian[1*], Rezaey Poria[2]**

[1]Resident of oromaxillofacial surgery, Department of oromaxillofacial surgery of Kerman medical university, Iran

[2]Assistance of professor of electrical engineering, Department of electrical engineering of Bojnourd university, Iran

# A comparative study of the performance of wireless implantable implants in the head and neck area

**Aim**: With the increase of the elderly population in societies and the emergence of diseases and disabilities, especially in the head and neck area such as eyes, ears and brain, the need for implantable devices with the ability to help in hearing, vision and strengthening brain signals is increasing. Implantable implants with small size, high power and transmission of electrical signals can help improve the function of these organs. The purpose of this study is to investigate implants implanted in the head and neck area with Wireless Power Transmission (WPT) and compare them with conventional wires and measure their performance.

**Method & Materials**: In order to conduct this review, original articles in English language were collected from PubMed and Google Scholar databases. Articles were reviewed from 1993 to 2023. Unpublished studies and studies in non- English language were not reviewed. The review was done on all articles in which implants were placed in the head and neck area, including eyes, ears, and brain. In this study, the aim was to focus on the devices that had the ability to transmit power wirelessly, although the articles in which the power transmission was done conventionally or with wires were also discussed. Key words such as WPT, ear implant, eye and brain were used for the review. And the results were compared together.

**Results**: High power wireless implantable implants are used in the brain region to guide neuronal messages in areas with neuron destruction. In the eye area, these implants are divided into two categories: intraocular implants for intraocular pressure detection and glaucoma treatment, where the sensor is installed inside the eyeball and the external sensor is installed on the eyeglass frame. And the implants embedded in the retina, which by amplifying the signal in the healthy nerve cells under or on the retina, receive the light and image messages sent from the glasses and wirelessly send the messages to the brain. And finally, there are cochlear implants, which by amplifying and sending electrical signals, increase the stimulation of the auditory nerve and treat problems in conductive-neural deafness patients.

**Conclusion**: With the spread of various diseases and the increase in the age of the world's population, implantable implants can be very efficient, especially with a small size design, high power, signaling capability and proximity to the tissue in the head and neck area.

**Keywords**: Implantable Device - WPT - Ear Implant - Eye Implant - Brain Implant.

**Biography**

Yeganeh Arian was born in Iran and is 31 years old. She completed her primary and high school education in Mashhad, Iran. She studied general dentistry at Mashhad Medical University. Afterward, she worked for 2 years in rural regions. She then continued her education, specializing in Oromaxillofacial surgery at Bahonar Hospital in Kerman, Iran. Yeganeh has conducted research for about 7 years in various fields of Oromaxillofacial surgery. She has authored papers on topics such as Stem Cell Therapy in Temporomandibular Disorders, Robotic Surgery, Artificial Intelligence, Different Approaches to Congenital Maxillomandibular Syngnathia Treatment, and Comparing Various Implantable Implants in the Head and Neck Area. Additionally, she has written case reports, including Mucormycosis Treatment of the Palatine Region in a COVID-19 Patient, Surgical Removal of a Pleomorphic Adenoma in the Palatal Region of a Young Patient, and Treatment of Ossifying Fibroma in the Mandibular Region.

**YuYeon Jung*, DaEun Kang, JungEun An**

Department of Dental Hygiene, Catholic Kwandong University, Gangneung-si, Gangwon-do, South Korea

# Effect of lifestyle habits and periodontal disease on metabolic syndrome in South Korean adults

**Introduction**: Metabolic Syndrome (MetS) is associated with lifestyle and environmental factors. Lifestyle factors include not only physical activity, smoking, and alcohol consumption but also sleep duration, oral hygiene status, daily brushing frequency, and interdental cleaning. Especially, poor oral hygiene leading to periodontal disease is also associated with MetS, diabetes, and cardiovascular diseases. Despite the increasing global prevalence of MetS and periodontal diseases, research on integrated health management remains insufficient.

**Objectives**: We aim to verify the impact of lifestyle on the incidence of MetS and the effect of periodontal disease on MetS, thereby emphasizing the need for a lifestyle management program for integrated health promotion.

**Methods & Materials**: This study analyzed data from 11,626 adults without missing values for key variables, using from the seventh Korea National Health and Nutrition Examination Survey (2016-2018). To verify whether there is a significant difference in MetS according to lifestyle and the presence of periodontal disease, a Chi-square test was conducted, and logistic regression analysis was performed to determine the impact of the presence of periodontal disease and lifestyle on MetS.

**Results**: Lifestyle factors influencing the occurrence of MetS were physical activity, sleep duration, smoking, alcohol consumption, and brushing frequency. In particular, sleep duration, smoking, and alcohol consumption had a significant effect on the likelihood of MetS occurrence, and the likelihood of MetS was low when moderate or higher physical activity was practiced (OR=0.85, p=0.010) and when the daily brushing frequency was 4 or more (OR=0.78, p=0.008). In addition, the factor influencing the occurrence of MetS is the presence or absence of periodontal disease. The group with periodontal disease was 1.29 times more likely to develop MetS than the group without periodontal disease (OR=1.29, p<0.001), which had a significant effect even after controlling general characteristics and lifestyle habits.

