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ABSTRACT BOOK

Global Conference on

Dentistry and Oral Health

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Badre Bouchra

Department of Pediatric Dentistry and Laboratory of Community Health, Epidemiology and Biostatistics, Faculty of Dental Medicine, Hassan II University, Casablanca, Morocco

When Climate Affects Smiles: The Impact of Climate Change on Children's Oral Health

Abstract

Early Childhood Caries (ECC) remains one of the most common chronic diseases in children under the age of six, leading to pain, infections, and reduced quality of life. Beyond the traditional factors—oral hygiene, diet, and genetic susceptibility—recent studies suggest that environmental and climatic changes also influence the incidence and severity of ECC.

emphasize that rising temperatures, periods of drought, and instability in water systems modify hydration behaviors, increase the consumption of sugary drinks, and reduce access to fluoridated water—thereby exacerbating caries risk. More recent work also suggests that dietary disruptions caused by climate stress—such as an increase in ultra-processed foods and reduced availability of fresh products—create a highly cariogenic environment .

This presentation aims to analyze the effects of climate change on children's oral health and to identify relevant prevention strategies.

Biography

My name is Badre Bouchra; I was trained at the Faculty of Dental Medicine in Casablanca, where I discovered my passion for pediatric dentistry, a field where medical technique meets the innocence, fear, trust, and courage of children.

From an early stage, I became interested in children with rare syndromes, particularly those with ectodermal dysplasia. Their prosthetic care is demanding but deeply rewarding: seeing a child rediscover themselves in the mirror, regain confidence and a smile, is for me one of the most powerful moments in my practice.

An essential aspect of my work also involves children with special needs who require treatment under general anesthesia. For them, this approach is often the only way to ensure complete, safe care that respects their particular sensitivities.

Pr.Nawel ALLAL[1], Dr.Souhila GUENDOUZ[2], Dr.Nawel BABA AHMED[1]

Faculty of medicine department of dental medicine Tlemcen ALGERIA Faculty of medicine department of pharmacy Tlemcen ALGERIA

Oral hygiene product for product-based tooth whitening natural curcumin

Abstract

Introduction

As part of daily life, many people smoke, consume colorful foods and drink coffee, tea and other drinks. The use of products based of plants containing natural ingredients is better accepted by the public due to their security. The aim of the present study was to develop two formulations of gels based on Curcumin and study their anti-dyschromic effects on the external color of dental enamel. At the same time, a comparative study of these gels was carried out in order to evaluate parameters important physical conditions such as stability and homogeneity, with the aim of obtaining a more effective and stable formulation.

Material and methods:

This is an in vitro therapeutic clinical trial. A series of experiments was carried out on extracted teeth (n=30). The samples were randomly divided into five subgroups. Readings were taken initially (T1), then after immersion in a blackening process (T2). The lightening product has been applied for 5 minutes, three times a day. After 30 days of applications, new measures were taken using a Vita Classical shade guide.

Results:

The hydrogel based on curcumin and xanthan gum used in local administration has demonstrated superior effectiveness in reducing dental dyschromia. These results promising results suggest that this formulation could be an interesting option for the treatment of unwanted tooth color problems.

Conclusion:
Curcumin-based gel presents itself as a promising candidate for prevention and/or the treatment of dental dyschromia. In addition, it presents an excellent profile of security.

Keywords:
Curcumin, in-vitro, topical gel, lightening.

Biography

Dr Nawel ALLAL Lecturer A in Conservative Odontology and Endodontics at the Faculty of Medicine at the Department of Dentistry Tlemcen (ALGERIA). In 2002 she began her studies in dentistry, between 2008 and 2012 she did her specialty and subsequently worked as a specialist at Tlemcen University Hospital until 2015 when she became a teacher at the Faculty of Medicine of Tlemcen. Holder of a subspecialization diploma in medical pedagogy 2018 and technician in medical hypnosis 2023.

Farouk Mohammed
Professor at faculty pf medecine pharmacy and dentistry of Fes

Medication related osteonecrosis of the jaw in pediatric population : case of a child with osteogenesis imperfecta

Abstract

Osteogenesis imperfecta (OI) is a group of hereditary disorders characterized by bone fragility, usually inherited in an autosomal dominant mode.
It is caused by a mutation in the gene encoding alpha 1 collagen type located on chromosome 17. This mutation results in both quantitative and qualitative abnormalities in the production of type alpha 1 collagen type.
In 1979, Sillence et al. classified OI into four types I–IV; this classification is based on clinical features and disease severity. Bisphosphonates are the treatment of choice for OI.

In children, treatment with bisphosphonates is associated with reduced bone remodeling, increased bone mineral density, improved structure, and, in some studies, a decrease in fracture rate.
This report describes a case of maxillary osteonecrosis at the left premolar site in a 12-year-old female patient.

Biography

Farouk Mohammed obtained his national specialty diploma in oral surgery in 2017; he then became a professor of preventive dentistry in 2024. His areas of expertise include oral surgery ; pediatric oral surgery and oral cancer prevention.

Markie L. C. Twist
Antioch University and University of Guelph

Exploring Cross-Discipline Collaboration: Dental, Public, and Systemic Clinical Health Considerations

Abstract

The role of teeth and related dental medical care and considerations is rarely discussed in the context of systemic therapy practices and systemic therapy is rarely discussed in the context of dental hygiene, medicine, and related care. Yet, such considerations can be crucial to consider in these contexts. For instance, human development and family studies researchers have shown that caring for one's teeth consistently over the lifespan can add up to 7 years onto the lifespan (Broderick et al.. 2010). In addition, dentists are, at times, the first line of defense in recognizing some critical indicators of mental and relational health concerns, including, but not limited to, symptoms of the following: eating, depression, anxiety, dementia, and certain substance abuse disorders, as well as other psychotropic disorders, and relational stressors, such as divorce and even death (Broderick et al., 2010; Torales et al., 2017). On the other side, many children, adolesents, and adults, even intergenerationally (DeMaria et al., 2017) experience dental fear, and relatedly, do not regularly care for their teeth, nor conslut dental medicine providers (Crego et al., 2014). For these reasons alone, it would be helpful to have more intersectional communication, collaboration, and consultation between providers in the dental, mental, public, and relational health fields. In addition, as many people often fear and relatedly may avoid and/or at minimum be ignorant of dental care and related health care, this affects not only their teeth and mouths but, overall physical health – think about the affects of oral sex without a proper barrier, which leads to health outomes like throat cancers, for example (Morgan & Twist, 2025). Finally, there are people that fantasize (e.g., tooth fairy mythos; Patcas et al., 2017), erotocize, and fetishize teeth and relatedly, at times, dental care (Mockler-Ferrman, 1910), which is not

addressed in practices. Thus, in this workshop, the dental and mental/relational health intersectionalities will be explored, as well as implications for cross-field collaboration and related consultations.

Biography

Markie L. C. Twist, PhD, LMFT, RegCOSRT is Teaching Faculty and Graduate Student Research Chairperson in Doctoral and Masters Couple and Family Therapy (CFT) programs, as well as Program Coordinator of Sexuality Studies Certificate at Antioch University. She is Session

Instructor in University of Guelph Professional Sexuality Practices Clinical Training Program in Guelph, Ontario, Canada. She is a registered member of the College of Sexual and Relationship Therapists (COSRT), a licensed marriage and family therapist and mental health counselor, and clinical fellow and approved supervisor of the American Association for Marriage and Family Therapy (AAMFT), and certified sexuality educator and supervisor through American Association of Sexuality Educators, Counselors, and Therapists (AASECT). She is also Editor-in-Chief of the COSRT journal—Sexual and Relationship Therapy.

