

3<sup>rd</sup> EDITION OF INTERNATIONAL CONFERENCE ON

# DENTISTRY AND ORAL HEALTH

SEPTEMBER 16-18, 2019 | LONDON, UK

Theme:

Exploring Innovations in the Dental World

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# DENTISTRY AND ORAL HEALTH

*Theme:*

*Exploring Innovations in the Dental World*

SEPTEMBER 16-18, 2019  
LONDON, UK

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# ICDO 2019



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# ICDO 2019



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**Sonny Torres Oliva**  
Zentistry Inc  
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# ICDO 2019



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**Sunghoon Kim**  
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**Vinicius Gomes Machado**  
Brazilian Dental Association  
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**Yasser Khaled**  
Marquette University  
USA



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Taiwan, Province of China



**Zvi loewy**  
New York Medical College  
USA

Thank You  
All...

# Welcome Message



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 the Organizing Committee of ICDO 2019. On behalf of the Organizing Committee I would like to welcome you to London as well as the Conference itself, where you will have the opportunity to listen to internationally recognised Speakers on a wide range of topics. There will also be an opportunity for fellow researchers to present their research 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.



*D Gillam*

David Gillam  
Queen Mary University of London  
London, UK

# Welcome Message

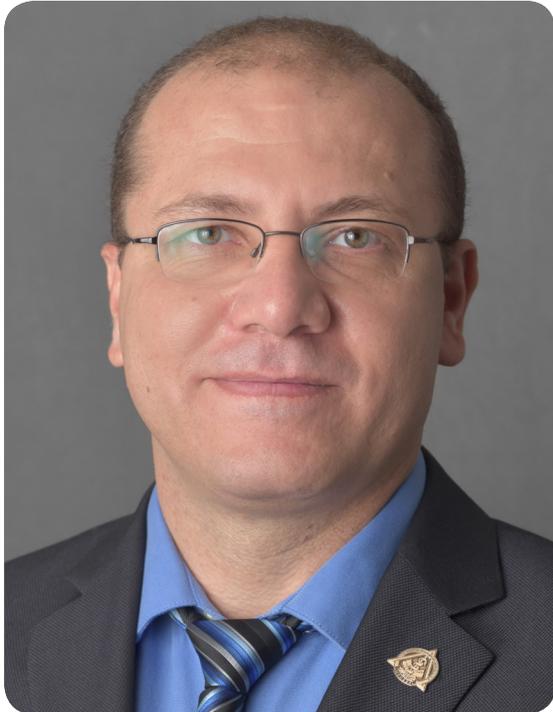


Greetings and welcome to the 3rd International Conference on Dentistry and Oral Health (ICDO 2019). As an oral & maxillofacial surgeon of 40 years, I was impressed by the variety of topics to be discussed by speakers from all over the globe. Upon attendance at the meeting, my keynote lecture on the first day was well-received in a casual and comfortable setting. I strongly encourage both your attendance and participation at the London meeting scheduled for September 16-18, 2019.



**Steven J. Traub, D.D.S.**  
American Institute of Oral Biology  
USA

# Welcome Message



Dear participants of ICDO 2019,

It is our pleasure to welcome you to the 3rd International Conference on Dentistry and Oral Health (ICDO 2019) in London, September 16-18, 2019.

We are delighted to announce that we have great topics for you, and we are also excited to meet and share experiences with you all, researchers, young scientists, academicians and dental practitioners, partners and leaders, who use clinical evidences and innovation to advance the theory and practice in the field of dentistry and oral health.



There will be different speakers from all around the world to welcome you in the great event. Enjoy the conference and the city of London.

*Yasser Khaled*

**Yasser Khaled**  
Marquette University  
USA

# keynote speakers



**David Gillam**  
Queen Mary University of  
London, UK



**Steven J Traub**  
American Institute of Oral  
Biology, USA



**Yasser Khaled**  
Marquette University  
USA



**Zvi loewy**  
New York Medical College  
USA



**Sonny Torres Oliva**  
Zentistry Inc  
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**Antonio Otavio M Neves**  
Instituto Odontologico das  
Americas , Brazil



**Hossam Nassar**  
Future University in Egypt  
Egypt

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*About*

## MAGNUS GROUP

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Magnus Group (MG) is initiated to meet a need and to pursue collective goals of the scientific community specifically focusing in the field of Sciences, Engineering and technology to endorse exchanging of the ideas & knowledge which facilitate the collaboration between the scientists, academicians and researchers of same field or interdisciplinary research. Magnus group is proficient in organizing conferences, meetings, seminars and workshops with the ingenious and peerless speakers throughout the world providing you and your organization with broad range of networking opportunities to globalize your research and create your own identity. Our conference and workshops can be well titled as 'ocean of knowledge' where you can sail your boat and pick the pearls, leading the way for innovative research and strategies empowering the strength by overwhelming the complications associated with in the respective fields.

Participation from 90 different countries and 1090 different Universities have contributed to the success of our conferences. Our first International Conference was organized on Oncology and Radiology (ICOR) in Dubai, UAE. Our conferences usually run for 2-3 days completely covering Keynote & Oral sessions along with workshops and poster presentations. Our organization runs promptly with dedicated and proficient employees' managing different conferences throughout the world, without compromising service and quality.

## *About* ICDO 2019

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ICDO 2019 is the annual event, bringing together professionals of all types for networking and important dialogue. Dentistry and Oral Health is undergoing extraordinary changes. To provide professionals with the tools they need to address these trials, ICDO 2019 is expanding to gather all the international network scientists, scientists, professors, and other researchers in the field of Dentistry and Oral Health. ICDO 2019 platform provides the delegates with an opening to team up, earn expert development ideas, network and learn from like-minded professionals.

Scope of the conference: ICDO 2019 Presentations are of top level and widespread band of basic, medical and translational training with the multidisciplinary strategies to develop and upsurge the dentistry care.



# SUPPORTING JOURNAL



*dentistry journal*

an Open Access Journal by MDPI

Dentistry Journal/ (ISSN 2304-6767) is an international, open access journal for the dental community, published by MDPI. /Dentistry Journal/ is now indexed in PubMed, full-text archived in PubMed Central and gets high visibility. Our aim is to provide rigorous peer review, enable rapid publication of cutting-edge research without delay. Dentistry Journal is an open access journal, all readers can unlimitedly access the full text of all published papers, and the author reserves the copyright. /Dentistry Journal/ transmits original papers as well as review articles and supports scientific innovations, and clinical and experimental research within the whole field of dentistry and its related areas. More details can be accessed at the journal

Website: <https://www.mdpi.com/journal/dentistry>



DAY 1

KEYNOTE FORUM

3<sup>rd</sup> INTERNATIONAL CONFERENCE ON

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### Biography

I graduated from Edinburgh Dental School in 1977 and have been involved in Dentistry over the last 40 years. I have worked in both clinical practice and in University Dental Hospitals as well as in Industry (1998-2001) initially with SmithKline Beecham and subsequently with Block Drug Company. From 2003 to 2008 I worked with a Clinical Research Organization and currently I am a Clinical Reader in Translational Research in Relation to Dentistry at the Bart's and the London School of Medicine and Dentistry QMUL in London (2009-). My main interests are in the area of the Management of Dentine Hypersensitivity and I have published over 85 papers on a number of dental topics as well as contributing to several book chapters.

## Minimally invasive techniques in periodontology

### David Gillam

Queen Mary University of London, UK

**M**inimally invasive dentistry has been defined as a concept that preserves both the hard tissues (dentition) and the supporting soft tissue structures (gingiva and periodontal tissues) and includes both non-surgical and surgical techniques and procedures. The implementation of minimally invasive procedures such as Minimally Invasive Surgery (MIS), Minimally Invasive Surgical Techniques (MIST), Modified Minimally Invasive Surgical Techniques (M-MIST) in Periodontology have also been developed to minimise the surgical trauma experienced by the patient and to reduce the duration of the surgical procedures. These procedures included minimal incisions and flap reflection and careful handling of the hard and soft tissues as well as the use of instruments such as operating microscopes, magnifying lenses, microsurgical instruments and materials. The aim of this presentation is to provide an overview of the current use of minimally invasive techniques and procedures in the non-surgical and surgical management of periodontal disease(s).

#### Audience Take Away:

- Appreciate the dynamic paradigm shifts in clinical dentistry and in Periodontology
- Understand the principles with advantages and disadvantages of Minimally Invasive Periodontal surgery
- Apply the concepts of Minimally Invasive Periodontal procedures in daily practice



### Biography

Susanne Staehlke studied Genetic and Microbiology at the University of Rostock, Germany, from 2000-2006. The subject of her diploma was signal transduction in rainbow trout (*Oncorhynchus mykiss*). In 2014, she earned her Ph.D. in Cell Biology at Rostock University Medical Center, Dept. of Cell Biology, Germany, with the title "Interaction of human osteoblasts with geometrically structured implant surfaces – Cell architecture and signal transduction". Now she is a young researcher completing a post-doctoral training. She is a Member of the German Society for Biomaterials (DGBM). Dr. Staehlke has published over 15 papers on the subject of cell-material interactions. Her skills are cell culture, physical plasma, western blot, immunofluorescence, biomedical science, flow cytometry, cell proliferation, cell signaling and transduction. Dr. Staehlke has given invited presentations at international meetings around the world (Hong Kong: ICBB 2012, Minneapolis: BioInterface 2013, Oslo: ScSB 2013, Rytro: PSBM 2016-2018).

## Intracellular calcium dynamics dependent on defined microtopographical features of titanium

**Susanne Staehlke**

University of Rostock, Rostock University Medical Center, Germany

Detailed insights into the complex cellular behavior at the biomaterial interface are crucial for the improvement of implant surfaces with respect to their acceptance and integration. The cells perceive microtopographical features and, in consequence, rearrange their adhesion structures like the actin cytoskeleton and adaptor proteins. But little is known about whether these altered cellular phenotypes have consequences for intracellular calcium signaling and its dynamics. To elucidate if an artificial, geometrical microtopography influences calcium ion ( $\text{Ca}^{2+}$ ) mobilization in osteoblasts, human MG-63 cells were stained with the calcium dye Fluo 3-acetoxymethyl ester and set on defined siliconetitanium (Ti) arrays with regular pillar structures (P5, 5 5 5 mm) and compared with planar Ti. To induce an immediate calcium signal, cells were stimulated with adenosine 50-triphosphate (ATP). Interestingly, osteoblasts on micropillars expressing a shortened actin cytoskeleton were hampered in their calcium mobilization potential in signal height as well duration. Even the basal level of the intracellular  $\text{Ca}^{2+}$  concentration was reduced, which was accompanied by a disturbed fibronectin synthesis. The expression of the voltage-sensitive calcium channels Cav1.2, Cav1.3 (L-type) and Cav3.1, Cav3.2, Cav3.3 (T-type) as well as the signaling proteins phospho-AKT and phospho-GSK3a/b remained unaffected on pillars. The topography-dependent calcium dynamics observed here provide new insights into how topographical cues alter cell functions e via the intracellular  $\text{Ca}^{2+}$  signaling.



### Biography

Dr. Yasser Khaled is a son of a diplomat that has visited, worked and studied in 15 different countries in 5 different continents around the world. He has a BDS from Ain Shams University, Egypt; a MDSc in Oral Pathology from the same university; a fellowship in Oral Surgery from University Sains Malaysia, Malaysia; a MMSc in TMD/Orofacial Pain from the University of Alberta, Canada and finally a GPR Certificate and an Oral Medicine Certificate from Carolinas Medical Center, 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 is currently working as an Assistant Professor in Marquette University, School of Dentistry. He is specialized in Oral Pathology, Oral Medicine and TMD/Orofacial Pain.

## Integration of oral medicine & oral diagnosis into didactic and clinical teaching

### Yasser Khaled

Marquette University, USA

Oral medicine is a dental specialty that bridges the traditional areas of health between dentistry and medicine. International descriptions reflect this and oral medicine is defined as “the dental specialty placed at the interface between medicine and dentistry and is concerned with the diagnosis and management of (non-dental) pathology affecting the oral and maxillofacial region.”

Oral medicine specialists provide clinical care to patients with a wide variety of orofacial conditions, including oral mucosal diseases, orofacial pain syndromes, salivary gland disorders, and oral manifestations of systemic diseases. There is a growing need to implement this specialty globally due to the rapid progress in both medicine and dentistry, and to the growing percentage of senior citizens in many countries, the adequate diagnosis and treatment of oral diseases will become even more complex in the future.

Oral medicine is concerned with clinical diagnosis and non-surgical management of non-dental pathologies affecting the orofacial region. Many systemic diseases have signs or symptoms that manifest in the orofacial region. Pathologically, the mouth may be afflicted by many cutaneous and gastrointestinal conditions. There is also the unique situation of hard tissues penetrating the epithelial continuity (hair and nails are intra-epithelial tissues). The biofilm that covers teeth therefore causes unique pathologic entities known as plaque-induced diseases.