**Conclusion**: According to the results of this study, MetS and periodontal disease are closely related to general characteristics and lifestyle habits. MetS can lead to complications such as atherosclerotic disease, chronic kidney disease, and colorectal cancer, while periodontal disease can result in complications like cardiovascular disease, diabetes, liver disease, and obesity. Therefore, it is necessary to consider comprehensive and diverse factors to prevent complications arising from MetS and periodontal disease. Currently, there are many theoretical policies and education in South Korea that focus on sporadic and fragmentary contents such as distribution and promotion of national health living guidelines, and health education at public health centers. Therefore, it is necessary to change to an integrated health management system by preparing practical programs and mid- to long-term health promotion plans and policies that can practice proper lifestyle by the people themselves. Accordingly, in order to prevent the occurrence of MetS, it is necessary to establish a public health policy appropriate to the actual situation of the country and develop a lifestyle management program centered on risk factors.

**Audience Take Away Notes**

- Understanding the association between MetS and periodontal disease can provide insights into chronic disease management
- This research provides a foundation for further studies on the interactions between lifestyle, oral health, and chronic diseases, enriching both research and education
- Implementing a systematic lifestyle management program could reduce the costs associated with the treatment of MetS, periodontal disease, and their related complications
- Based on the findings of this study, healthcare professionals and policy-makers can develop integrated health promotion strategies aimed at preventing MetS by improving lifestyle and enhancing oral health

**Biography**

YuYeon Jung is an assistant professor of dental hygiene in Korea and a postgraduate principal professor. She earned a Ph.D. in medicine at Chungbuk National University in Korea and a Ph.D. in oral health at Dankook University. Currently, the department of dental hygiene teaches preventive dental science, clinical dental hygiene practice, oral health statistics, and community dental hygiene practice. In addition, she is conducting research on the development of oral health programs to prevent oral diseases and promote oral health.

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# Effects of self-perceived oral health and stress levels on subjective oral symptoms and lifestyle of university students in South Korea

**Introduction**: Self-perceived oral health was reported to be related to clinical and subjective oral factors, socioeconomic factors, perceived stress, and oral health behavior. However, there is little research on whether self-perceived oral health is related to dry mouth, saliva viscosity, and lifestyle factors.

**Objectives**: Accordingly, this study aimed to verify the impact of self-perceived oral health and stress levels on subjective oral symptoms and lifestyle.

**Methods & Materials**: The results of responses from 644 South Korean University students who agreed to participate in the study were statistically analyzed. A chi-square test was conducted to determine whether there was a significant difference between self-perceived oral health and stress levels on subjective oral symptoms and lifestyle, and through logistic regression analysis, subjective oral symptoms and whether a diagnosis of periodontal disease affected self-perceived oral health.

**Results**: Subjective oral symptom factors that showed significant differences depending on self-perceived oral health included gingival bleeding or pain, dry mouth, and saliva viscosity, while lifestyle factors included the frequency of tooth brushing and beverage consumption. Additionally, subjective oral symptoms influence self-perceived oral health. Self-perception of oral health was negative when there was gingival bleeding or pain (OR=0.594, p=0.002) or dry mouth (OR=0.577, p=0.001).

**Conclusion:** According to these results, self-perceived oral health was closely related to gingival bleeding or pain and dry mouth and was also related to lifestyle. Oral disease is a disease that occurs across all generations, not only children who are not accustomed to dental care, but also young people, middle-aged people, and the elderly. In addition, due to the chronic and cumulative nature of oral diseases, dental treatment costs account for a large portion and are steadily increasing every year, placing a significant burden on the nation. Therefore, since it is a very important time for university students to form proper lifestyles as they begin adulthood, we would like to provide basic data for developing an efficient and practicable educational program for oral health management.

**Audience Take Away Notes**

- Self-perceived oral health can provide insight into health
- Professionals dealing with oral health and public health can use the information to develop programs
- This study not only provides oral hygiene system solutions but also predicts possible outcomes
- If the self-oral hygiene management system is implemented systematically, the cost of nursing care benefits can be significantly reduced

## Biography

YuYeon Jung is an assistant professor of dental hygiene in Korea and a postgraduate principal professor. She earned a Ph.D. in medicine at Chungbuk National University in Korea and a Ph.D. in oral health at Dankook University. Currently, the department of dental hygiene teaches preventive dental science, clinical dental hygiene practice, oral health statistics, and community dental hygiene practice. In addition, she is conducting research on the development of oral health programs to prevent oral diseases and promote oral health.

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