Anis Tebyanian DMD MD

Olney Center For Oral and Maxillofacial Surgery , Maryland USA

Office Based Arthrocentesis

Abstract

TMJ disorders and associated pain and dysfunction are increasingly prevalent in the modern age, largely due to parafunctional habits such as bruxism. These habits stem from psychological stressors and manifest physically through unconscious clenching and grinding of the teeth. The substantial masticatory force exerted during these actions can have detrimental effects on the related muscles and the TMJ itself, leading to pain, limited mouth opening, and inability to chew food properly. These symptoms can significantly impact one's quality of life, causing discomfort and difficulty in performing daily activities related to eating and speaking. Other causes of TMD are trauma, arthritis, dentofacial deformity all of which can result in alteration or destruction of TMJ and related structures

Arthrocentesis is a minimally invasive procedure that can be safely performed in office setting for treatment of symptomatic internal derangement such as disc displacement without reduction. It involves flushing and irrigating the superior joint space to push the disk apart from the glenoid fossa, remove inflammatory byproducts and debris and to improve joint mobility by breaking down adhesions. While it may not be suitable for advanced cases, it serves as a preferred initial surgical option for the majority of cases that do not respond to conservative treatments. The indications for arthrocentesis include: failed conservative treatment, anterior disk displacement without reduction, TMJ trauma with associated hemarthrosis, symptomatic arthropathies such as osteoarthritis or rheumatoid arthritis and situations where patient opt against more invasive surgical procedures. Arthrocentesis is contraindicated in presence of tumor, degenerative bone osteophytes, disk perforation, skin infection, and condylar ankylosis.

Biography

Dr. Ronit Ilouz is an Assistent Professor at the Azrieli Faculty of Medicine, Bar-Ilan University. Her research focuses on spatial signaling mechanisms in cancer and neurodegeneration, combining quantitative imaging, proteomics, and structural biology to identify clinically relevant biomarkers. She has contributed to defining Protein Kinase A (PKA) dysregulation in human disease, including lesion-specific biomarkers in prostate cancer.

Dr Veeresh Matmari

Professor, Department of Dentistry ESIC Medical College & Hospital, KK Nagar, Chennai

Minor Surgeries, Major Impact: Surgical Solutions to Oral Disorders

Abstract

Minor oral surgeries, though often considered routine and minimally invasive, can have a transformative impact on a patient's oral health, systemic well-being, and overall quality of life. The procedures like removal of impacted tooth, cysts, small tumours, frenectomies, alveoloplasty, Pre-Malignanant lesions etc. are performed under local anaesthesia. However, their outcomes frequently addresses chronic pain, infection, speech impediments, orthodontic complications, and early detection of potentially malignant lesions. This presentation highlights significance of such minor oral surgical procedures not only in alleviating discomfort but also in enhancing function, aesthetics, and long term oral and systemic health. The paper advocated for increased awareness, timely intervention, and patient education to maximize the benefits of minor oral surgeries.

Biography

I have completed my Postgraduate in the subject of Oral & Maxillofacial Surgery in the year 2002 from Rajiv Gandhi University of Health Sciences, Karnataka. Currently working as Professor and Head department of Dentistry, ESIC Medical College & Hospital, Chennai.

Hope Loyd RDH, BSDH
ADHA, AADH, DEW, AAOSH, TDHA, GCCDHA

Stories Behind the Chair: Bridging Fear, Trust, and Global Smiles

Abstract

What if every fearful dental visit could become a story of healing instead of hesitation? In Stories Behind the Chair: Bridging Fear, Trust, and Global Smiles, Hope Loyd-known as The Gum Goddess Podcaster-shares heartfelt, real-world encounters that reveal how fear, culture, and communication collide in the dental chair.

Drawing on her international experience as a lead dental hygienist and storyteller, Hope explores the emotional side of dentistry that textbooks rarely touch: why patients fear the chair, how clinicians can connect beyond the mask, and what happens when empathy meets education. From working with Afghan refugees to building oral health confidence through podcasting, she demonstrates how small acts of care ripple into global change. Attendees will walk away with practical strategies to build rapport, communicate compassionately, and create positive patient experiences-turning fear into trust and appointments into conversations that truly heal.

Biography

Hope Loyd, RDH, BSDH -The Gum Goddess Podcaster™ of Gums & Gossip Podcast™

Seasoned dental hygienist with periodontics experience, Hope Loyd is on a mission to humanize dentistry and connect people through smiles. A solo traveler, single mom, and lover of nature, coffee, and champagne, she blends clinical expertise with storytelling to help patients overcome dental fear. Through her podcast and global initiatives, Hope inspires trust, joy, and confident smiles-one patient at a time.

Farouk Mohammed
Professor at faculty pf medecine pharmacy and dentistry of Fes

Odontogenic keratokyste : a case report and literature review

Abstract

Odontogenic keratocyst (OKC) is a locally aggressive cystic lesion derived from remnants of the dental lamina. It is most commonly located in the posterior mandible, while maxillary involvement is rare and poses diagnostic and surgical challenges due to its proximity to critical anatomical structures.
The reported case in this study is that of a male patient consulting for a swelling that had been progressively developing for 1 year. Clinical examination revealed the presence of an impacted tooth surrounded by a radiolucent lesion of cystic appearance. Management consisted of enucleation of the lesion with extraction of the impacted tooth. Anatomopathological examination confirmed the diagnosis of a keratocyst. The aim of this work is to present the clinical, radiological, and histological characteristics of this lesion, as well as the specifics of its management.

Biography

Farouk Mohammed obtained his national specialty diploma in oral surgery in 2017; he then became a professor of preventive dentistry in 2024. His areas of expertise include oral surgery ; pediatric oral surgery and oral cancer prevention.

Dr. Ajeet Ghumman DDS
Cert. Ortho., FRCD(c)

Early Preventative Orthodontic Care: Managing Feeding, Speech, Myofunctional, and Neuromuscular Development from Birth to Adolescence

Abstract

Early preventative orthodontic treatment from birth to age 18 plays a critical role in promoting optimal craniofacial growth, functional development, and overall oral health. This comprehensive approach addresses feeding, speech, and myofunctional concerns while guiding harmonious development of the jaws and neuromuscular system. Preventative strategies begin at birth with interventions for proper suckling and swallowing patterns, which influence maxillofacial growth and airway health. As children progress through infancy and early childhood, monitoring and managing oral habits, tongue posture, and breathing patterns become essential to prevent malocclusions and functional disorders. Speech development and myofunctional therapy are integrated to support neuromuscular coordination and articulation. Growth guidance during mixed dentition ensures timely correction of skeletal discrepancies and occlusal issues, reducing the need for complex treatment later. This review synthesizes evidence-based protocols for early orthodontic intervention, emphasizing interdisciplinary collaboration to optimize feeding, speech, and neuromuscular function, ultimately improving long-term oral and systemic health outcomes.

Biography

Dr. Ghumman is one of the few Orthodontists that provides a 360 degree look into ones orthodontic needs. After completing 8 years of post-graduate education he trained for an additional 2 years in airway management, myofunctional therapy, and neuromuscular treatment, where he has helped to pioneer early preventative treatment modalities in North America. He currently educates and trains other practitioners in conjunction with The Aurum Academy, Sinclair, and Cerum.

Martha Zurina Masó Galán
Universidad de Ciencias Médicas de La Habana, Facultad de Estomatología. La Habana, Cuba

Predictive Index And Oral Health Risk Scale For Diabetic Patients

Abstract

Introduction: Diabetes mellitus (DM) is a public health problem with high prevalence and systemic repercussions, including oral health. The bidirectional relationship between DM and periodontal diseases, dental caries, and other oral conditions justifies the development of tools for risk stratification.
Objective: To develop and validate a predictive index and a risk scale for oral health in diabetic patients.

Methods: A development and innovation study was conducted with 401 diabetic patients (2018-2021). The sample was divided into a prediction group (n=201) and a validation group (n=200). The dependent variable was oral health (high risk vs. moderate/low risk). Multivariate logistic regression was used to construct the index, and validation was performed using ROC curves and the Hosmer-Lemeshow test.

Results: The factors most associated with high oral risk were periodontal disease (OR=2.885), dental caries (OR=1.890), and poor oral hygiene (OR=1.758). The index showed an area under the curve (AUC) of 0.995 in prediction and 0.988 in validation. The derived scale (score 0-11) had an AUC=0.978. Inter-observer reliability was excellent (global Kappa=0.993).

Conclusions: A valid and reliable predictive index and risk scale (IPSBPD) were developed to classify diabetic patients according to their oral health risk. Its application in clinical practice can optimize preventive and therapeutic dental care.