### Biography

Dr Daniel Kandelman is Associate Professor at the Faculty of dental medicine of the Université de Montréal, Montréal Qc. Canada.

He is also Chief of the Dental medicine Department of the integrated University Center of Social and Health services of South Center of Montreal Island. Montreal, CANADA As a Harvard graduate and expert consultant, he actively participates in many international professional societies and is author of two books and more than hundred scientific articles in preventive dentistry and dental public health.

He has participated to many TV, radio, and print media presentations.

## Identification and management of high carie's patients

### Daniel Kandelman

Universite de Montreal, Canada

**T**he new concepts on dental plaque, carie's susceptibility, and saliva components and associated properties.

- the inter-relation in between the above factors He will then explain why there is an urgent need to approach high carie's patients in looking what are the preponderant risk factors, more specifically what are the preponderant factors of risk in order to make an appropriate diagnostic and be able then, to select and implement appropriate preventive and curative treatments.

Pr Kandelman will then describe the proposed type of diagnostic tools used as related to each specific identified preponderant factor ( dental plaque, saliva and nutritional parameters.

He will finally suggest the appropriate preventive and curative treatments related to and following the diagnostic preceding tests and show some clinical cases and dental treatments performed on high carie's risk patients.

#### Audience Take Away:

- Better understand the new reality of oral environment
- Acquire a new approach to better control caries development in high carie's population.
- Select appropriate diagnostic tools and implement adapted preventive & curative treatments.
- This presentation should expand research in development of new diagnostic tools for identifying caries'risk at a very early stage of dental caries.
- Connected to an organized session : preventive dentistry and dental public health



DAY 1

SPECIAL TALK

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### Biography

Dr. Oliva graduated from NYU College of Dentistry in 2003 and proceeded in taking his post graduate training in Implant and Cosmetic Dentistry in 2005. Prior to his career as dentist, Dr. Oliva has also over 30 years experience as a Dental Laboratory Technician. He is a seasoned lecturer on Restorative dentistry and serves as a Key Opinion Leader for several major dental Manufacturers. He developed the “Sensory Remodeling Technique” which is best known as “Zentistry”. He was named the “Zentist” in 2008 by the New York Times and trademarked his concept of Zentistry in 2009.

## The healing Smile

### Sonny Torres Oliva

Zentistry Inc, USA

**T**he Healing Smile is an in depth look into the concept of Zentistry. Zentistry is the art and science of transforming the patient’s dental experience. It is a collection of evidence based principles that is geared to elevate the patient’s consciousness to wellness. Dentistry has always been associated to negative experiences. Patients often relate it to fear, pain, trauma and torture. These are because of biases or precognitive commitments that have already been formed in their brains that have been linked to any dental experience in the past. Patients are more difficult to treat, recall rate is low, patients are unreceptive to treatment plans, and at worst, patients refuse to go to the dentist. However, because our brains are capable of Neuroplasticity, the process in which your brain’s neural synapses and pathway are altered as an effect of environmental, behavioral and neural changes, these precognitive commitments can be altered. Thus, the concept of Zentistry was born. Zentistry is at its core a sensory remodeling technique studied to target the five senses: Sight, sound, smell, sensory, and service. Visuals can create a proper mood for your patients. The creation of endorphin zones are not only beneficial to the patient but to the dentist and the staff as well. Sound is also carefully integrated to the practice. Binaural beats are used to reduce stress, decrease anxiety, and increase concentration and confidence. Dental practices also share a common smell that activate negative behavior for patients. These scents can be eliminated to create a relaxing ambiance for your practice. Studies have also shown that the power of touch is extremely powerful and can relay strength, concern and empathy. The uniqueness of Zentistry lies in its customer service. Where patients are individually treated with utmost concern, respect and empathy from the moment they step inside the clinic doors until after patient recall. With the implementation of these five unique and carefully crafted principles, the benefits in your practice’s growth, dentist-patient relationship, patient experience is elevated.

#### Audience Take Away:

- You will learn how to integrate the concepts of Zentistry into your practice and experience exponential growth in your business with proper implementation
- This will teach you how to create a practice that is hygiene based with a high recall rate.
- This will help you create a happy practice space for the practitioners, patients and staff.
- This will teach you how to run your clinic to move in one heartbeat to create a vertically streamlined practice.
- This will teach you how to depend on in-patient marketing and making the most of the experience economy.

SPEAKERS

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## Biologic materials for pulpal vitality

**Mark Cannon**

Northwestern University, USA

Recent developments in resin technology have propelled the introduction of hydrophilic resins for the evolution of therapeutic dental products. These resins allow for the addition of biologic components in order to positively influence the pulpal health. One such innovative product is marketed as TheraCal LC. Currently being introduced to the dental marketplace is TheraCal PT, a dual cured resin based dicalcium silicate. Besides being very pulpally kind by preserving cell vitality, these new materials encourage dentin bridge formation, preserve the dentin hybrid layer and resorptive processes are hindered. In addition, these materials provide a more durable base upon which to place the restoration.

### Audience Take Away:

- Define which resin based materials are hydrophilic and biologically based. In addition, the participant will understand why the use of hydrophobic material for therapeutic purposes is not recommended.
- List the necessary steps to maintain pulpal vitality (long term) and what animal studies have demonstrated. In addition, the participant will appreciate the interaction between the pulp and medicaments
- Understand why previously promoted techniques for pulpal protection often utilized materials that were non-compatible, creating weak interfaces allowing for restoration failure and/or micro-leakage
- Appreciate the role that clinicians may play in biomaterials research

### Biography

Mark L. Cannon received his Doctorate of Dental Surgery from the University of Nebraska and then attended Northwestern University for his Masters of Pediatric Dentistry. He completed his residency at Children's Memorial Hospital and received his Diplomate status by the American Board of Pediatric Dentistry. He is a past president of the Illinois Society of Dentistry for Children, a Professor of Otolaryngology, Division of Dentistry at Northwestern University, Feinberg School of Medicine, an Attending Physician at Ann and Robert Lurie Children's Hospital and a member of the International Association of Pediatric Dentistry. In addition to being the founder of Associated Dental Specialists of Long Grove (1981); he is the Research Coordinator of the Pediatric Dental residency program at Ann and Robert Lurie Children's Hospital, Chicago, Illinois. Dr. Cannon has 40 years of experience in pediatric dentistry and has presented lectures at the University of Athens, Greece, Sao Paulista State University, UNESP, Aracatuba, Brazil, University of Texas- Houston, University of Alabama-Birmingham, University of Southern California, University of California Los Angeles, Louisiana State University, and many other institutions world-wide. Dr. Cannon has lectured extensively on many oral health topics including evolutionary oral medicine, the gateway microbiomes, biologic and bioactive dental materials (patents owner), probiotics, and all aspects of everyday Pediatric oral health. Dr. Cannon has humbly accepted two invitations by the Karolinska Institutet, first to the Nobel Forum (2016) and secondly to the Nobel Assembly (2017). Most of all, Dr. Cannon is the proud father of five, all of whom are very accomplished. He is also a very proud grandfather!

## Management of anteroposterior spread in severely resorbed maxillas

**Carlos H. Letelier**

The Center for Oral Surgery of Las Vegas, USA

**S**everely resorbed maxillas present with multiple challenges. Due to the decreased availability of bone for implant placement and the Pneumatisation of the maxillary sinuses, the anteroposterior spread of the implants can be compromised. This can lead to the ultimate failure of the restoration.

Zygomatic implants can in many occasions provide sufficient antero-posterior spread to restore the case. The use of anterior implants in the pyriform rim or naso-palatine canal, and Pterygoid implants can also assist in providing sufficient spread to restore the case.

Guided implant placement can also improve the accuracy of the planning.

Anteroposterior spread of implant position has a direct correlation with long-term restoration success. These concepts can be readily implemented in the treatment of severely resorbed maxillas.

### Biography

Dr. Carlos Letelier has a passion for excellence that is reflected in his distinguished background and education credentials. He began his dentistry studies in Chile where he earned a DDS degree and then enrolled in Tufts University School of Dental Medicine, in Boston Massachusetts, where he graduated Summa Cum Laude with a DMD degree. He went on to complete his surgical residency and graduate from UCLA Medical School, in Los Angeles California, with both an MD and OMFS degree. He then did a cosmetic surgery fellowship with the American Academy of Cosmetic Surgery. In addition to becoming Board Certified in both Oral and Maxillofacial Surgery and Cosmetic Surgery, Dr. Letelier has taught in the OMFS residency program at Fresno's University Medical Center in California, USA.

Dr. Letelier's expertise covers a wide range of procedures from wisdom tooth extraction and dental implants to facial and dental trauma. He is well known and highly regarded for his treatment of patients with missing teeth and severe bone loss.

Dr. Letelier continues to expand his knowledge and skills by regular participation in specialty courses throughout the USA and other global locations.

## Dental extraction, preservation of space, and immediate placement of implants

**Robert J. Huvar**

American Institute of Oral Biology and Maxillofacial Surgery, USA

The clinician is often asked to remove a tooth and place a implant into the site. Bone volume is necessary to allow for ideal implant positioning. Immediate function requires implant and prosthetic stability. Factors to consider for immediate implant placement in extraction sites are thickness of socket walls, thickness of gingival drape, and patient factors are necessary.

The purpose of this presentation is to discuss the changes in bone volume dimension, how to promote space maintenance and provide an algorithm for treatment.

### Audience Take Away:

- Clinicians can use tissue health as the number 1 factor to form their treatment strategy for timing of implant placement.
- Immediate function requires implant stability.
- Bone resorption is common after tooth extraction, the use of graft materials is often necessary to provide ideal bone volume for implant placement, function and esthetics.
- An algorithm for implant placement either immediate or delayed will be discussed.

### Biography

Dr. Huvar, a graduate of The University of Michigan School of Dentistry in 1984, he served in the US Air Force dental service from 1984-1987, and completed his surgical training at University of Illinois at Chicago and Cook County in 1991. A diplomate of the American Board of OMFS, and a fellow in the AAOMS and the ACOMS. He is a published author, who has lectured internationally, receiving multiple awards recognizing his commitment to his patients and specialty.

## Graceful Smiles – EMROHN

**Diana Roggenbucke**

Eastern Metropolitan Regional Oral Health Network /EACH, Australia

**T**he Eastern Metropolitan Regional Oral Health Network (EMROHN) set out to pilot Dental Health Services Victoria (DHSV) Toolkit for Aged Care residents as an objective of the Melbourne Eastern Metro Region Integrated Oral Health Plan 2017-2020, to promote access of eligible and high-need groups to community oral health services including specialist Services.

EMRONH decided to take a holistic approach to support Residential Aged Care Facilities (RACF) improve the oral health of their residents and opened a broad inquiry on the RACF's :

- Supportive environment
- Resident's perceived oral health needs and their knowledge and skill to maintain their Oral Hygiene
- Carers knowledge on supporting residents maintaining Oral Hygiene

The kitchen menu assessment on cariogenic diets and consultations with the dietitian

## An option for the speech problem with Velopharyngeal incompetency: Palatal bone distraction osteogenesis

**Su Yin Htun\***, Kurt-W Bütow

Head of the Facial Cleft Deformity Clinic, University of Pretoria, Department of Maxillo-Facial and Oral Surgery, University of Pretoria

**Objective:** Palatal distraction involves a palatal bone osteotomy in the form of a square “horseshoe”, which leaves the palatal nerve and vascular bundle intact. A commercially available intraoral distraction osteogenesis apparatus is used.

**Discussion:** During the distraction procedure the distal bone segment is repositioned posteriorly, therefore lengthening the bony palate and as such moving the soft palate posteriorly. A Stickler Syndrome patient with a surgically repaired cleft palate was referred to Facial Cleft Deformity Clinic, IAOMS Training Fellowship Centre (University of Pretoria) after he received previously repeated velopharyngeal flaps and still had a speech problem.

Speech improves with this procedure and is assessed by the communication pathologist and compared with the fluorographic examination.

**Conclusion:** The palatal bone distraction for velopharyngeal incompetency after failed velopharyngeal flap surgery is a useful adjunct surgical modality where persistent VPI has been diagnosed. This is limited to those cases where a bony bridge in the hard palate is present. Only six cases with persisting VPI of 2969 soft palate clefts were corrected by this surgical procedure.

### Biography

Dr. Htun is the award winner of the 2012 IAOMS Cleft Lip and Palate and Craniofacial Surgery Training Fellowship and has completed her training Fellowship (2012-2013) at the Arnold Palmer Children's Hospital in Orlando, Florida, USA, University of Pretoria in South Africa and Dr. Hasan Sadikin Hospital in Bandung, Indonesia. She is the invited speaker of International Association of Oral and Maxillofacial Surgeon (IAOMS) Congress/Conferences.

Dr. Htun earned her BDS and MDS degrees from the University of Dental Medicine, Yangon, Myanmar and was a teaching faculty at the Teaching Hospital of Oral and Maxillofacial Surgery, University of Dental Medicine, Yangon where she was trained for maxillofacial surgery until 2008 when she came as a recruited doctor to Jamaica. She has completed IAOMS's Humanitarian Assistance and Disaster Relief (HADR) Credentialing Course at Chile in 2011. She is a Fellow member of IAOMS in 2009 and also a member of AAOMS and BAOMS. Further more Dr.Htun was elected as Fellowship in the Academy of International Academy for Dental and Facial Esthetics (IADFE) in 2015 and Fellowship in the International College of Dentists (ICD) in 2017.

Dr. Htun is the invited speaker of AFAOMS. Her primary clinical interests include craniofacial surgery of birth defects, reconstruction and surgical management of craniofacial trauma. Publications and abstracts related to facial cleft deformity treatment are authored and co-authored.

## Considerations on sport dentistry in Brazil

**Mestre e Doutor Rodrigo Stanislawczuk Grande**

Centro de Ensino Superior dos Campos Gerais CESCAGE, Ponta Grossa, Paraná, Brazil

Athletes are commonly regarded as completely healthy individuals, even though studies in the literature have shown that their oral health is often poor. Oral health may be closely linked with systemic health; several studies have reported that bacteria in the oral environment have an impact on other tissues of the organism, thereby constituting an increase in risk factors for a series of systemic diseases such as strokes, coronary heart disease and diabetes mellitus. The last systematic review of the oral health of athletes showed a big occurrence of caries among the studied athletes, who also presented several other oral problems such as periodontal disease, dental erosion and facial trauma.

It has been reported in the literature that the oral health of athletes can impact on their well-being and physical performance; a negative effect on their daily life was observed in 41% of athletes and 5% reported an impact on their sports performance. In the case of elite athletes, one study found an even higher level of impact on performance, around 18%. We will give an explanation of how is this situation of Sports Dentistry in Brazil.

### Audience Take Away:

- The public will have access to information on how sports dentistry is in Brazil, including some cases of football and volleyball clubs. New partnerships and surveys can be thought from the results shown. We will show how we do the epidemiological surveys of the athletes and their respective treatments. Other universities may use the protocol and partner to broaden the dissemination of the specialty. As for our other benefits, we have to: encourage other researchers to survey their teams or sports communities, publicize the relationship with other universities / researchers and promote the dissemination of what we do here in Brazil in relation to sport and dentistry.

### Biography

Dr. Rodrigo Stanislawczuk studied dentistry at Universidade Estadual de Ponta Grossa, Brazil and graduated in 2003. He received her PhD degree in 2012 at the same institution. He has published more than 30 research articles in SCI(E) journals.) Coordinator of the course of graduation and specialization in the area of Esthetic Dentistry. Dentist responsible for the Operário Ferroviário Esporte Clube.

## Orthodontics and Orthognatic surgery - A clinical view

### Marcellus Guimarães

Specialist in Orthodontics Uniararas- SP

Master in Orthodontics Uniararas- SP

Ongoing PhD in Orthodontics São Leopoldo Mandic -SP

**T**he presentation will be based on the indications and advantages of using skeletal anchorage in orthodontics. Currently, with the use of miniplates and mini-implants principally, the possibility of accelerating treatment and avoiding many unwanted side effects has made very great progress very day to day orthodontic.

It is very important to show the progress and possibilities of possible mechanics through clinical cases and post-treatment follow-up.

We conclude that with the evolution of diagnosis, always focusing on an individualized treatment plan, we have great chances of success and more speed in the treatment of our patients.

Our objectives are: Aesthetics, Functional occlusion, Phonation and breathing, Periodontal, muscular and temporomandibular joint health in patients on orthodontic treatment

This work is of fundamental importance so that all of the dentistry area can guide and jointly treat as best as possible the cases that have skeletal anchorage indication in our day to day.

### Biography

Graduated in Dentistry from ITU - Itaúna-MG

Master's and specialization in Orthodontics by Uniararas / UniCamp-SP

Ortho-surgical preparation course with a Master's degree

Improvement in Implant Dentistry by ABO-DF

Skeletal anchorage courses for mini screws and miniplates

Self-ligating course with Prof Daniel Tocollini and Iduilton G.

Theacher of Specialization in Orthodontics, IBPO- Teixeira de Freitas -BA

## Medication-Related osteonecrosis of the jaw; How much do we know?

**Randa Essam Shaker**

King Faisal Specialist hospital & research Center, Saudi Arabia

**B**isphosphonate (BF) is a class of drugs that prevents bone resorption and remodeling, and have been efficiently and safely used to treat osteoporosis, hypercalcemia of malignancy, bone metastasis of solid malignant tumors, Peget's disease of the bone.

However the use of (BF) was found to cause side effects of which BRONJ as the most adverse effect.

Bisphosphonate-Related Osteonecrosis of the Jaw (BRONJ) can be described as an area of exposed necrotic bone in the mouth more than 8 weeks either affecting the maxilla or the mandible in a person taking any BF and had not had radiation therapy in the craniofacial region.

BRONJ rarely reported prior to 2001. In September 2004, Novartis: manufacturer of intravenous BF pamisronate (Aredia) and zoledronic acid (Zometa), notified healthcare professionals of additions of the labeling of these products which provides cautionary language related to the development of osteonecrosis of the jaw (ONJ). In 2005: the FDA issued warning for the entire drug class (including oral BF).

Treatment recommendations exist, but a standard therapy has not yet been established for BRONJ.

Ruggiero et al, in 2006 proposed guidelines for the diagnosis, staging and management of BRONJ. Later Ruggiero et al and the American Association of Oral and Maxillofacial Surgery (AAOMS) reported their position paper on BRONJ with an update of the previous classification (2014).

### **Audience Take Away:**

- Bisphosphonates
- Their clinical applications
- drug chemistry and actions
- Side effects of BF
- BRONJ
- Staging of BRONJ
- Treatment of BRONJ
- Latest management and recommendations

### **Biography**

Dr. Randa Shaker

Consultant – Advanced General Dentistry

Department of Dentistry

King Faisal Specialist Hospital and Research Center- Jeddah

Present Position: Consultant – Advanced General Dentistry and Residency Program Director

## **The lecture title : Digital dentistry and A.I.**

### **Her Soo-Bok**

Korean Academy of Digital Dentistry(KADD), Korea, Republic of

CAD/CAM dentistry was considered synonymous with digital dentistry several years ago. Although, CAD/CAM is a prominent feature of digital dentistry, the real core elements can be Clinical data and Artificial intelligence. Clinical data can be trained and integrated into Medical device and equipment. A variety of AI based technology shows the growing importance of the data. In dental field, several companies are developing AI based auto image detection and analysis solutions. AI eliminates human-induced mechanical errors and saves manual job. I would like to introduce AI based automated cephalometric landmark detection techniques and automated panorama disease detection solution we have developed the accuracy and computational performances of two solutions.

### **Biography**

Graduate : Seoul National University, School of dentistry (SNUSD)

Intern, resident training (prosthodontics): Ewha Wamans University Medical Center (EUMC)

Member of the Korean Academy of Prosthodontics

M.S.D , Ph.D : Department of Biomedical Material Science, SNUDC

Adjunct professor : SNUSD, SMC, EUMC

Official fellow of the Korean Academy of Oral and Maxillofacial Implantology

President of the Korean Society of Biomedical Zirconia (2008~2010)

Director of research committee, SNUSD Alumni Association

Executive Director of Korean Academy of Digital Dentistry

## Dental assistance for workers: Access, satisfaction and quality of life

Castro Filho\*, CS<sup>1</sup>; Castro, JM<sup>2</sup>; Oliveira, PMC<sup>3</sup>; Vieira-Meyer, APGF<sup>4</sup>; Cavalcanti, LBAM<sup>6</sup>; Flório, FM<sup>9</sup>

<sup>1</sup>Dentistry, UNICHRISTUS, Fortaleza, Ceará, Brazil

<sup>2</sup>Dental Academy, UNICHRISTUS, Fortaleza, Ceará, Brazil

<sup>3</sup>Dentistry, UNICHRISTUS, Fortaleza, Ceará, Brazil

<sup>4</sup>Dentistry, UNICHRISTUS, Fortaleza, Ceará, Brazil

<sup>5</sup>Dentistry, UNICHRISTUS, Fortaleza, Ceará, Brazil

<sup>6</sup>Dentistry, SLMandic, Campinas, São Paulo, Brazil

This study aimed to analyze the influence of dental care offered by companies on workers' oral health, in access, in satisfaction and quality of life. This is a quantitative, exploratory and cross-sectional study conducted in a medium-sized municipality in the metropolitan region of Fortaleza, Brazil. The data collection was held in January and February 2018, based on a questionnaire composed of socio-economic-demographic questions, access, satisfaction and type of dental care offered by companies, Oral Impacts on Daily Performances (OIDP) and World Health Organization instrument to evaluate quality of life (WHOQOL-BREF). A clinical examination was also performed by a calibrated researcher to collect the DMFT index (K=0.86), periodontal condition (K=0.88) and need for a prosthesis (K=0.97). The associations were analyzed by the Chi-square test (X<sup>2</sup>) and Spearman's correlation. A total of 1,343 workers from companies (n=4) with different dental care status (F1: own/private care, n = 440, F2: outsourced care, n = 333, F3: had assistance [does not have any more], n = 298 and F4: never had dental assistance, n = 272). Most of the volunteers in the sample (69.7%) were aged up to 39 years. A mean DMFT of 15.70 ( $\pm$  7.18) where F1 (DMFT 10.81 $\pm$ 6.38) had the lowest index and F4 (DMFT 22.78 $\pm$ 3.10) the highest was observed. The best mean of healthy sextants, bleeding and dental calculus, was presented by F1: 39.5%, 17.4% and 9.7%, respectively, where F4 had the worst indexes: 12.7%, 33% and 66.6%. The use of a superior prosthesis was more frequent than the use of a lower prosthesis in all companies. Workers from the F1 company had the highest values for all WHOQOL-BREF domains (76,7 $\pm$ 6,86), while the lowest values were observed in the F3 company (68,1 $\pm$ 11,29). The impact of oral health conditions on workers' quality of life was very common (97%), but not very serious, with a maximum average value of 12% (found among F1 workers), measured by OIDP. It was concluded that workers from companies that have dental care presented greater facilities related to access to dental care, better levels of satisfaction related to care received, better oral health indexes and better perception of quality of life.

### Audience Take Away:

- Establish the relationship between dental care and quality of life
- Improvement of the worker's quality of life
- To compare the oral health of workers with and without dental care

### Biography

Dr. Carlos studied dentistry at the UEPB University, Brazil. graduated as MS in 1998 (UNIFOR University, Brazil) and PhD in 2018 (SLMandic University, Brazil). He created the worker's oral health research group since 1985. He specializes in dentistry at work. He has worked as college teacher for 10 years, where he conducts research in the following areas: worker health, quality of life and public health. Exclusive Professor at UNICHRISTUS University.

## The emergence profile pontic (optimizing esthetics and hygiene with tissue compression using splinted implant screw retained prosthetics)

### Jason Battah

Jason Battah Implantology Clinic, Canada

**A**chieving long term stability of hard and soft tissues around dental implant restorations has always been a chief concern when planning and executing a case. And above obvious aesthetic concerns, prosthetic design can also have a significant influence on this outcome by how well it facilitates hygiene for the patient.

The purpose of this presentation is to describe a new compressive design of the prosthetic intaglio that follows the contours of the residual osseous ridge crest and displaces more of the soft tissue into the buccal, lingual and interproximal areas such as to better reproduce the natural emergence profile of a tooth.

This change in design and augmented compression at the time of final delivery greatly facilitates long term hygiene maintenance by strategically repositioning the attached gingiva as well as creating a favorable environment for epithelial attachment of the gingiva to the substructure, thus offering better clinical outcomes when opting for splinted screw-retained prosthetic treatment modalities for the partially or fully edentulous mandible or maxilla.

### Audience Take Away:

- Understand the principles behind the design of the emergence profile pontic
- How to adequately prepare the osseous ridge at the time of surgery to optimize displacement of the soft tissue
- How the emergence profile pontic influences patient hygiene protocols to maintain soft tissue seal over time
- How to translate the use of the emergence profile compression concept from a single pontic to a bar structure

### Biography

Dr Battah studied dentistry at Université Laval, Quebec city, Canada and graduated as D.M.D. in 2003.