Dr. Ajeet Ghumman DDS
Cert. Ortho., FRCD(c)

Leveraging AI and Automation for Smarter Dental Practice Management: A Cost-Effective Alternative to Instantly Improve the Value of your Practice

Abstract

The integration of Artificial Intelligence (AI) and automation into dental practice management is reshaping the economics and operational efficiency of modern dentistry. Rising overhead costs and administrative burdens have traditionally driven independent practitioners toward selling to larger groups for financial relief. However, AI and automation powered solutions now offer a viable alternative by streamlining workflows, reducing expenses, and enhancing profitability without sacrificing autonomy. Automating management and human resource processes such as employee compliance, regulatory compliance, maintenance, inventory, administrative and clinical tasks enable practices to optimize resource allocation and minimize human error. By leveraging these technologies, practices can significantly lower operational costs, improve staff productivity, and maintain independence in a competitive market. This shift positions AI and automation as transformative tools that empower dentists to thrive without resorting to consolidation, ensuring sustainable growth and improved patient care.

Biography

Dr. Ghumman is one of the few Orthodontists that provides a 360 degree look into ones orthodontic needs. After completing 8 years of post-graduate education he trained for an additional 2 years in airway management, myofunctional therapy, and neuromuscular treatment, where he has helped to pioneer early preventative treatment modalities in North America. He is also one of the co-founders of Clinch an online web-based platform designed to alleviate management burdens of a practice, improve efficiencies and reduce costs.

Dr. Muhammad Usman

Armed Forcs Bone Marrow Transplant Center ,Rwalpindi Pakistan

Bleeding Phenotype of Glanzmann Thrombasthenia (GT) and Treatment Outcomes in over one hundred patients: A two-center experience in North Pakistan

Abstract

Glanzmann thrombasthenia (GT) is a rare disease with an autosomal recessive inheritance pattern. This disorder is not so uncommonly encountered in routine clinical practice and laboratory settings in Pakistan let alone in the rest of the world. To describe the bleeding phenotype of GT and treatment outcomes in over one hundred patients in north Pakistan, this descriptive, cross-sectional, retrospective study was conducted on patients from 2011 to 2023 using a convenience sampling technique. A total of 103 patients of all ages and both genders diagnosed as having inherited GT were included in the study . The median age of study population was 1.1 years with IQR of 0.8- 2. Out of total 55 (53%) patients were males and 48(47%) patients were females. Ninety-eight percent of patients were diagnosed using light transmission aggregometry and only 2(2%) patients by immunophenotyping. Due to the high incidence of interfamily marriages, 86(84%) patients were born to consanguineous marriages .Thirty-nine(38%) patients had an episode of major bleeding as defined by ISTH criteria. Epistaxis 73(71%), skin bruising 63(61%), gum bleeding 57(55%), were the most common bleeding symptoms. Thirty-two(31%) required use of r-VIIa for major bleeding, 5(5%) patients underwent fully matched allogenic HSCT. Graft versus host disease free relapse free survival (GRFS) were 80%. GT is still an under recognized and under diagnosed disorder particularly in resource limited settings where the estimated incidence seems to be much higher than reported.

Pr.Nawel ALLAL(1),Pr.Nabil

Faculty of medicine department of dental medicine Tlemcen ALGERIA

Use and Methods of Prescribing Antibiotics in Odontology

Abstract

Introduction: The use of Antibiotics in dentistry remains a current topic, often marked by inappropriate prescriptions.

Objectives: The objective of this work is to evaluate the knowledge, attitudes and practices of dental students and residents
regarding antibiotic therapy, as well as the writing of a manual.

Material and method: This is a descriptive study based on a questionnaire structured in four parts, the first part is
interested in general data and sources of knowledge then we have the criteria and modalities of prescription then the clinical
situations and side effects of amoxicillin, finally, awareness and the impact of excessive antibiotic therapy. The questionnaire
was distributed online via social networks. It was addressed to students (external and internal) and residents in odontology.

The results: the results showed heterogeneity in the responses, with certain gaps in the indications and protocols of
antibiotic therapy as well as a variety of prescriptions according to the different services and the different pathologies.

Conclusion: better training on the proper use of antibiotics is necessary to strengthen rational prescribing among future practitioners.

Biography

Dr Nawel ALLAL Lecturer A in Conservative Odontology and Endodontics at the Faculty of Medicine at the Department of Dentistry Tlemcen (ALGERIA). In 2002 she began her studies in dentistry, between 2008 and 2012 she did her specialty and subsequently worked as a specialist at Tlemcen University Hospital until 2015 when she became a teacher at the Faculty of Medicine of Tlemcen. Holder of a subspecialization diploma in medical pedagogy 2018 and technician in medical hypnosis 2023.

Lavika Mor BDS FAGD FIOI
University of Michigan

Hospital Dentistry: Challenges, Treatment Modalities, and Clinical Considerations

Abstract

This presentation raises awareness of the integrated dental care model for individuals with special healthcare needs by examining the unique oral health challenges faced by medically compromised and intellectually disabled patients. Through complex hospital dentistry cases, it highlights ethical, clinical, and systemic barriers to care and underscores the critical role of medical professionals and interdisciplinary teams in early identification of dental concerns, coordinated treatment planning, emergency management, and appropriate referral pathways. By reflecting on real-world challenges, the presentation emphasizes the importance of improved communication and collaboration across disciplines to reduce preventable complications, expand providers' capacity to manage or refer complex cases, and promote a more integrated, compassionate model of care that enhances outcomes for this vulnerable population

Biography

Dr. Lavika Mor is an Assistant Professor and General Practice Residency (GPR) Program Director in the Department of Oral and Maxillofacial Surgery and Hospital Dentistry at the University of Michigan. Trained in India, she completed a General Practice Residency in the United States and holds Fellowships in the Academy of General Dentistry (FAGD) and the International Congress of Oral Implantologists (FICOI). Dr. Mor provides direct patient care across inpatient and outpatient settings, as well as in the operating room. Her clinical expertise includes comprehensive, consultative, and emergency oral health care for medically complex patients.

Dr. Eugenia Chan, DDS, MMSc, FACP
University of Southern California Harvard School of Dental Medicine

Decisions in Esthetic Crown Lengthening and Gingival Architecture in Worn Dentitions

Abstract

This lecture highlights the role of periodontal plastic surgery in full-mouth rehabilitation of the severely worn dentition, with a focus on esthetic crown lengthening and managing altered passive and secondary eruption.

Through the case of a middle-aged male with generalized attrition, compensatory eruption, and uneven gingival zeniths, we'll explore:

- Diagnosing altered passive eruption vs active secondary eruption.
- Treatment planning for esthetic crown lengthening, including surgical sequencing and post-op provisional timing.
- Coordination between periodontal surgery and prosthetic margin design for optimal esthetic outcomes.

A staged workflow combining digital smile design, mock-ups, and soft tissue conditioning illustrates how interdisciplinary collaboration leads to predictable esthetic results.

Biography

Dr. Eugenia Chan, DDS, MMSc, FACP, is a board-certified surgical prosthodontist with a private practice in Pasadena, California. She is a graduate of the Herman Ostrow School of Dentistry at the University of Southern California and completed her specialty training in prosthodontics at the Harvard School of Dental Medicine, where she also earned a Master of Medical Sciences in Oral Biology. Her clinical focus includes full-arch rehabilitation, guided implant surgery, and digital prosthodontics with an emphasis on surgical-restorative integration. As a Fellow of the American College of Prosthodontists (FACP), Dr. Chan is committed to advancing education and interdisciplinary care.

Elmoutawakkil Nidal
Sidi Mohammed Ben Abdellah University , faculty of medicine, pharmacy and dentistry

digital full dentures : chairside workflow

Abstract

In the age of emerging technologies, the procedures within the removable prosthodontics department have experienced numerous transformations, leading to decreased laboratory time, fewer chairside sessions, and a reduction in the total expense associated with complete dentures. This work aims to demonstrate, through clinical cases, the computer-aided design and manufacturing steps as well as the difference between the two workflows adopted during the production of two complete dentures at the department of removable prostheses. of the dental consultation and treatment center (D.C.T.C) of Casablanca.

Biography

June 2015:

Graduated with a Doctorate in Dental Medicine from the Faculty of Dentistry in Casablanca, receiving highest honors and congratulations from the jury.

Graduated with a Certificate in Implantology and Maxillofacial Surgery from Paul Sabatier University in Toulouse, France.

June 2016:

Graduated with a University Diploma in Implantology and Maxillofacial Surgery from Paul Sabatier University in Toulouse (valedictorian).

June 2017:

First year of residency in the Department of Removable Prosthodontics at the Faculty of Dentistry in Casablanca.

June 2018:

C.E.S.U. (Certificate of Advanced Studies in Dental Occlusodontics) from the University of Marseille, France.

CADCAM Dental Certificate from Smile Academy in Casablanca.

From 2013 to 2017:

Full-time private practice as a dentist in a multidisciplinary dental center.

From 2017 to 2021:

Full-time resident in the removable prosthodontics department of the dental consultation and treatment center at Ibn Rochd University Hospital in Casablanca.

February 2021:

Residency thesis in removable prosthodontics entitled "CAD/CAM: Application through two clinical cases in the removable prosthodontics department of the Casablanca Dental Consultation and Treatment Center."

June 2021:

Obtained the National Diploma in Dental Prosthodontics (DNSO) from the Faculty of Dentistry in Casablanca.

October 2025: Assistant Professor in the Department of Removable Prosthodontics and Maxillofacial Surgery at the Faculty of Medicine, Pharmacy, and Dentistry in Fez (Sidi Mohammed Ben Abdellah University).

Elgasmi Fatima Ezzahra
Department of Pediatric Dentistry and Laboratory of Community Health, Epidemiology and Biostatistics, Faculty of Dental Medicine, Hassan II University, Casablanca, Morocco

Severe Early Childhood Caries: Multidisciplinary Management Illustrated by Two Cases

Abstract

Background:
Severe Early Childhood Caries (S-ECC) remains a major public health challenge, particularly in young children with limited cooperation and high caries risk. Comprehensive treatment often requires a multidisciplinary approach combining behavior management, restorative treatment, and preventive strategies tailored to each child.

Case Presentation:
This poster reports two clinical cases of children aged 2 yeras old presenting with severe forms of ECC, including multiple cavitated lesions, pain on mastication, and significant feeding difficulties. Both children exhibited high caries risk factors such as prolonged bottle-feeding, high sugar intake, and inadequate oral hygiene. Management was performed under (conventional chairside care / pharmacological behavior management). Full-mouth rehabilitation included pulp therapy (pulpotomy or pulpectomy), stainless steel crowns, atraumatic restorative treatment when indicated, and extractions for non-restorable teeth. Parents received individualized counseling and preventive instructions following the anticipatory guidance model.

Results:
Both patients showed successful clinical outcomes, with resolution of pain, restoration of function, and improved oral hygiene. Follow-up at more than 6 months demonstrated good retention of restorations, absence of new caries, and better parental adherence to preventive recommendations.

Conclusion:
These two cases emphasize the importance of early diagnosis, comprehensive treatment planning, and parental education in the management of S-ECC. They highlight the effectiveness of full-mouth rehabilitation supported by individualized preventive strategies to restore oral health and quality of life in young children.

Keywords: Severe Early Childhood Caries, Pediatric Dentistry, Full-mouth Rehabilitation, Pulp Therapy, Stainless Steel Crowns, Case Report.

Biography

Elgasmi Fatima Ezzahra, baccalaureate 2010, graduate of the Faculty of Dental Medicine of Casablanca, specialist in pedodontics in 2022, and assistant professor at the Faculty of Medicine, Pharmacy, and Dental Medicine of Fes in 2024, author of about ten scientific articles.

Dana Marzocco D.M.D

Prosthodontist, Private Practice, Stony Brook University School of Dental Medicine, New York, United States

Implant complications: digital and analog solutions from a prosthodontic point of view

Abstract

Implant restorations can present challenges for both new and seasoned dentists in practice. From single units to full arch restorations, implant prostheses can have unique issues which much be managed by the restorative dentist. Careful treatment planning begins between the implant surgeon and restorative dentist, in collaboration with a laboratory technician. This process is integral to reducing complications. Proper diagnosis and communication with the dental laboratory technician is critical in designing and providing treatment. Restorative design and components must be carefully selected to ensure a successful prosthesis.

This lecture will emphasize the necessity for treatment planning of surgical and restorative procedures in both a digital and analog environment. Emphasis will be placed on the importance of implant provisionalization, prototypes, and utilization of technology in planning effective restorations.

1. Utilize information from digital technology to plan with surgeons, restorative dentists, and lab technicians.
2. Utilize virtual design to treatment plan solutions using screw retained restorations, angled screw channels (ASC), abutments, and the necessity for gingival ceramics.
3. Solutions for material issues, implant screws, prosthesis fracture and repair.

4. Understand the role of utilizing laboratory provisionals, verification jigs, and prototypes to prevent complications.
5. Minimize issues with implant access points, and material selection.

Biography

Dana Marzocco D.M.D was raised in New York, United States. She completed her doctorate at Tufts University School of Dental Medicine in Boston, Massachusetts. After completing a general practice residency at Montefiore Medical Center, she decided to pursue specialty training. She received a certificate in postgraduate Prosthodontics at New York University, followed by a two-year implant fellowship at the same institution. Dr. Marzocco is in private practice in New Hyde Park and Fresh Meadows. She is limited to prosthodontics.

Dr. Marzocco is a Clinical Assistant Professor at Stony Brook University Dental School in Stony Brook, New York. She serves as a clinical instructor in both post graduate prosthodontics, and undergraduate clinics.

Dr. Marzocco is a member of the American Dental Association, American College of Prosthodontists, and local study groups. She lectures on multiple topics with a concentration on implant restorations. She has conducted lectures on both local and national levels.

Dr.Ahmed Abdelwahed shaaban

BDS , MDSc, DDSc,PhD
Professor of Prosthodontics , Future University In Egypt
Founder and president of the Egyptian Association of Prosthetic and Restorative Dentistry (EAPRD)
President of Egyptian dental union (EDU)

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Abstract

Subperiosteal implants have re-emerged as a viable and advanced treatment modality for patients with severe alveolar bone resorption where conventional endosseous implants are contraindicated. This lecture explores the indications, design, surgical protocol, and long-term outcomes of subperiosteal implants, with a focus on digital workflow innovations that have significantly improved their precision and predictability. Through clinical case studies and evidence-based discussion, we will highlight how subperiosteal implants offer a less invasive alternative to extensive bone grafting procedures, enabling fixed prosthetic rehabilitation even in the most challenging anatomical conditions. Participants will gain a comprehensive understanding of when and how to incorporate this approach into their practice, ultimately expanding treatment options for compromised cases.

WAHID HAFSSA OUMAYMA
Faculty of Medicine, Pharmacy and Dentistry of Fes
Sidi Mohamed Ben Abdellah University of Fes

Occlusal management: The Contribution of New Technologies

Abstract

Occlusal evaluation is a routine clinical procedure, ranging from simple occlusal adjustments to the placement of prosthetic restorations. Advances in digital technologies and virtual reality have significantly transformed this process, allowing clinicians to move beyond traditional color-transfer methods and to digitally visualize static and dynamic occlusal contacts.

This work aims to present contemporary digital approaches for assessing static and dynamic occlusion, including optical impression systems, electronic bite registration devices with pressuresensitive sensors, and mandibular kinematic modeling tools. A literature review and analysis was carried out using PubMed, Google Scholar, ScienceDirect, and Web of Science, focusing on publications from the past 10 years examining their technical characteristics, advantages, and limitations. Current technologies make it possible to integrate multiple 3D datasets—such as dental arches, facial soft tissues, and cranial structures. Recording mandibular movements allows for the development of a 4D virtual patient. The introduction of jaw-tracking systems has profoundly changed the way clinicians analyze and manage their patients, providing unprecedented precision and customization. Whether diagnosing temporomandibular disorders or designing individualized restorations, these systems improve clinical accuracy while streamlining workflows.