He is a Diplomate of the American Board of Oral Implantology/Implant dentistry, a Fellow of the American Academy of Implant Dentistry and an active member of the Academy of Osseointegration .

Dr. Battah maintains a surgical and restorative dental implant practice out of his two clinics in Montreal and Quebec City, Canada. His current topics of interest are immediate implant placement / loading and fixed implant treatment modalities for the edentulous maxillary arch.

## Orthodontic treatment in periodontal patients: Practical guide and key points

Jessica Guimarães Dias\*,<sup>1</sup> Carollyne Mota Tiago<sup>2</sup>

<sup>1</sup>Specialist in Orthodontics, FACIT, Araguaína, Tocantins, Brazil

<sup>2</sup>Ph.D in Orthodontics, FACIT, Araguaína, Tocantins, Brazil

The most aggravating factor of an orthodontic treatment in adults is undoubtedly periodontal disease, since the combination of inflammation, orthodontic forces and occlusal trauma can produce a more rapid destruction of the supporting tissues of the teeth. Besides this, another worrying limitation is the difficulty of obtaining a satisfactory anchorage due to the losses of several dental elements, common in adult patients with periodontal disease. But after all, what leads this patient to seek orthodontic treatment? The most common reasons are aesthetic, or by request of other specialties such as prosthetic rehabilitation and even periodontics because the correct alignment of the teeth can facilitate the hygiene both by the patient and the professional of periodontics itself. The aim of this study is to show, based on clinical experience and literature, the possibility of treating these cases efficiently, with a multidisciplinary approach and adequacy of the orthodontic mechanics to the particular need of each case, describing their specificities. That is, the purpose of this work is to provide a practical guide to facilitate the day-to-day of the Orthodontist who wishes to work with these patients who are becoming increasingly common in orthodontic practice. It is concluded that the success of orthodontic and periodontal interventions depends on the accomplishment of a multidisciplinary planning, considering mainly the presence of inflammation, the patient's collaboration regarding oral hygiene, quality of bone support, type of movement, strength to be applied and periodontal maintenance throughout the treatment. With this care, it was possible to obtain an efficient orthodontic movement, with a real functional and aesthetic gain for the patient.

### Audience Take Away:

- Key points for orthodontic and periodontal treatment in a practical and effective way.
- What are the limitations of this type of treatment and how to overcome them?
- What gains can an orthodontic intervention in periodontal patients bring?
- How can we adequately plan these cases to minimize the side effects that this type of intervention can cause?

### Biography

Specialist Jessica Guimarães Dias completed her degree in dentistry at UNITPAC, Brazil and specialized in Orthodontics at FACIT, Brazil. She is currently a master's student in Popular Demands and Regional Dynamics at the Federal University of Tocantins, Brazil. She works as an Orthodontist at Clínica Estética, Araguaína, TO, Brazil; and is a lecturer in the specialization course in Orthodontics at Faculdade FACIT, Araguaína, TO, Brazil.

## Total implant rehabilitations: New techniques and technological advances

**Claudio Luiz Moretti Filho**

Department of Implantology, Escola de Odontologia, Rondonópolis, Mato Grosso, Brazil

**E**dentulism affects a patient's life with impairment of psychosocial functioning, nutritional disturbances, and overall loss of quality of life. The conventional approach to implant therapy includes typically a two-step procedure whereby a standardized healing time of between 3 and 6 months is respected to create good conditions for healing. During this time, no implant loading is performed. Good primary implant stability obtained after insertion is the main prerequisite for implant success. Many authors have found that a single-stage implant procedure with immediate loading can also provide good results. In recent years, the developments of computer-aided design/ computer-assisted manufacture (CAD/CAM) technologies have also brought great improvements in the field of oral implant dentistry. These new methods allow clinicians to analyse the patient's anatomical structure on a computer in relation to a diagnostic prosthesis. With sophisticated software, it is possible to virtually perform implant surgery in an easy and effortless manner before going into the real surgical field. With these technologies, it is also possible to complete rehabilitation of the patient can take place shortly after completion of the surgical procedure. Implant supported fixed full-arch prostheses are at present the treatment alternative which best rehabilitates oral functions in edentulous patients. Classic protocols propose that implants should be unloaded during osseointegration (3 to 4 months in the mandible and 6 to 8 months in the maxilla). Micromovements has been considered, since the start of implant dentistry, one of the main risk factors for osseointegration. Thus, edentulous patients receiving implants are classically given removable dentures during this period, which they often find uncomfortable. Many studies reported case series patients successfully rehabilitated with immediately loaded fixed prostheses. Several advantages have been related to immediate loading, including immediate function and aesthetics, avoidance of temporary removable prostheses, avoidance of second surgeries and preservation of soft tissue anatomy. According to recent studies, implants immediately loaded with fixed full-arch prostheses achieve very high success rates after several years of follow-up, both in post-extraction and healed bone, and both in maxilla and mandible. However, a systematic review on loading protocols concluded that in selected patients immediate loading can be successfully performed, but that tendencies indicate that immediately loaded implants fail more frequently than those loaded conventionally. Furthermore, the immediate loading in edentulous mandibles is well documented, but less evidence is available for the maxilla. Many of these techniques are available in clinical practice and are on the way to becoming routine treatment options. It is of great importance to evaluate the accuracy that defined as the deviations in location or angle between virtual planning of computer-guided surgery and dental implants placements.

### Audience Take Away:

- Full-arch rehabilitation
- To Address about the technology available to improve the treatment planning
- To provide the clinician with different approaches with dental implants in the treatment of edentulism

### Biography

Dr. Claudio Luiz Moretti Filho graduated in Dentistry from the University of Cuiabá. Master in Integrated Dental Sciences UNIC - University of Cuiabá Specialist in Implantodontics by Escola de Odontologia - MT. Specialist in Dental Prosthesis by the Escola de Odontologia - MT. Update Course on Oral and Maxillofacial Surgery by the School of Dentistry - MT. Teacher of Graduation of the Faculty of Dentistry of Rondonópolis UNIC Teacher of the post-Graduation in Escola de Odontologia - MT: Course of Update in Buccomaxillofacial Surgery. Postgraduate Professor at the School of Dentistry - MT: Specialization Course in Implant Dentistry.

## Nano photonics, a novel tool for early detection of oral cancer

Abraham Hirshberg<sup>1\*</sup>, Dror Fixler<sup>2</sup>

<sup>1</sup>Tel Aviv University, Tel Aviv, Israel

<sup>2</sup>Bar-Ilan University, Ramat-Gan, Israel

Oral squamous cell carcinomas (OSCC) are among the most common cancers worldwide. Late diagnosis and loco-regional recurrences results in poor prognosis. It is extremely important, therefore, to develop a good non-invasive method to detect cancers in early enough stage that they can be treated and improve prognosis. The differentiation of neoplastic tissue alterations from normal epithelium is the main goal in secondary prevention. Conventional visual and tactile examination alone may not always help in discriminating innocuous and suspicious lesions. Wide range methods have been studied as a supplement to the clinical examination in primary care settings, among which cytologic testing, and light-based methods gain some clinical attention. Although most of these non-invasive detection techniques are highly sensitivity and show great potential for screening and monitoring, these methods are subjective to the observer interpretation and suffer from low specificity, which may limit their use.

Nano-photonics has emerged as a revolutionized way in the field of medicine to detect and treat cancer. We present a novel non-invasive cancer-detection technique that utilizes the unique absorption properties of gold-nanorods (GNRs) in the near infrared region. The method is based on diffusion reflection (DR) measurement of gold-nanorods bio-conjugated (C-gold-nanorods) to anti-epidermal growth factor receptor (EGFR) monoclonal antibodies exclusively attached to OSCC cells. The ability to specifically deliver and target high concentration of GNRs exclusively to the tumor significantly changes its optical properties, enabling the discrimination between cancerous and non-cancerous tissues.

Conclusion: The presented nanophotonic optical detection method can provide a highly sensitive and simple tool for cancer detection to guide treatment and accurately detect tumor margins, hence, improving the outcome of oral cancer

### Audience Take Away:

- The importance of early detection of oral cancer
- Review of the various methods that are used as a supplement to the clinical examination in primary care settings
- Introduction to novel methods that might revolutionize the detection and treatment of cancer

### Biography

Prof Abraham Hirshberg is a professor of oral pathology at the school of Dental Medicine, Tel-Aviv University, Israel. He graduated Medicine (MD) in 1980 and Dentistry (DMD) in 1984. After one year Internship in Oral Surgery he joined the Department of Oral Medicine and Pathology at the School of Dental Medicine, Tel-Aviv University. 1994- Specialization Certificate in Oral Pathology, 1999- Head of the Israel Society of Oral Medicine. His main research interests are on various aspects of oral cancer and in recent years with collaboration with the Institute of Nanotechnology at the Bar Ilan University, he introduced a new nanophotonic method for cancer detection. He has published more than 70 research articles in leading peer review journals.

## Diagnosis and treatment of root resorption after trauma and reimplantation: Surgical approach with the bone ring technique

Ricardo Augusto Cavalcante Arraes<sup>2\*</sup>, Germana Maria Cavalcante Feitos, <sup>3</sup>André Luis Soratto

<sup>1</sup>Periodontology and Implantology, VRG Periodontology, Implantology and Aesthetics, Fortaleza, Ceará, Brazil

<sup>2</sup>Department of Periodontology, University of São Paulo, Bauru, São Paulo, Brazil

<sup>3</sup>Department of Periodontology and Implantology, University of Marília, São Paulo, São Paulo, Brazil

The rehabilitation of the anterior area after traumatic events represents one of greatest challenges in Restorative Implantology. Circumstances inherent to the morphology and local tissue architecture require a regenerative approach that ensures optimal soft and hard tissue augmentations around implants. The feasibility of the chosen regenerative technique should be taken into account since the amount of surgical reopenings may cause residual scarring defects and result in a longer treatment. The clinical case to be presented refers to an implant rehabilitation of a 22 years old female patient who was diagnosed with root resorption due to reimplantation after dental avulsion of unit 21. Clinical examination revealed absence of painful symptomatology and inflammatory signs such as bleeding on probing, tissue erythema or alteration on the colour of the tooth, which could suggest pulp necrosis. However, the imaging examination revealed root resorption area of the unit 21 with buccal wall bone involvement, which led us to elect for the extraction of the compromised tooth, followed by bone grafting with demineralized corticocancellous fresh frozen allograft using the Bone Ring technique and then, immediate installation of Nobel Replace Tapered Groovy NP 13,5mm x 16mm implant. Provisional restoration was made utilizing the natural removed tooth as a provisional crown. All surgical planning was performed using Nobel Clinician software. After 06 months, surgical reopening of the area was done for implant impression in order to prepare a screwed temporary acrylic crown, thus, enabling conditioning of the gingival tissue. Subepithelial connective tissue graft was also performed aiming at soft tissue volume improvement. The definitive crown was installed after 01 year and 07 months of implant surgery. The patient returned after a 03-year follow-up showing clinical and radiographic signs compatible with normality, soft and hard tissue maintenance around the implant, peri implant health and preserved tissue architecture. Despite the challenge facing prosthodontics on reproducing symmetry as closest as the adjacent tooth, the patient was satisfied with the functional and aesthetic result of the treatment. The chosen technique for the case resolution provided in a single surgical approach a three-dimensional regeneration of the buccal wall bone and placement of the implant, thus benefiting the patient with less surgical sessions and reduced cost.

### Audience Take Away:

- The audience will be able to understand through illustrated and explained clinical steps, from diagnosis to treatment, a complex aesthetic rehabilitation case
- All presentation will be based on systematic reviews as scientific background, thus enabling the audience to contextualize the use of techniques, such as L-PRF and Bone Ring augmentation.
- The audience will have the opportunity to see all the devices and knowledge used to perform the techniques, thus making it reproducible
- Discussing upon how useful aesthetic key points are on guiding our perception and on conducting the case, as much for the prosthodontics view as that for the periodontics view
- Discussing a clinical case from its diagnosis to treatment encourages other clinicians to share their experiences and provide other perspectives on resolving similar cases with different solutions.
- This clinical case has a 03 year follow up of an anterior rehabilitation with implant and hard/soft tissue grafting. This case could be useful depending upon the study design.
- The technique that will be presented represents a great treatment path since its clinical strategy consists in the simplification of the technique whereas it results in satisfactory hard and soft tissue gain.
- This clinical case provides updated information upon the resolution of such cases because aesthetic areas demands simplified and delicate tissue management in order to preserve and provide the original tissue architecture.
- The audience will be able to not only see a rehabilitation case with implant but also learn about reimplant after dental avulsion, root resorption and possibilities on gaining tissue volume.