As these technologies continue to progress, they are expected to further transform dental care, making it increasingly precise, efficient, and patient-centered.

Biography

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Chang-Hoon Sung
Department of Oral and Maxillofacial Surgery, Ulsan University Hospital, University of Ulsan, South Korea

The effect of histone methylation on osteoblastic differentiation of human periosteum-derived cells cultured in vitro

Abstract

Hypoxia is commonly observed in clinical settings such as extraction wounds, fractures, and maxillofacial trauma, and it may influence the regenerative potential of periosteum-derived cells (PDCs). These cells are an important source of progenitors for bone regeneration, but their osteogenic behavior under hypoxic conditions requires further study.

In this study, human PDCs were cultured in vitro under normoxic (20% O_2) or hypoxic (3% O_2) conditions. Cell proliferation, senescence, and apoptosis were evaluated, and osteoblastic differentiation was assessed by alkaline phosphatase activity, mineralization assays, and expression of osteogenic marker genes. Chromatin immunoprecipitation was conducted to examine histone H3 lysine 27 trimethylation (H3K27me3) at the promoter region of bone morphogenetic protein-2 (BMP-2), and expression of histone demethylases, including KDM6B, was analyzed.

The results showed that hypoxia increased proliferation and reduced senescence and apoptosis in PDCs, while osteoblastic differentiation was clearly suppressed. Reduced alkaline phosphatase activity, decreased mineral deposition, and lower expression of osteogenic genes were observed. Hypoxia was also associated with greater H3K27me3 enrichment at the BMP-2 promoter and reduced KDM6B expression.

These findings indicate that hypoxia favors cell survival but suppresses osteogenic differentiation of periosteum-derived cells, possibly through histone methylation–related

mechanisms. Such observations may help explain the limited bone regeneration seen under hypoxic conditions and suggest considerations for future strategies in oral and maxillofacial surgery.

Biography

Dr. Chang-Hoon Sung is a resident in the Department of Oral and Maxillofacial Surgery at Ulsan University Hospital, University of Ulsan, South Korea. His clinical training focuses on maxillofacial trauma, orthognathic surgery, and reconstructive procedures. He is committed to gaining comprehensive surgical experience and contributing to patient care in oral and maxillofacial surgery.

Jeonguk Park
Resident, Department of Oral and Maxillofacial Surgery, Ulsan University Hospital, Korea

Marsupialization in Management of The Huge Cystic Lesions of the Jaws

Abstract

Huge cystic lesions of the jaws often present significant challenges in surgical management due to their size, risk of complications, and proximity to vital anatomical structures. Marsupialization is a conservative technique that reduces cyst size, facilitates bone regeneration, and may either serve as a stand-alone treatment or as a preliminary step before definitive enucleation. We present two cases that highlight the clinical utility of this approach. A 21-year-old male presented with swelling in the anterior maxilla, where marsupialization was performed and histopathology revealed a radicular cyst. Gradual shrinkage of the lesion was observed, and in 2023 cyst enucleation under general anesthesia was carried out, confirming a nasopalatine duct cyst. A small postoperative palatal fistula required two separate closures using palatal flaps, after which the patient showed stable healing and bone regeneration. The second case involved a 58-year-old male with a huge cystic lesion in the right mandible. Biopsy revealed chronic inflammation within the cyst, and marsupialization was performed at two sites in the right mandible. With long-term follow-up, progressive reduction in cyst size and bone regeneration were achieved, and stable healing was maintained without the need for further surgical intervention. These cases demonstrate that marsupialization can effectively reduce cyst size, preserve surrounding anatomical structures, and promote bone regeneration while minimizing patient morbidity. It can limit the extent of subsequent surgery when required or, in some cases, serve as a definitive treatment. Based on these favorable outcomes, marsupialization should be regarded as a valuable first-line option in the management of extensive cystic lesions of the jaws.

Biography

Dr. Jeonguk Park, DDS, resident at Ulsan University Hospital, trains in Oral and Maxillofacial Surgery with a focus on complex pathology and surgery.

Shelyn Yamakami
Harvard School of Dental Medicine

How Chitosan Hydrogel Reinvents Dentin Protection Against Erosion

Abstract

This study evaluated the effectiveness of experimental preventive treatments in halting and reversing dentin demineralized lesions using an in vitro model designed to simulate erosion conditions typical of GERD. Two-hundred forty bovine dentin (n=60) with dimensions of 4x3x2mm were ground flat and polished. The specimens were immersed in hydrochloric acid (HCl) (pH1.2,0.1Molar,3x/day/20s) with one-third of the surface protected and the remaining two-thirds exposed. Fragments were randomly assigned into Superficial Treatment factor: G1-control, G2-chitosan gel, G3-experimental hydrogel, and G4-4% TiF4 varnish and Abrasion factor: with and without abrasion (Bitufo,10s/200gf). The erosion factor was performed with HCl in liquid (pH1.2,0.1Molar,6x/day/20s) and gaseous form (pH1.2,1ATM,6x/day/20s) for 6-days. The analyzes step (µm), wear profile (µm), volume loss (µm3), roughness (µm) and number, area and perimeter of dentinal tubules were evaluated by 3D-laser confocal microscopy. Chemical modifications were analyzed by □-Raman spectroscopy. Data were submitted to ANOVA and Tukey's test ($p<0.05$). The erosive process caused by liquid HCl acid resulted in greater tooth wear compared to gaseous HCl. For the treatment factor, the control group was similar to the chitosan group and was statistically different from the experimental group and TiF4 varnish ($p<0.05$). For the abrasion factor, the subgroups presented higher wear when associated with abrasion than without abrasion ($p<0.05$). Surface roughness was not affected by the different treatments ($p>0.05$). Experimental hydrogel effectively obliterated the dentinal tubules and significantly reduced their area/perimeter. Phosphate peaks were higher in sound dentin and experimental group. Amide I/III were lower in all groups except sound dentin. HCl, whether in liquid or gaseous form, impacts tooth

structure differently, with liquid HCl causing greater dentin erosion. Abrasion further contributes to structural deterioration in the dentin substrate. While the experimental hydrogel effectively reduces erosion and occludes dentinal tubules, and the TiF4 varnish yields similar results, neither treatment fully inhibits the erosive process, particularly against gaseous HCl.

Biography

Shelyn A. Yamakami, D.D.S., M.Sc., Ph.D., holds a Doctor of Dental Surgery and a Master of Science from the State University of Maringá, as well as a Ph.D. in Sciences from the University of São Paulo. She further completed a Ph.D. sandwich program at the Harvard School of Dental Medicine (HSDM). Dr. Yamakami is a full-time faculty member and the current Walter Bradford Cannon Director Society at HSDM. Dr. Yamakami's work centers on clinical health innovation and the advancement of cutting-edge technologies in oral health. Her research team comprises a diverse group of experts with extensive experience in dental materials science, nanotechnology, and clinical science. They have a distinguished track record of innovation, including technologies currently under patent review, awards, and recognition from esteemed organizations such as the International Association for Dental Research, American Association of Cosmetic Dentistry, and Brazilian Association for Dental Education, as well as funding from notable institutions such as FAPESP, CNPq, and CAPES.

Elgasmi Fatima Ezzahra
Faculty of Medicine, Pharmacy and Dental Medicine, Sidi Mohammed Ben Abdellah University, Fez, Morocco

Innovating Pediatric Dental Care: Non-Pharmacological and Technological Strategies for Anxiety and Behavior Management

Abstract

Pediatric dental anxiety and uncooperative behavior remain significant challenges, impacting treatment efficacy, long-term oral health, and the child's perception of dental care.

Anxiety is not limited to childhood and does not remain without consequences in adult life. It is therefore important to ensure compliance in this type of patient and to place them on an appropriate care pathway.

This presentation aims to review and highlight cutting-edge non-pharmacological and technological strategies that are transforming behavior management in contemporary pediatric dentistry. We will explore the evidence supporting the use of Virtual Reality (VR) and Augmented Reality (AR) for immersive distraction, advanced audiovisual techniques, mobile applications for pre-appointment preparation and in-chair distraction, and updated psychological approaches including guided relaxation and enhanced communication strategies. Recent research consistently demonstrates that these innovative approaches significantly reduce anxiety levels, improve patient cooperation, decrease perceived pain, and foster a more positive dental experience for children. They offer viable alternatives or adjuncts to traditional pharmacological sedation, promoting a child-friendly environment. Integrating these modern, evidence-based techniques is crucial for contemporary pediatric dental practice. They not only enhance clinical outcomes but also contribute to building trust and positive attitudes towards oral health from an early age, shaping healthier dental futures.

Biography

Elgasmi Fatima Ezzahra, baccalaureate 2010, graduate of the Faculty of Dental Medicine of Casablanca, specialist in pedodontics in 2022, and assistant professor at the Faculty of Medicine, Pharmacy, and Dental Medicine of Fes in 2024, author of about ten scientific articles.

WAHID HAFSSA OUMAYMA
Faculty of Medicine, Pharmacy and Dentistry of Fes
Sidi Mohamed Ben Abdellah University of Fes

Haptic simulators in dentistry

Abstract

Preclinical dental training enables students to develop clinical skills without risking patient safety. While traditional instruction relies on mannequin-mounted typodonts, recent technological progress has introduced new pedagogical tools. Among these, haptic simulators provide realistic clinical scenarios enhanced by tactile and sensory feedback. The aim of this reviews to compare virtual simulation—specifically haptic simulators—with traditional instructional methods in dental education. A comprehensive review of dental simulation systems was conducted, examining their technical characteristics, advantages, and limitations. Data were gathered from scientific literature, academic studies, institutional experience, and feedback from instructors and students. Virtual simulation and conventional training methods were then compared to assess their educational efficacy.

Haptic simulators demonstrate significant benefits in preclinical education, including enhanced safety, reduced long-term costs, increased learner autonomy, customizable training modules, unlimited practice opportunities, improved realism, ethical advantages, standardized assessments, environmental benefits, and mitigation of instructor shortages. Limitations include high initial cost, restricted content libraries, a necessary learning curve, technical constraints, and incomplete replication of certain clinical conditions. Virtual simulation, particularly haptic technology, represents a major advancement in preclinical dental training. Despite its numerous advantages, it cannot fully replace traditional methods. Instead, both approaches are complementary, together providing a more robust and effective educational framework. Ongoing developments in haptic technology continue to expand its potential in dental education.

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Anna Yi
Sydney University School of Dentistry

Digitally and Surgically Enhanced Functional and Esthetic Oral Rehabilitation

Abstract

The integration of digital technology and artificial intelligence into prosthodontics is redefining how clinicians approach functional and esthetic oral rehabilitation. This lecture presents an advanced case study demonstrating a fully digitized, surgically enhanced workflow that combines precision diagnostics, interdisciplinary treatment coordination, and digitally-guided planning. The patient case discussed involved complex oral conditions, including an unstable deep overbite, anterior esthetic demands, and compromised posterior bone morphology. Through this case, attendees will explore how digital solutions—such as CAD/CAM, 3D printing, and virtual articulation—enable more predictable outcomes even in highly demanding rehabilitative scenarios.

Key digital tools utilized include CBCT imaging merged with CAD-based planning software for accurate diagnosis and implant positioning. Customized surgical guides and biologics protocols were employed to optimize the clinical setting for implant success. Following surgery, a fullcontour digital wax-up was generated and used to fabricate 3D-printed provisionals with an emphasis on emergence profile sculpting, function, and esthetics. Final restorations were designed and delivered through a digitally calibrated workflow integrating intraoral scanning, facially driven smile design, and digitally-enhanced occlusal simulation.

Beyond technology, the lecture emphasizes clinical decision-making and treatment sequencing, especially when managing deteriorated dentition and vertical dimension loss. The esthetic planning process includes the use of digital mock-ups and patient communication tools that improve treatment acceptance and satisfaction. The surgical and prosthetic phases are closely integrated using a collaborative, team-based approach that aligns periodontics, surgery, prosthodontics, and dental technology.

Participants will gain insight into the future-facing capabilities of digital innovations in oral healthcare: particularly in case prognostication, treatment simulation, and precision planning. The presented workflow offers a model for how clinicians can elevate patient care by balancing biological, mechanical, and esthetic factors using digital tools. This approach underscores a shift from conventional protocols toward a streamlined, patient-centered model of care.

Learning Objectives:

- Understand how to integrate digitally-augmented diagnostics in multidisciplinary planning and prosthodontic decision-making
- Master the sequencing of complex oral rehabilitation cases involving compromised bone, function, and esthetics
- Apply digital tools (CBCT, CAD/CAM, 3D printing) to surgical planning and prosthetic delivery
- Enhance patient communication and case acceptance through digital simulations and mockups
- Improve long-term outcomes through biologically and digitally informed workflows.

Biography

Dr. Anna Yi is an American board-certified prosthodontist with advanced training in surgery and digital dentistry. She is a Diplomate of the American Board of Prosthodontics and a Fellow of the American College of Prosthodontists. Currently, she serves as DMD Prosthodontics Teaching Lead at the University of Sydney School of Dentistry. Dr. Yi has taught at Harvard University and New York University and holds research experience in molecular physics, oral biology, and dental biomaterials at institutions including MIT, Harvard, and Seoul National University.

Dr. Yi earned her Master of Science in Dentistry from Seoul National University and her Doctor of Medical Science and Prosthodontics certificate from Harvard under Presidential Scholarship. Her multidisciplinary doctoral research was completed at MIT. She has also undertaken business training through the Harvard GSAS Business Club's mini-MBA program.

Ana Beatriz Galindo de Souza
Universidade Estadual de Montes Claros

La Actuación De Los Agentes Odontológicos En El Proyecto Montes Claros Y En El Ippedasar: Prácticas Innovadoras Para La Consolidación De La Salud Bucal En El Sus

Abstract

Este trabajo propone discutir la contribución histórica de los agentes odontológicos en el Proyecto Montes Claros para la consolidación de las políticas públicas de salud bucal en Brasil, destacando su papel contestatario frente a las relaciones de poder político, como el coronelismo, la pobreza local, el poder médico y la privatización homogénea de los servicios de salud. Desarrolladas en la región norte del estado de Minas Gerais a partir de la década de 1970, estas experiencias propusieron un modelo regional de atención que integraba acciones educativas, preventivas y curativas en el ámbito de la odontología.

Los agentes odontológicos realizaban actividades como cribados, instrucciones de higiene bucal, aplicación tópica de flúor, extracciones dentales simples y control de caries, actuando de forma integrada con los equipos de salud. Desde este análisis, el plan de salud desarrollado por el Proyecto Montes Claros mapeaba los principales problemas bucales de la población rural, como la alta incidencia de caries, enfermedades periodontales y edentulismo precoz, asociados a la pobreza, el bajo nivel educativo y la falta de acceso al agua tratada y al cepillo dental.

Con base en este diagnóstico, el proyecto promovió acciones de educación para la salud, como la distribución de kits de higiene bucal, la formación técnica de personal local y campañas de cepillado dental supervisado en las escuelas, como es el caso del Programa Dental Escolar, consolidado en 1970 como una estrategia de promoción de la salud dirigida a la población infantil, fortaleciendo el vínculo con los territorios y

las prácticas populares.

Por lo tanto, a partir de la valorización y participación comunitaria, del saber local y de la interdisciplinariedad, el Proyecto Montes Claros y el IPPEDASAR anticiparon los principios del Sistema Único de Salud, como la equidad, la integralidad y la descentralización, contribuyendo a la reconfiguración de las políticas públicas de salud bucal en Brasil. De esta forma, el trabajo busca evidenciar cómo las acciones de los agentes odontológicos en el Proyecto Montes Claros contribuyeron a transformar las políticas de salud bucal en el país, reafirmando el compromiso ético-político con una atención integral, equitativa y enraizada en las realidades locales

Elmoutawakkil Nidal
Sidi Mohammed Ben Abdellah University, faculty of medicine, pharmacy and dentistry

Pediatric composite crowns : a case report

Abstract

The aesthetic restoration of severely decayed anterior teeth has long been a challenge for pediatric dentists. This is partly due to the lack of available materials and techniques, and partly due to the young age of the children requiring such restorations, who are typically less cooperative. Furthermore, these teeth have short and narrow crowns, limiting the surface area available for bonding. The pulp chamber is relatively wide, and the aprismatic surface enamel is difficult to etch. Depending on the gradient, the dentist has a choice between different materials: amalgam, composite, traditional glass ionomer cement (GIC), high-viscosity GIC (HVIC), MARGC (GIC modified by the addition of resin), compomer, or metal preformed pediatric crown (PPC).