### **Biography**

Dr. Ricardo Augusto Cavalcante Arraes is graduated on Federal University of Ceará, in 2017. He has worked for the health public service for one year at Redenção – Ceará – Brazil. He is currently taking part on specialization course on Periodontology at University of São Paulo (USP) at Bauru, and works in a private clinic located at Fortaleza – Ceará – Brazil, on aesthetics and periodontology areas.

## Diagnosis and treatment of root resorption after trauma and reimplantation: Surgical approach with the bone ring technique

<sup>1</sup>Germana Maria Cavalcante Feitosa\*, <sup>2</sup>Ricardo Augusto Cavalcante Arraes, <sup>3</sup>André Luis Soratto

<sup>1</sup>Periodontology and Implantology, VRG Periodontology, Implantology and Aesthetics, Fortaleza, Ceará, Brazil

<sup>2</sup>Department of Periodontology, University of São Paulo, Bauru, São Paulo, Brazil

<sup>3</sup>Department of Periodontology and Implantology, University of Marília, São Paulo, São Paulo, Brazil

The rehabilitation of the anterior area after traumatic events represents one of greatest challenges in Restorative Implantology. Circumstances inherent to the morphology and local tissue architecture require a regenerative approach that ensures optimal soft and hard tissue augmentations around implants. The feasibility of the chosen regenerative technique should be taken into account since the amount of surgical reopenings may cause residual scarring defects and result in a longer treatment. The clinical case to be presented refers to an implant rehabilitation of a 22 years old female patient who was diagnosed with root resorption due to reimplantation after dental avulsion of unit 21. Clinical examination revealed absence of painful symptomatology and inflammatory signs such as bleeding on probing, tissue erythema or alteration on the colour of the tooth, which could suggest pulp necrosis. However, the imaging examination revealed root resorption area of the unit 21 with buccal wall bone involvement, which led us to elect for the extraction of the compromised tooth, followed by bone grafting with demineralized corticocancellous fresh frozen allograft using the Bone Ring technique and then, immediate installation of Nobel Replace Tapered Groovy NP 13,5mm x 16mm implant. Provisional restoration was made utilizing the natural removed tooth as a provisional crown. All surgical planning was performed using Nobel Clinician software. After 06 months, surgical reopening of the area was done for implant impression in order to prepare a screwed temporary acrylic crown, thus, enabling conditioning of the gingival tissue. Subepithelial connective tissue graft was also performed aiming at soft tissue volume improvement. The definitive crown was installed after 01 year and 07 months of implant surgery. The patient returned after a 03-year follow-up showing clinical and radiographic signs compatible with normality, soft and hard tissue maintenance around the implant, peri implant health and preserved tissue architecture. Despite the challenge facing prosthodontics on reproducing symmetry as closest as the adjacent tooth, the patient was satisfied with the functional and aesthetic result of the treatment. The chosen technique for the case resolution provided in a single surgical approach a three-dimensional regeneration of the buccal wall bone and placement of the implant, thus benefiting the patient with less surgical sessions and reduced cost.

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- Will be able to not only see a rehabilitation case with implant but also learn about reimplant after dental avulsion, root resorption and possibilities on gaining tissue volume.

### **Biography**

Dr. Germana Maria Cavalcante Feitosa is graduated on Dentistry at the Federal University of Ceará, Brazil, in 1982. She then received her specialization title on Periodontology by Camilo Castelo Branco University in 1989. She received her second specialization title on Implantology by the Military Hospital of Fortaleza in 2008. She has worked in the Ministry of Health for 30 years. She is currently an ITI member and works in a private clinic located at Fortaleza – Ceará - Brazil, on periodontology, prosthodontics and implantology areas.

## Implant maintenance: Periodontist perspective

**Anjani Kumar Pathak**

King George's Medical University, Lucknow, UP, INDIA

**A**lthough implant placement and maintenance is a multi-disciplinary approach but the role of the periodontist is critical to the successful maintenance and monitoring of dental implants. A relationship between bacterial plaque and the development of inflammatory changes in the tissues surrounding oral implants has been developed. If this condition is left untreated, it may lead to the progressive destruction of the supporting tissues around implant (peri-implantitis), and ultimately lead to its failure.

Early diagnosis and management of periimplant disease is utmost important to prevent failure of implants. Implants are more susceptible to inflammation and bone loss and the key factors for the long term success of oral implants is the maintenance of healthy tissues around them. Therefore, a tight recall schedule and comprehensive maintenance protocol needs to be followed to ensure long term success. This presentation describes the importance of maintenance therapy in the prevention of failure of the supporting tissue of implants and the role of a periodontist in undertaking safe implant maintenance therapy.

### **Audience Take Away:**

- Understand the importance of maintenance therapy.
- Diagnosis and management of peri-implant diseases.

### **Biography**

Graduated and post graduated from King George's Medical University (KGMU) Lucknow. Awarded gold medal, silver medals and many certificates of honor for outstanding academic achievements. Presented a number of papers and chaired many scientific sessions at conferences and postgraduate conventions. Presently working as Associate Professor, Department of Periodontology in KGMU, a premier institute of dental education in India. In clinical research my area of interests are perioplastic surgeries, dental implants and periodontal regenerative therapy. Published more than 25 papers in reputed journals and has been serving as an editorial board member of repute. Recently awarded best teacher by students vote. Presently I am also serving as an Assistant Dean, Assistant Proctor KGMU.

## Oral health related quality of life of addicts of psychoactive substances in a Brazilian population

Michelle A. Brown<sup>1\*</sup>, Andrea Santos de Castro<sup>2</sup>, Sther Orestes Garcia<sup>3</sup>, Antonio Adilson Santos de Lima<sup>3</sup> Maria Angela Naval Machado<sup>3</sup>, Marilisa Garbardo<sup>4</sup>

<sup>1</sup> School of Dentistry, University of the West Indies, Kingston, Jamaica

<sup>2</sup> Postgraduate programme in Dentistry, Universidade Estadual de Ponta Grossa, Parana, Brazil

<sup>3</sup> Department of Stomatology, Faculty of Dentistry, Universidade Federal do Parana, Curitiba, Parana, Brazil

<sup>4</sup> Faculty of Dentistry, Universidade Positivo, Curitiba, Parana, Brazil

**Background:** There is a paucity of information regarding the oral health of drug addicts and its impact on their quality of life. Understanding their oral health related quality of life (OHRQoL) could aid in the development of public health policies for these populations. Therefore, the aim was to investigate the impact of OHRQoL of drug addicts in rehabilitation at two locations in the state of Paraná, Brazil.

**Methods:** In this cross-sectional study, 398 men admitted to two drug rehabilitation centers responded to a structured questionnaire consisting of: sociodemographic, oral health habits and drug usage variables and were also examined for presence of decayed, missing and filled teeth (DMFT). OHRQoL was measured using the Oral Health Impact Profile (OHIP-14). Descriptive statistical analysis, Mann-Whitney test, univariate and multiple Poisson regression with robust variance were performed using Stata/SE 14.1. Findings: The mean DMFT score was 11.7 (SD =6.8) and mean severity score was 22.8 (SD =13.2). The prevalence of worse impact (higher OHIP-14 scores) was 84.9%. In the univariate analysis < 8 years of schooling, no brushing of teeth, self-perceived metallic taste, self-perceived tooth mobility, use of LSD and oxy, missing teeth, and DMFT score > 10 were associated with negative outcome ( $p < 0.05$ ). After adjustment, low schooling ( $p = 0.021$ ) and self-perceived metallic taste ( $p < 0.001$ ) were independently associated.

**Conclusion:** Individuals in rehabilitation for the use of psychoactive substances perceived negatively the impacts of OHRQoL. Dental treatment should be included in the health care offered to drug addicts in rehabilitation.

### Audience Take Away:

- The findings of this study suggest that public health strategies for the rehabilitation of these individuals should account for the biopsychosocial aspect of drug addicts, aim to reduce inequity and also include dental treatment as a part of the healthcare offered to drug addicts in rehabilitation.
- The findings of this study could be used to influence the implementation of existing public health policies to adequately represent drug addicts

### Biography

Dr Michelle Brown studied Dentistry at the Universidade Federal of Rio Grande do Sul in Porto Alegre, Brazil and then subsequently completed her Masters of Science in Dentistry at the Universidade Federal do Parana, Curitiba, Brazil. Currently she lectures in the field of Preventive and Public Health Dentistry at the University of the West Indies in Kingston, Jamaica.

KEYNOTE FORUM

3<sup>rd</sup> INTERNATIONAL CONFERENCE ON

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**HEALTH**

SEPTEMBER

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LONDON, UK

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## Facial Trauma 2018

### Steven J Traub

American Institute of Oral Biology, USA

**T**oday we will discuss evaluation & treatment of facial traumatic injuries: mandibular and maxillary fractures, gunshot wounds to the face, TMJ injuries, facial soft tissue injuries, and open/closed facial fracture reductions.

#### Audience Take Away:

- Be able to appropriately evaluate, diagnose & treat facial traumatic injuries.

#### Biography

I was born and raised in Albuquerque, New Mexico (USA). I did my residency in Chicago, Illinois at Cook County Hospital, finishing in 1981. He in place have a private practice limited to Dento-Alveolar, Pre-Prosthetic, Implant, and Temporomandibular joint surgery, along with facial trauma and reconstructive surgery as well, my practice includes a strong emphasis on care of patients with mental and physical handicaps and deformities.



### Biography

Completed the Masters Degree in Dental Medicine in 2006 at the Health Sciences Institute of the Universidade Católica Portuguesa (UCP), Viseu, Portugal. In 2010, completed the Masters Degree in Public Health at the Medical School of the University of Porto and in 2015 completed PhD degree in Biomedicine at the Beira Interior University, Covilhã, Portugal.

Auxiliary Professor at the Health Sciences Institute of the UCP, Clinical Director of the Dental University Clinic of the UCP and Coordinator of the Masters Degree in Dental Medicine at the Health Sciences Institute of the Universidade Católica Portuguesa. Responsible for the knowledge field of Community Oral Health at the same university and has developed research in these fields counting with more than 100 congress presentations and publications in the form of abstract and over 50 scientific articles.

## Oral health promotion among the community: Research and strategies

### Nélio Jorge Veiga

Catholic University of Portugal, Portugal

The presentation will have as main goals the description of the reality of oral health as well as the prevalence of oral diseases worldwide, and in Portugal specifically, based on an epidemiological approach. This presentation will show what has been done in the field of oral health promotion and educational strategies among various populational groups (children, adolescents, elder and special needed patients), mainly in Portugal. An approach of the past, present and future of community oral health strategies and politics will be presented based on epidemiological studies developed in the past years.

#### Audience Take Away:

- To understand the reality of oral health and the lack of oral hygiene and dental treatment among specific risk groups.
- Demonstrate some epidemiological research developed in various risk group samples among the community.
- May benefit in understanding some efficient strategies in oral health education and promotion and the importance that these strategies may present in the clear improvement of oral health among a specific community.



### Biography

Graduated in 1998, Cairo University. He had his masters degree in fixed and removable prosthodontics, Cairo University in 2007. He got his doctors degree in removable prosthodontics and implantology, Ain Shams University in 2011. He worked as an instructor of Removable Prosthodontics, Faculty of Dentistry, October 6 University from 2002 till 2007. Then an assistant Lecturer and Lecture of Removable Prosthodontics, Future University from 2007 beside being the manager of fixed and removable Prosthodontic Lab, Future University. Now he is an associated Prof. of Removable Prosthodontics, and a Consultant of Removable and fixed Prosthodontics and Implantology in the Air Force Specialized Hospital, Ministry of Defence. He is practicing in his private clinics since 2002

## Keys for success of implant overdenture

### Hossam Nassar

Future University in Egypt, Cairo, Egypt

The traditional standard for edentulous patients was the construction of complete maxillary and mandibular dentures. The use of dental implants to support and retain removable or fixed prostheses can eliminate many reported problems of conventional complete denture. The presence of several limitations in placing multiple implants to retain and support fixed prostheses has always been present. Severe resorption of alveolar ridges, maxillary sinus enlargement and unfavorable jaw relations can limit the placement of sufficient number of dental implant. The unwillingness of the patient to do surgical procedures to modify the bone and financial restrictions sometimes prevent the placement of a sufficient number of dental implants to support a fixed prosthesis and therefore require a different approach for those edentulous patients. Implant supported overdenture can be the best treatment choice of those compromised patients with the following advantages; excellent retention, additional support and stability, improved mastication and function, minimal number of implants and easier surgical procedure. Converting the existing denture into the new prosthesis can be an added value. However several questions arise. How many dental implant should be used in the upper and lower arch for supporting and retaining an overdenture? Should those dental implants be splinted or not? What is the ideal attachment to be used? What are the most common early and late complications present in such approach and how to maintain the overdenture? The presentation will answer those questions and gives ten golden tips to be remembered and considered in making an implant overdenture.