The objective of this presentation is to illustrate, through a clinical case, the contribution and benefits of using composite crowns in the pediatric restoration of fractured teeth.

Biography

Graduated with a Doctorate in Dental Medicine from the Faculty of Dentistry in Casablanca, receiving highest honors and congratulations from the jury.

Graduated with a Certificate in Implantology and Maxillofacial Surgery from Paul Sabatier University in Toulouse, France.

June 2016:

Graduated with a University Diploma in Implantology and Maxillofacial Surgery from Paul Sabatier University in Toulouse (valedictorian).

June 2017:

First year of residency in the Department of Removable Prosthodontics at the Faculty of Dentistry in Casablanca.

June 2018:

C.E.S.U. (Certificate of Advanced Studies in Dental Occlusodontics) from the University of Marseille, France.

CADCAM Dental Certificate from Smile Academy in Casablanca.

From 2013 to 2017:

Full-time private practice as a dentist in a multidisciplinary dental center.

From 2017 to 2021:

Full-time resident in the removable prosthodontics department of the dental consultation and treatment center at Ibn Rochd University Hospital in Casablanca.

February 2021:

Residency thesis in removable prosthodontics entitled "CAD/CAM: Application through two clinical cases in the removable prosthodontics department of the Casablanca Dental Consultation and Treatment Center."

June 2021:

Obtained the National Diploma in Dental Prosthodontics (DNSO) from the Faculty of Dentistry in Casablanca.

October 2025: Assistant Professor in the Department of Removable Prosthodontics and Maxillofacial Surgery at the Faculty of Medicine, Pharmacy, and Dentistry in Fez (Sidi Mohammed Ben Abdellah University).

WAHID HAFSSA OUMAYMA
Faculty of Medicine, Pharmacy and Dentistry of Fes
Sidi Mohamed Ben Abdellah University of Fes

Enhancing Preclinical Fixed Prosthodontics Education with 3D-Printed Teeth

Abstract

Dental education is distinct in requiring students to perform invasive procedures on actual patients under progressively reduced supervision, allowing them to acquire the clinical competence and confidence necessary for safe practice. Traditionally, preclinical training has relied heavily on plastic or extracted teeth, which limits opportunities for patient-centered learning and does not fully replicate the complexities of real clinical scenarios.

Advanced technologies, particularly « haptic simulators », has transformed preclinical education by providing immersive virtual learning environments. These systems offer structured tutorials and exercises that range from enhancing manual dexterity to managing virtual patients, encompassing clinical scenarios of varying difficulty and complexity. Such tools allow students to practice and refine their skills in a safe, controlled setting before transitioning to real patient care.

This work presents the initial experiences with a patient-centered virtual reality (PC-VR) training module, examining its implementation, educational potential, and the challenges associated with integrating PC-VR into dental curricula. The findings suggest that PC-VR can complement traditional training methods, promoting a more comprehensive, patient-centered approach to dental education while preparing students for the demands of clinical practice.

Jong-Eun Won
Institute of Clinical Dental Research, Korea University Guro Hospital, Seoul, Republic of Korea

Development of a Titanium-Based Lab-on-a-Chip Platform for Real-Time Three-Dimensional Analysis of Osseointegration and Controlled Bioactive Factor Release

Abstract

The objective of this study was to develop a titanium-based lab-on-a-chip platform that enables real-time, three-dimensional investigation of osseointegration processes at implant surfaces and precise regulation of cellular behavior through controlled release of bioactive factors. To this end, a microchip architecture mimicking the microscale gap between titanium implants and surrounding bone tissue was designed and fabricated, integrating implant surface modification, cell culture, and cell–material interaction analysis within a single experimental system.

A titanium-on-the-chip system was established by embedding titanium samples (7 × 3 × 7.5 mm) into the microchip, while a PDMS mold was used to construct a microstructured three-dimensional cell culture environment. A collagen–silica composite hydrogel was multilayered onto the implant surface to protect bioactive factors and modulate their release kinetics, enabling the sequential delivery of fibroblast growth factor-2 (FGF-2) followed by bone morphogenetic protein-2 (BMP-2). As a result, enhanced adhesion, proliferation, and osteogenic differentiation of dental pulp stem cells were observed on the modified surfaces.

Overall, the titanium-based lab-on-a-chip platform developed in this study provides a novel analytical tool for precise investigation of cell–material interactions and osseointegration mechanisms at implant surfaces. This approach is expected to contribute to the design of next-generation functional implant surfaces and the development of advanced, tailored strategies for bone regeneration.

Anahita Ranjbar

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Sample records for instrumental analysis experiment

Abstract

Effective insurance management and financial planning are critical for the sustainability and growth of dental practices. Navigating the complexities of dental insurance reimbursement systems, optimizing revenue cycles, and managing patient payment plans significantly influence a practice's financial health. With increasing insurance coverage diversity and evolving reimbursement policies, dental practitioners must adopt strategic financial planning to balance operational costs, invest in technology, and improve patient care services. Additionally, integrating insurance billing with proactive financial strategies helps practices reduce claim denials, enhance cash flow, and expand patient access through affordable payment options. This study reviews current challenges and best practices in insurance management and financial planning, emphasizing their vital role in achieving economic stability and competitive advantage in modern dental care.

Biography

I finished my DDS in dentistry in 2020. I have been in the Department of Community Oral Health, School of Dentistry, since 2022. I have published 4 papers, and the others are coming.

Dr. Hebatallah Anis

Orthodontic and Pediatric Dentistry Department, Oral & Dental Research Institute, National Research Centre, Egypt

Optimizing Laser Parameters for Safe and Effective Activation of Natural Root Canal Irrigants

Abstract

Root canal disinfection is a critical step in endodontic treatment, and natural irrigants have gained attention as biocompatible alternatives to traditional chemical solutions. However, their efficacy can sometimes be limited compared to synthetic antimicrobial agents. This lecture explores the synergistic potential of laser technology in enhancing the effectiveness of natural root canal irrigants, such as herbal extracts. Clinical evidence, mechanistic insights, and practical applications will be presented, highlighting how laser integration can elevate the performance of eco-friendly endodontic disinfection while maintaining patient safety and biological compatibility. This approach may pave the way for more sustainable yet highly effective root canal treatment protocols.

Biography

Dr. Muhammad Abaza is a distinguished clinician, researcher, and educator in the field of laser dentistry with over 15 years of pioneering clinical expertise in advanced high-power laser applications (CO_2, Erbium, Nd:YAG, and diode lasers), cutting-edge orofacial photobiomodulation therapies, and laser-assisted regenerative techniques.

With dual Master's and PhD degrees from Cairo University's prestigious National Institute of Enhanced Laser Sciences (NILES), Dr, Abaza now leads as:

- *Head of the NILES Dental Alumni Association*
- *Director of Mastership in Orofacial Laser Sciences (Egypt's premier advanced*

training program)

- *First Local Representative of the International Laser Dentistry Master Academy*
- *Scientific Committee Member, Cairo Dental Syndicate*

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Integration of Digital workflow in Fixed Full Arch Rehabilitation Cases

Abstract

Significant advancements have been made in the field of fixed full arch rehabilitation, a complex and comprehensive procedure that aims to restore the function, aesthetics, and overall oral health of patients. With the emergence of Digital Dentistry- the use of intraoral scanners, CBCT imaging, computer-aided design, virtual planning, and 3D printing- we can improve the accuracy and enhance patient experiences. This case series presents the integration of digital workflow for the placement of implants and the immediate loading of the fixed full arch prosthesis.