SPEAKERS

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## **From concept to consumer the application of the science: An overview**

**David G Gillam**

Queen Mary University of London, UK

**T**his presentation will include examples from the film and scientific world to outline how medical dental products are developed from the laboratory environment and made available for the treatment of patients. There will be a brief overview on the steps required by Investigators to ensure that the products developed in the lab are safe and effective when used by patients or consumers.

### **Audience Take Away:**

- An awareness of the process of developing materials in the lab to the application of the science in the market place (From Concept to Consumer) and the time involved in developing these products
- Understand the necessary requirements involved in evaluating the safety and effectiveness of medical and dental products prior to their emergence into the market place
- Recognize that these products may have limitations in their effectiveness and appeal in preventing or treating medical and dental conditions

### **Biography**

I graduated from Edinburgh Dental School in 1977 and have been involved in Dentistry over the last 40 years. I have worked in both clinical practice and in University Dental Hospitals as well as in Industry (1998-2001) initially with SmithKline Beecham and subsequently with Block Drug Company. From 2003 to 2008 I worked with a Clinical Research Organization and currently I am a Clinical Reader in Translational Research in Relation to Dentistry at the Bart's and the London School of Medicine and Dentistry QMUL in London (2009-). My main interests are in the area of the Management of Dentine Hypersensitivity and I have published over 85 papers on a number of dental topics as well as contributing to several book chapters.

## The evolution of digital dentistry

Alexander A. Bendayan<sup>1,2</sup>, DDS, CAGS

<sup>1</sup>Department of Restorative Sciences & Biomaterials, Division of Postdoctoral Prosthodontics

<sup>2</sup>Assistant Dean for Digital Dentistry Development & Clinical Training Boston University Henry M. Goldman School of Dental Medicine Boston, Massachusetts, United States of America

Digital Technologies have changed the landscape for organizations, companies and exchange of ideas around the globe and also in healthcare. Digital Dentistry has made a mark on the way dental care is provided by simplifying the communication among dentists, dental technicians and patients. An array of companies have developed hardware and software that allow the dentist to increase their precision from intraoral scanners to robotic assisted surgeries. As the dental needs of patient's increase the amount of restorations available to dentists is rapidly increasing. Currently Digital Dentistry can provide an array of options to patients, such as invisible aligners, complete dentures, one day crowns, digital surgical guides for implant placement and more recently robotic assisted surgeries for sinus lifts, third molar extractions and rapid tooth movements for orthodontics.

Digital Dentistry also come with educational challenges as the technology moves at a faster pace those educating the future dentist need to stay up to date with the advances. We at Boston University Henry M. Goldman School of Dental Medicine became the first US Dental School to become digital and continue to spearhead the progress in dental education. The presentation will explain the path that BUGSDM has taken to be where we are today.

### Audience Take Away:

- Provide a report on the current status of digital dentistry in the US and the world
- Determine the information technology needs for implementation and upgrades
- Understand how digital dentistry is reshaping the practice of dentistry and its effect in the future
- Learn implementation of a training, calibration and support system to utilize digital technologies in dentistry

### Biography

Dr. Alexander Bendayan graduated from Central University of Venezuela School of Dental Medicine as a Doctor of Dental Medicine in 2000. Completed his Advanced Training in Prosthodontics at Boston University Henry M. Goldman School of Dental Medicine in 2005. Became Clinical Assistant Professor in 2005 and then Clinical Associate Professor in 2012 in the Department of General Dentistry at BUGSDM, taught Occlusion, CAD/CAM, Fixed Prosthodontics and Biomaterials. In 2015 became the Clinical Director of the Postdoctoral Prosthodontics Clinics to then become Assistant Dean for Digital Dentistry Development & Clinical Training in 2017, position that he currently holds. He is a Clinical Associate Professor in the Department of Restorative Sciences and Biomaterials and practices Prosthodontics. He is a member and fellow of the American Education Association Leadership Institute, American Academy of Fixed Prosthodontics, American College of Prosthodontists and current president of the American College of Prosthodontists Massachusetts Section. He is also member of the Nominating Committee for the ACP and member of the American Dental Hispanic Association. He is part of multiple Committees at BUGSDM and chairs the Digital Dentistry Committee.

## Beverage influence on direct restorations

Ali A. Razooki Al Shekhli

University of science and technology in Fujairah, United Arab Emirates

**Aim:** The aim of this study was to evaluate and compare the beverages effect on micro-hardness of composite and compomer direct restorative materials in comparison with mineral water.

**Materials and methods:** Two types of direct restorative materials of A3 shade were selected for this study: Composan Bio-esthetic Nano-ceram Composite (PROMEDICA) and Composan compomer (PROMEDICA). Forty specimens were prepared from each restorative material (total number of specimens were 80). Each specimen was prepared by compressing sufficient amount of material into a mould of 4 mm in diameter and 2 mm in thickness by two glass slides with acetate celluloid strip in between and curing the specimen for 20 sec from only the top surface by making the curing tip in intimate contact with the acetate celluloid strips covering the composite and compomer surface with LED Woodpacker light curing unit. The top and bottom surfaces were divided into two halves: 1st half was subjected to micro hardness testing before immersion, while microhardness testing was performed on the 2nd half after immersion in beverages. PH values were recorded for each beverage solution with pH meter (METTLER TOLEDO, CANADA). Vickers micro hardness testing was performed with microhardness tester (Micro hardness tester FM-800, FUTURE-TECH, Japan) at 300g load and 15 seconds according to ISO 4049 for both top and bottom surfaces by making three indentations and considering the mean microhardness value for each surface to be the Vickers hardness number for that surface. Three types of beverages were used in the study (Coca-Cola, orange juice, Red bull) and a fourth immersion solution of mineral water was used as a control group. The 80 specimens were immersed for thirty days at 37 °C. The immersion solutions were replaced in a daily manner. After immersion, the composite and compomer specimens were incubated in distilled water at 37 °C for 24 hours before the micro-hardness testing.

Data was statistically analyzed before and after immersion of the eighty specimens using mean, standard deviation, one way ANOVA and T-test at 5% level of significance.

**Results:** One-way analysis of variance (ANOVA) for VHN composite top, bottom and compomer top, bottom revealed that, there was a statistically significant difference ( $P \leq 0.05$ ). t-tests comparing all the groups before and after immersion, showed that there was a statistically significant differences ( $P \leq 0.05$ ) in all groups being tested in this study. pH values for all the solutions were recorded as the followings: pH for Cola was 1.87, Orange juice was 2.63, Red Bull was 2.55 and for water was 6.96.

### Conclusions:

- All the beverages being tested including mineral water groups were significantly resulted in general microhardness reduction.
- Compomers tops and bottoms displayed a significantly general lower hardness values than composite restorative materials before and after immersion
- Composites showed higher differences in microhardness values than compomers in all the beverages when microhardness values were being compared before and after immersion
- Water sorption was the major factor affecting the microhardness rather than acidic component of the different beverages used in the study.
- Orange juice was significantly the highest beverage in microhardness reduction of both restorative materials.

**Clinical significance:** Beverages contain chemical components and their acidic nature or water content might affect the hardness of direct restorative materials that might lead to the degradation at the matrix/filler interface by acid attack and consequently a negative effect on the general performance of the affected restoration in oral service.

**Key words:** Beverages, compomer, composite, micro-hardness and soft drinks.

## Invisalign technology an alternative to braces

**Ayman Chamma**

Active member of the American association of orthodontists, Canada

While medicine is constantly evolving and changing, it wouldn't be an overstatement to say that metal braces saw very few advancements in between when they were first used and when Invisalign hit the market. For most of the last century, metal braces used the same bracket and wire construction, with some innovations being made in the type of metal used in brackets and wires, the placement of the brackets, and how the wire is inserted into the brackets. The introduction of rubber bands, spacers, and bridges have made it possible to significantly change a person's bite, with all sorts of orthodontic applications. All of these inventions provided slight changes to how orthodontists work. Only Invisalign completely overhauled the profession.

Invisalign made it possible for those who would never choose to have metal braces, either for cosmetic or for health reasons, to get the straighter teeth they want. Invisalign has solved many of the most common concerns that come along with metal braces and their variations, the biggest change being an orthodontic treatment that can be removed from the mouth for eating and cleaning, but which is still just as effective as metal braces are.

What's next for Invisalign? Aligners are really only suitable for mild to moderate cases and some severe cases. With new advancements in their own technology and new innovations that make it easier to move teeth how they need to be moved, it is possible that Invisalign will eventually completely replace metal braces. Because they are covered by most dental insurance plans and are of comparable cost to metal braces, it is possible that aligners could overtake and eventually completely get rid of metal braces altogether.

My presentation will presents numerous cases to shoe the effectiveness of the invsalign technology.

### Biography

After obtaining his degree of Dental Surgery D.D.S. He subsequently received his Orthodontic specialty training from the faculty of graduate studies, Orthodontic Department, where he obtained his Master of Science degree from the renowned University of Manitoba.

Dr. Chamma returned to Montreal, after spending some time at the University of Toronto teaching under graduate students clinical orthodontics.

Dr. Chamma is affiliated with several professional organizations, as an active member. which include:

The American Association of Orthodontists.

The Canadian Association of Orthodontists.

World Federation of Orthodontists.

The Northeastern Society of Orthodontics.

The Quebec Society of Orthodontics.

The Canadian Dental Association.

The Quebec Order of Dentists.

## Dental Anesthesiology - Role in modern dentistry

**Jana Sabo**

Epione Dental Anesthesiology, USA

**D**ental anesthesiology is an emerging field of dentistry. With the rising numbers of aging population worldwide and newest developments in sedation and pain control in dentistry it is inevitable to offer these modalities in your everyday dental practice. Dental Anesthesiologist is specializing in general management, methods of anesthesia (local and general), sedation, emergency treatment protocols, cardiopulmonary resuscitation and treatment of oro-facial pain. The lecture will discuss pre-operative management, treatment and postoperative care of patients with following: Anxious Patients with past negative experiences

Children under 6 years of age with extensive treatment needs Special Needs Patients

Patients with severe gag reflex

Patients unable to get numb

Patients with neurodegenerative disorders

### **Audience Take Away:**

- Day to day applications for the safe and predictable dental treatment of your medically challenging patients
- Several case studies will be presented. Most of the case reports could be used to design the pilot studies to research the topic in a more precise prospective study with larger group of participants with various control groups to eliminate bias and variables.

### **Biography**

University of Alberta - DDS - 2008

University of Chicago - Internship in Oral and Maxillofacial Surgery - 2010

St Barnabas Hospital - Dental Anesthesiology Residency - 2013

ADSA Annual Meeting - Recipient of Research Award on Dental Anesthesiology - 2013 CEA - Medical Emergencies In a Dental Office - Honorable Speaker 2015, 2016, 2017

## Activated carbon and grafeno as a bone substitute

Rodney Capp Pallotta<sup>1\*</sup>, Guilherme Lenz<sup>2</sup>, Gisele Amaral Labat<sup>2</sup>, Patrícia Almeida Matos<sup>2</sup>, Rodrigo Labat<sup>3</sup>

<sup>1</sup>Pharmacology, University Of São Paulo, São Paulo, Sp, Brazil

<sup>2</sup>Metalurgica, University Of Sao Paulo, São Paulo, Sp, Brazil

<sup>3</sup>Biofotônicaetalurgica, University Nove De Julho, São Paulo

**T**his presentation is going to show a new model of bone graft, from carbonaceous compounds, showing that activated carbon and grafeno are biocompatible, could transport drugs like antibiotics or NSAIDS, could also be components from costumized bone prothesis, joints, bone defects and so far, with great physical properties.

### Audience Take Away:

- Explain how the audience will be able to use what they learn?
- They are going to learn how to recycle the trash using the benefits on bone growth and repair, telling the advantages and disadvantages of using that
- How will this help the audience in their job? Is this research that other faculty could use to expand their research or teaching? Does this provide a practical solution to a problem that could simplify or make a designer's job more efficient? Will it improve the accuracy of a design, or provide new information to assist in a design problem? List all other benefits.
- Learn a new bone graft its advantages and disadvantages, how could he impact other areas along bone, for example skin or gastrointestinal tract

### Biography

Dr. Rodney Capp Pallotta, graduated in 200 the tittle of DDS, then have and Maxillofacial specialty in Santa Marcelina hospital, then studied pharmacology in University of Sao Paulo have done until his PHD in 2014, after that he has done post doctoral stage at University Nove de Julho in 2015 witch he has turned professor until end of 2018, meanwhile have done 26 published articles until now.

## New tendencies for alveolar reconstruction in modern implant dentistry

**Yu-Cheng Huang**

Kaohsiung Armed Forces General Hospital, Kaohsiung, Taiwan

**A**ppropriate bone tissue engineering in all three dimensions enhances not only the longevity and outcome of dental implant, but also the aesthetic performance of long-lasting restorations.

The knowledge of bone biology and physiology is crucial for successful bone regeneration. Therefore, The purpose of this presentation is to make the participant think biology first. The presentation will review the natural healing process of the bone and the sequence of events needed for stable and excellent bone regeneration. This process will then be discussed and compare with the present materials and technologies. We will also introduce intergrated soft tissue handling and suture techniques that will allow the coronal advancement of both buccal and lingual flaps for tension-free primary wound closure and prevention of wound dehiscence.

### **Audience Take Away:**

- A biological thinking will simplify vertical and/or horizontal bone augmentation procedures.
- The treatment plan and decision making for bony defect evaluation and alveolar reconstruction.
- The secrets of soft tissue handling and suture techniques for tension-free flap management .

### **Biography**

Dr. Huang was graduated from the Department of Dentists, National Defense Medical College in 2010. He has been the director of the periodontology department of Kaohsiung Armed Forces General Hospital. Besides, He has been working on periodontology and dental research for many years, and made a great contribution to the dental implant program and the periodontics journal publication worldwide.

## Dentistry in public health in Brazil: Obstacles, advances and challenges

Jessica Guimarães Dias<sup>1\*</sup> Carollyne Mota Tiago<sup>2</sup>

<sup>1</sup>Specialist in Orthodontics, FACIT, Araguaína, Tocantins, Brazil

<sup>2</sup>Ph.D in Orthodontics, FACIT, Araguaína, Tocantins, Brazil

The main activity of the dental surgeon worldwide is undoubtedly in the private sector. But in Brazil, this reality begins to change with the constitution of 1988 and above all, the creation of the Unified Health System (SUS), which is one of the largest and most complex public health system in the world, which guarantees comprehensive, universal and free care to all Brazilian citizens. Dental care therefore is present in the public health network on a large scale even at the level of specialties such as oral diagnosis (with emphasis on diagnosis and detection of oral cancer), Periodontics, Minor Oral Surgery, Care for People with Special Needs, Endodontics, Preventive Orthodontics and Dental Prostheses. Dentistry is also part of the Family Health Strategy (ESF), a program linked to SUS that aims at reorganizing primary care in the country and provides an excellent cost / effectiveness ratio. Before that, the actions offered by the government were limited to the fluoridation of the public water supply and the professionals of the area seemed not to mind being left out of the public health network, which previously appeared in other areas. The objective of this work is to show the obstacles, advances and challenges of dentistry in the Brazilian public health scenario, through a bibliographical and documentary survey from the insertion in 1988 to the present day including the four main epidemiological surveys of oral health in national level. Despite this great progress, we still have many challenges such as the social exclusion and polarization of some oral diseases in more vulnerable communities, besides the poor distribution of professionals across the country. Above all, this work offers important subsidies for the construction and improvement of public policies in oral health.

### Audience Take Away:

- How was the Insertion of Dental Surgeons organized in Public Health in Brazil?
- Unique Brazilian Health System as the main employer of professionals in the area.
- What is the current situation of the insertion of public health dentistry in Brazil?
- How Brazil has managed to reduce the indexes of oral problems and how is the access to vulnerable populations.

### Biography

Specialist Jessica Guimarães Dias completed her degree in dentistry at UNITPAC, Brazil; She specializes in Orthodontics at FACIT, Brazil. She is currently a master's student in Popular Demands and Regional Dynamics at the Federal University of Tocantins, Brazil. He works as an Orthodontist at Clínica Estético, Araguaína, TO, Brazil; and is a lecturer in the specialization course in Orthodontics at Faculdade FACIT, Araguaína, TO, Brazil.

## **FibrinGum™ Technique as an alternative to dental root coverage using blood concentrates (PRF)**

**Jackson Martins Kalinoski**

1Director of the Periodontology of Implant's Dental Clinic, Toledo, Paraná, Brazil

**P**resentation of the technique developed by Dr. Jackson Kalinoski, which consists in the use of blood concentrates (platelet rich fibrin) as an alternative in exposed dental root coverings, surgical wound protection and stimulation for fibrosis reversal in oral tissues.

### **Audience take away:**

Surgeons will learn this new technique to recover and regenerate periodontal, which comes in a simple and reproducible way to bring another alternative, less morbid and better patient acceptance, as it prevents the removal of tissues from the palate. A new way to protect the surgical wound, 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 DS in 2004. Post graduated as a specialist in Periodontics from the State University of Londrina in 2006 and Implants from University Cruzeiro do Sul, UNICSUL in 2008. Have already 15 years professional experience. He currently owns a clinic, also acts as a clinical dentist, performing care in various Dentistry specialties. Already worked in several clinics, being responsible for the areas of periodontics and implantology. He currently teaches at the Brain Storm Science Enterprise School.

## Current concepts and emerging trends in diagnosis & management of Peri implantitis -An overview

**Ravichandran.R.**

Government Dental College & Hospital .Medical College Campus.Trivandrum-11.Kerala.INDIA

**P**eri-implantitis is a area specific infectious disease that causes an inflammatory process in soft tissue ,bone loss , subsequent mobility for an osseointegrated implant which is currently in function. As the disease prevalence comes only around 56%,the it can end up with implant failure and an ultimate loss sans multilateral prevention and proper therapy guidelines. Regular evaluation and elimination of risk factors are more or less effective in avoiding this scenario .Moreover recent studies have also shown that the type of implant surface also perhaps can contribute towards this disease . Moderate peri implantitis with mucositis can effectively be managed using conservative methods like laser systems, photodynamic therapy,manual ablation and an adjunct antibiotic therapy leading to an absolute remission sooner than later.But in cases with extreme and advanced lesions ,surgical management is found to be more effective than non invasive and conservative techniques .Here the treatment depends on the extent and the configuration of the defects where a simultaneous resection and regenerative therapies showing faster and irreversible results in restoring even larger defects.An interceptive supportive treatment always stays as a guideline protocol for the definitive management of the cause.This topic provides an overview and documentation regarding the current concept and emerging trends in prevention ,diagnosis,and management of sequel of peri implant disease.

### Audience Take Away:

- 1.Audience will be able to update regarding the diagnosis, prevention current and new treatment modalities related to peri-implantitis ,one of the major causes of failures of implants which i believe will in a way benefit the practising dental fraternity assembled.
- 2. Practitioners can imply the knowledge in their own practise and can take necessary precautions to avoid such future complications and have a successful implant treatment aswell.Moreover the faculties can also get inspired and work abrest in peri implantitis related reseach hence contribute in evolving with better results.
- 3.This is definitely be the best practical solution for the management of such disease and makes the operators job more fast , accurate and effective.It helps the fraternity to have a comprehensive knowledge regarding the precautions prevention and management of the possible ailing and failing implants which can be saved for the cause of its success.

### Biography

Dr.Ravichandran.R studied Bachelor of Dental Surgery(BDS) at university of Kerala INDIA in 1992.Compleated post graduation(MDS) in prosthodontics ,crown and bridge& implantology from the same university in 1998. Presently working as Professor in the Department of prosthodontics and implantology at the Govt. Dental College &Hospital Trivandrum.Kerala INDIA.Having a total teaching experience of 25 years in the speciality aswell.Undergone special training for one year in implantology under Inspire Dental Academy Mumbai in 2015.Attended as an invited speaker in the international conference of Dentistry & oral Health in 2017 held at DUBAI.Won the G.C.DAS memorial award for the best scientic deliberation of the 41 st Indian Prosthodontic Society held at Mumbai in 2016.Have got more than 30 national and international publications to his credi and presented many scientific papers in various conference across the country and abroad.

## Dental casting by direct Flame vs Induction heating which is superior ?

**Gamal Abdul Nasser**

Principal Tamil Nadu Government Dental College, India

The most common diseases in occurring in oral cavity are Dental Decay and Periodontal disease.. The decay is a disease of the calcified tissue which needs of restoration; the common restoration is silver amalgam or Composite. If the decay is larger then the silver amalgam fractures and to provide a good restoration the one piece restoration made of metal and that is referred dental casting. Quite a lot of equipment's such as preheating furnace, Casting machine such as Induction casting Centrifugal casting, machine , Blow pipe etc are used to form a casting. In order to form a single piece restoration, the restoration is made in wax which has to be surrounded with help of investing materials. This invested mold has to be heated up resulting formation of cavity into which metal heated & melted up and poured in to cavity . The amount of expansion and contraction of the metal has to be compensated so that the metal will form universally over the respective tooth without any problem . To get the exact size and shape of wax pattern the amount of contraction of metal has to be compensated by expansion of the wax pattern and expansion of Investment material. There are three different types of expansions, Setting expansion, Thermal expansion and hygroscopic expansion. Setting expansion and Thermal expansion is taken into consideration and the contraction of the casting is compensated by the Thermal expansion & setting Expansion of the invested material and the expansion of wax pattern. Hence, wax pattern invested is in investing medium and the investment mould is heated up in the preheating furnace as per desired temperature of melting alloy. . The amount of time of the casting this very critical in other words lesser than casting time better is casting. In the case of centrifugal casting when metal heated up on crucible a beam of flame goes through the hole of crucible and including during the melting time the mould is heated up the temperature of the mould is not lost. On the contrary in the case of induction heating even though the metal heated up and casting in done within one minute since the mould is not heated up during the time of the melting the mould temperature reduces there by the metal is not flowing into the deleterious area of the casting. However, the timing of casting is very critical if the timing is delay improper casting will occur. . Only the comparison of open flame and Induction are compared with the timing of placement of investing ring into Burn out furnace. Only Non Precious metal is taken in to Consideration which is a common metal used in practice. Contraction by keeping the investment ring at the preheated temperature the time of casting can be reduced and a better result can be achieved.

### Audience Take Away:

- The quantum of investment to start a lab in college or private is small when compared to labs with Induction Heating casting Machine.
- This is much easier and simpler.
- Much more research work can be carried out over the use of Direct flame over the other methods.
- The casting is accurate like any other methods of castings.
- It provides a practical solutions for various problems in casting the Non precious alloy.
- This can be used for precious alloy also.

### Biography

Dr.K.S.Gamal Abdul Nasser., MDS.,Ph.D Finished BDS in the year 1977 and Completed the Post graduation in the year 1984. Joined service in the year 1979 as Assistant dental surgeon and Promoted up to the Principal of the only one Government Dental college ,Chennai . Registered for the Ph.D under Prof.Ganesan of Anna university and completed in the year 2011.Adjusted as the Best performed Doctor of Tamil Nadu Medical Education side and awarded Rs.50,000/ ( Rupees Fifty thousand Rupees only).I have treated 1,00,620 Corporation School Children at their Schools. Constructed a new building for Dental School for a sum of Rs.27crores.

## Diagnostic in everyday orthodontist practice based on prof. R.Slavicek and Prof. S. Sado concept

### Darya Grygoryeva

Darya Grygoryeva, orthodontist, private practice, Kharkov, Ukraine,  
Alexandr Tarasenko, orthodontist, prosthodontist, private practice, Kharkov, Ukraine  
Yevgenina Grygoryeva, dentist, private practice, Kharkov, Ukraine

**E**asy diagnostic using instruments that are available for everyone: list of questions we ask patient, muscle palpation for postural and TMJ examination, wax occlusiograms to find supercontacts during occlusion function, night-time bruxcheckers, condylography, examination of TMJ function, dysfunction, finding mandible position, derange mandible position and programming of therapeutic mandible position. Splint therapy in TMD patients.

### Audience Take Away:

- Does the patient have temporomandibular disorders? (we can find it using diagnostic instruments available in every dental office)
- Sort easy and hard cases. Decide if the doctor have enough theoretical and manual knowledges to resolve the problem.

### Biography

Darya Grygoryeva studied Dentistry at the Kharkov National Medical University, Ukraine and graduated in 2006. She then got the postgraduate education in orthodontics in Kiev Medical Academy of Postgraduate Education (Department of Orthodontic, head professor Myroslava Dragomyretska). 2013 Graduated one-year course «TMJ dysfunction. Diagnostics and interdisciplinary approach» ( Institute of Biotechnology and interdisciplinary dentistry, professor Mihail Soiher), continued orthodontists education in Vienna School of interdisciplinary dentistry with professor Sadao Sato (2013-2017), successfully finished Tweed course KORI 2017 (Seoul, South Korea), speaker and supervisor of orthodontics start-school (Kharkov, Ukraine), takes part in organization of dental events, private orthodontic practice since 2009.

## “One Day Wall”- Deliver the Metal-reinforced Full-arch fixed restoration in accurate occlusion on same surgery day

**Chienhai Li**

Chuan Sheng Dental Clinic, Taiwan

### Background

Immediate implantation followed by immediate loading has many benefits for full mouth severe periodontitis patient or fully edentulous patient. The immediate loading restoration is usually acrylic temporary denture without metal-reinforced framework. The fragile temporary restoration and inaccurate jaw-relationship make osseointegration less predictable, and implant failure would elongate the treatment time.