Materials and Methods

1. Patient Selection and Assessment o Patients with extensive tooth loss or severe dental conditions requiring full mouth rehabilitation are identified and evaluated. Comprehensive oral examinations, including clinical assessments, radiographic imaging (such as CBCT scans) and digital impressions using intraoral scanners are performed
2. Digital Imaging and Scanning & Implant Planning o Using 3Shape, the CBCT and Intraoral Scan are merged and implant planning is done by assessing the bone quality, quantity and selection of appropriate implant size and position, with avoiding any major anatomical structures

o Surgical guides are designed and 3D-printed

3. Implant Placement:

o Straumann Implants are placed according to the surgical protocol. The ISQ is measured, and multiunit abutments are torqued to 20Ncm for the preparation of immediate loading of the prosthesis.

o If immediate loading is not possible, implants are placed around teeth that will be used as an abutment for a temporary bridge.

4. Prosthetic Design and Fabrication:

o PIC Dental – an implant oral scanner- is used to accurately capture the implant position and angulation. Intra oral scans are taken to capture the soft tissue.

o Prosthetic restorations, such as implant-supported bridges or dentures, are fabricated based on the patient's specific oral anatomy

5. Prosthetic Delivery and Adjustment o The fabricated prosthetic restorations are evaluated for fit, aesthetics, and functionality and delivered, completing the full mouth rehabilitation procedure.

6. Follow-up and Maintenance:

o Regular follow-up and maintenance appointments, along with proper oral hygiene instructions, are provided to monitor the stability of the implants and restoration and to ensure long-term success of the full mouth rehabilitation. Results

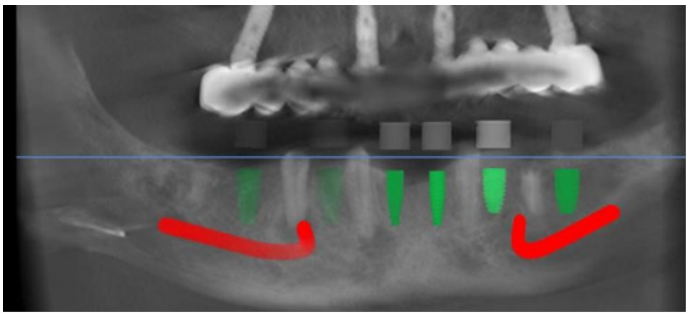
Comprehensive planning plays a crucial role in optimizing full arch rehabilitation and helps avoid potential complications and enhances the predictability of the immediate restoration of implantsupported fixed prosthesis. The utilization of surgical guides, virtual planning tools, and customized prostheses enhances the accuracy of implant placement, reduces surgery time, and improves treatment outcomes.

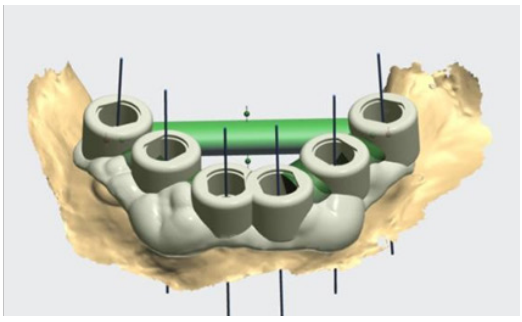
Conclusion

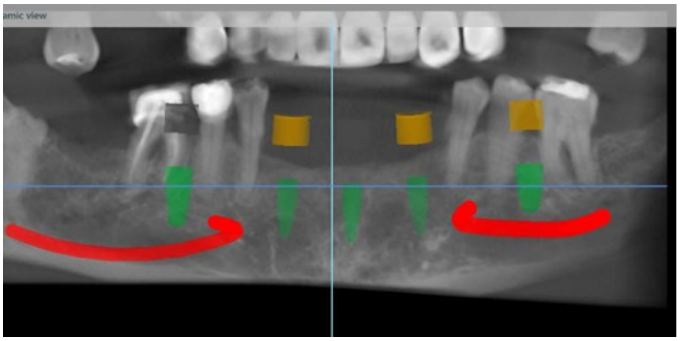
Continuous advancements in digital dentistry and techniques can further enhance the efficiency and precision of surgical and restorative full mouth rehabilitation procedures, and provide a patientcentered approach.

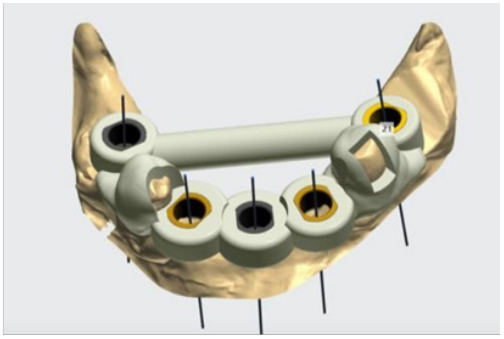
Case 1

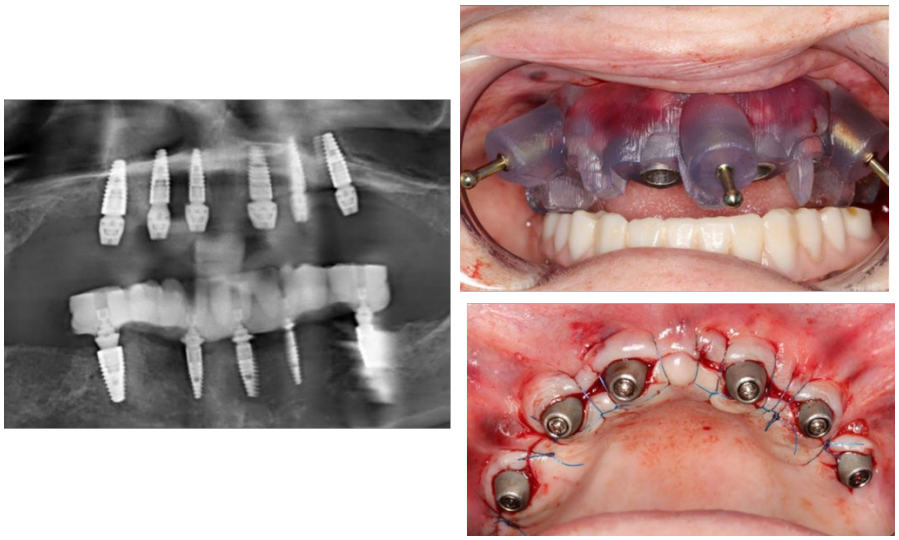
-Implant planning & Surgical Guide Fabrication.











Biography

Dr. Irene Kim is a Board- Certified Periodontist and Implant Surgeon practicing in NYC, alongside her mentors Dr. Hector Sarmiento, Dr. Alan Pollack, and Dr. Paul Rosen. She moved from Vancouver to New York to pursue her dream of becoming a dentist, and received her Bachelor of Arts/Doctor of Dental Surgery (BA/DDS) in a 7-year joint program at New York University College of Dentistry. Upon graduation, she pursued her Certificate in Periodontology at Harvard

School of Dental Medicine, where she also received her Master of Medical Science (MMSc) in Oral Biology. Dr. Kim's research focused on Quantitative Analysis of Volumetric Change after Two Soft Tissue Grafting Procedures and presented at the Ivy Symposium on Periodontal Regeneration of Infrabony Defects.

Dr. Kim is currently a Diplomate of the American Board of Periodontology and is a Clinical Assistant Professor at Touro College of Dental Medicine, where she enjoys teaching and working with students in the Oral Surgery Clinic and focusing on a fixed

full-arch prosthesis for patients. She enjoys collaborating with fellow prosthodontists and dental technicians to design a digital workflow for the delivery of an accurate and efficient immediate full-arch restoration and provide patient-centered care.

Dr. Kim enjoys traveling and exploring different food and culture, spending time with her friends and family, and playing sports such as golf, soccer, softball, and snowboarding. She also likes to give back to the community and participated in the Global Outreach in Grenada and served as the Director of Community Service in the NYU Aesthetic Society as a dental student.


Thank You