### Aim

To find a way to make immediate loading prosthesis more rigid and delivered in accurate occlusion for better occlusal force distribution to enhance osseointegration. To simplify the treatment protocol and deliver the definitive restoration on the same surgery day.

### Materials and Methods

The complete dentures were fabricated on a study model with bilateral balance occlusion design. Five ANKYLOS implants were inserted, and the insertion torque is >25 N-cm and ISQ >70. Angular abutments were assembled and adjusted to parallel each other with the aid of parallel pins. The custom pick-up copings were pressed onto the abutments, and the impressions were taken with IMPREGUM. Then the coping sockets were assembled with the analogs, gingiva mask applied, and model poured with dental stone and then set on the articulator. Five friction retained copings were pressed onto abutments and 2mm grade IV titanium bars were bent and spot welded to join five copings into a framework. The silicone bite registration material was applied on the occlusal surface. The passivity of the titanium framework was checked by OPG, the accurate jaw-relationship and ideal V.D. was obtained by finger guided TMJ position, and the position was recorded by bite registration material. The stone model was remounted and the denture relined with composite luting cement on the articulator. After smoothing the tissue surface, the friction retained restoration is delivered to the patient.

### Results

Fourteen arches (eleven patients, 5 male, 6 female; 10 maxilla, 4 mandible, total 70 implants) were restored by “One Day Wall” technique from Aug. 2018 to Apr. 2019. All restorations were delivered on the same surgery day, and no gap was observed on OPG after prosthesis was delivered. There was no tooth chipping or fractures observed in the follow-up period, nor were any implants lost.

### Conclusions and Clinical Implications

The technique to fabricate a metal-reinforced framework veneered by composite resin teeth and relined by composite material performed well. The titanium framework was fabricated on a model within one hour providing support to reinforce the structure of the denture.

This recently developed method showed good prognosis and a predictable outcome. However, the follow-up time is short, so more clinical study is needed to prove the technique.

### Biography

Chienhai Li, D.D.S. M.Sc.

2000 Graduated from China Medical College in Taiwan (D.D.S.)

2004 Director of Chuan Sheng Dental Clinic

2011 Graduated from Goethe University, Frankfurt, Germany(M.Sc.)

2013 Published paper on IJOMS\*

2017 Published paper on JDOR\*\*

\* Li C.H., Chou C.T., Bone sparing implant removal without trephine via internal separation of the titanium body with a carbide bur. *Int J Oral Maxillofac Surg.* 2014 Feb;43(2):248-50.

\*\* Chienhai Li, Immediate Implant Supported Full-Arch Restorations Fabricated with an Intraoral Welding Technique in Taiwan Patients with Intact Opposite Dentition-Case Series. *Journal of Dentistry and Oral Biology* 2017, Volume 2, Issue 11, Article 1070

## Laser application on early-stage caries lesions

Michelle A. Chinelatti<sup>1,2\*</sup>, Marcos Jacobowitz<sup>1</sup>, Fernanda R. Paolillo<sup>2</sup>, Fátima Yasuoka<sup>2</sup>, Jarbas Caiado de Castro<sup>2</sup>

<sup>1</sup>School of Dentistry, University Center Central Paulista (UNICEP), São Carlos, SP, Brazil,

<sup>2</sup>Institute of Physics, University of São Paulo (USP), São Carlos, SP, Brazil

**D**ental caries is still the most common oral disease throughout the world. The first clinical sign of dental caries is the appearance of a white spot lesion on the tooth surface that can be considered the initial stage of enamel demineralization. If suitable treatment is presented to these lesions, enamel caries is capable to arrest, rehardens and reverse to the healthy enamel condition via a remineralization process involving the diffusion of minerals into the defective tooth structure. The remineralization treatment is usually performed with fluoride or other remineralizing agents, which can be combined with lasers to enhance their effects. It has been demonstrated that the application of high power lasers are effective in promoting enamel remineralization. As high-energy lasers are greatly absorbed by water and hydroxyapatite of the tooth tissues, they are capable to modify the crystalline structure, acid solubility and permeability of the tooth surface and thereby increasing its resistance against demineralization. This presentation will provide an overview of the role of laser technology in the clinical management of caries, assuring that minimally invasive procedures can be used to treat caries lesions.

### Audience Take Away:

- The presentation will provide an update on the status of laser technology available in dental practice in enhancing caries therapy.
- Lasers used for remineralization of incipient caries lesions might lead to a better clinical approach in particular conditions.
- The comparison of different strategies efficacy in increasing tooth resistance is of great interest for dental practitioners, for researchers and in teaching process.

### Biography

Dr. Chinelatti graduated as dentist in 1997 at the School of Dentistry of Ribeirão Preto, University of São Paulo, Brazil. At the same institution, she received her Master degree in Restorative Dentistry in 2003; PhD degree in Restorative Dentistry in 2008; and Post-Doc degree in Dental Materials in 2015. Currently, she is professor of Restorative Dentistry at the University Center Central Paulista (UNICEP São Carlos) and researcher fellow at the Institute of Physics of São Carlos, University of São Paulo, São Carlos, Brazil.

## Interdisciplinary Perio-Prosthetic treatment in patient with periodontitis

**Chung-Zei Yang**

Kaohsiung Armed Forces General Hospital, Kaohsiung, Taiwan

**A**fter periodontal invasion and destruction, the dental arch may present attachment loss furcation involvement poor crown/ratio and pathological migration. These complicated the clinical situation and treatment. This report shared a perio-prosthetic cases. Data collection include chief complain history clinical examination study cast analysis and radiographic examination. By surveying above data, correction diagnosis was made and proper treatment plan was decided. The treatment plans were executed after agreement of the patients. The periodontal therapy involve nonsurgical periodontal treatment, re-evaluation, periodontal surgery and maintenance. The periodontal surgery include guided tissue regeneration surgery, implant surgery. Gradually, the transitional prosthesis and final prosthesis were made. By interdisciplinary treatment, the situation of the complicated remaining periodontal arch will be solved to achieve the result meeting patient requirement and satisfaction.

### **Audience Take Away:**

- The treatment plan and protocol for periodontal compromised dentition
- The decision tree for saving or extrating periodontal destruction teeth
- The proper design of periodontal prosthesis

### **Biography**

Dr. Yang graduated from the Department of Dentists, National Defense Medical College in 2005, and obtained the master degree in periodontal patch (perio-prosthetic program) from Kaohsiung Medical University in 2011. He also obtained a perio-prosthetic specialist in 2012. He has been the director of the periodontology department of Kaohsiung Armed Forces General Hospital. Besides, Dr. Yang has been the Deputy Secretary General in Kaohsiung Dental Association for a few years. He has been working on periodontology and dental research for many years. And there are related journals of perio-prosthetic program published in Taiwan and other countries by Dr. Yang.

## Early detection of oral cancer with current diagnostic tools

### Su Yin Htun

Fellowship in Craniofacial Surgery and Cleft Lip and Palate Surgery (IAOMS, FL)  
Dean (Acting), Joint Colleges of Medicine, Oral Health and Veterinary Sciences, University of Technology, Jamaica.  
Consultant Oral and Maxillofacial Surgeon, Kingston Public Hospital

**Objective:** To examine the oral cavity of individuals in the population, seek lesions, incipient or otherwise, and raise awareness about the risks of oral cancer.

**Discussion:** Natural fluorophores in oral mucosa is excited by ViziLite PRO. Using natural tissue fluorescence to enhance the visualization of oral mucosa to help enable the earliest possible discovery of potentially malignant and cancerous lesions. Prevention and early diagnosis of oral cancer screening performed by ViziLite PRO with the participation of faculty of the Department of Maxillofacial Surgery and DMD dental students. We provide information about oral cancer, and perform clinical examination for early diagnosis in the individuals concerned. Participants of the oral cancer screening are random patients from out patient dental clinic at College of Oral Health Sciences and patients who visit to Oral Health fare public clinics.

**Conclusion:** Although effective, the cancer prevention and early detection of oral cancer with current diagnostic tools, it reaches only a small segment of the population. Further studies require to do island wide campaign. This study reveal a level of oral cancer awareness in Jamaica.

### Biography

Dr. Htun is the award winner of the 2012 IAOMS Cleft Lip and Palate and Craniofacial Surgery Training Fellowship and has completed her training Fellowship (2012-2013) at the Arnold Palmer Children's Hospital in Orlando, Florida, USA, University of Pretoria in South Africa and Dr. Hasan Sadikin Hospital in Bandung, Indonesia. She is the invited speaker of International Association of Oral and Maxillofacial Surgeon (IAOMS) Congress/ Conferences.

Dr. Htun earned her BDS and MDSc degrees from the University of Dental Medicine, Yangon, Myanmar and was a teaching faculty at the Teaching Hospital of Oral and Maxillofacial Surgery, University of Dental Medicine, Yangon where she was trained for maxillofacial surgery until 2008 when she came as a recruited doctor to Jamaica. She has completed IAOMS's Humanitarian Assistance and Disaster Relief (HADR) Credentialing Course at Chile in 2011. She is a Fellow member of IAOMS in 2009 and also a member of AAOMS and BAOMS. Further more Dr.Htun was elected as Fellowship in the Academy of International Academy for Dental and Facial Esthetics (IADFE) in 2015 and Fellowship in the International College of Dentists (ICD) in 2017.

Dr. Htun is the invited speaker of AFAOMS. Her primary clinical interests include craniofacial surgery of birth defects, reconstruction and surgical management of craniofacial trauma. Publications and abstracts related to facial cleft deformity treatment are authored and co-authored.

## Efficacy of double needle cannula arthrocentesis technique for temporomandibular joint pain and chronic closed lock disorder

**Kryssa Justine Agpoon**

<sup>1</sup>Dept of Oral and Maxillofacial Surgery, Korea University Medical Center-Guro, Seoul, South Korea

**A** rthrocentesis is a method of irrigation and lavage within the temporomandibular joint (TMJ) with a therapeutic substance. It is usually performed by dual puncture with two needles to the joint space. Several studies have shown that arthrocentesis of the upper compartment of the TMJ may be a highly effective method to restore normal maximal mouth opening and functioning. It is a minimally invasive chair side procedure for the patients with TMJ internal derangement, closed lock and severe pain. This case report evaluated the efficacy in the management of patients with TMJ chronic closed lock as an imperative procedure to relieve patients of their symptoms.

### Audience Take Away:

- It is a minimally invasive chair side surgical procedure for the patients with TMJ internal derangement, closed lock and severe pain
- The result of the study was successful in all the patients and the result showed significant resolution of clinical signs and symptoms of TMJ chronic closed lock (pain and tenderness) and full restoration of normal range of motion (maximum interincisal opening, lateral excursion, and protrusive movements) There was a clinically significant improvement in mouth opening, clicking and deviation right after the procedure. Arthrocentesis is effective in treating TMJ closed lock patient in restoring its TMJ function. Arthrocentesis, is a minimally invasive, simple, inexpensive & highly efficient procedure that can be performed under local anaesthesia.

### Biography

Dr. Kryssa Justine Agpoon studied Doctor of Dental Medicine at University of the East-Manila in 2012. She then proceeded to Hospital Dentistry(Oral Surgery) Externship Program at Philippine General Hospital. She received her Master Degree in Oral and Maxillofacial Surgery in Korea University, Seoul, South Korea. She obtained her Residency and Fellowship at the same institution. She further trained at University of Southern California-Herman Ostrow School of Dentistry for TMD, Myofascial pain and Oral Motor Disorder Continuing Education Mini- Residency Program. She has published more than 5 research articles in SCI(E) journals and did lectures locally and abroad about her research.

## CAD-CAM technology and 3D printers in modern dentistry – Scientific lecture and clinical cases

**Bruno de Assis Esteves**

<sup>1</sup>Dentist and Scientific Member, Esteves Odontology Institute, Rondonópolis, Mato-Grosso, Brazil

<sup>2</sup>Dentistry Teacher, UNIC – University of Cuiabá – Floriano Peixoto, Rondonópolis, Mato-Grosso, Brazil

One of the characteristics of contemporary dentistry is the constant search for methods of treatment that combine aesthetic and long lasting results with easy of execution and time saving for both the professional and the patient. Technological progress from the most diverse fields of science has gradually been incorporated into the modern dentistry area, but it will not replace traditional dentistry, but rather will be an additional tool for the diagnosis, planning and execution of simple or highly complex dentistry treatments in a faster, predictable and efficient way. With the expansion of the use of CAD-CAM (Computer-Aided Design and Computer-Aided Manufacturing) systems over the last 10 years, dentistry has experimented with the development of new materials with different compositions and characteristics that allow them to be designed and milled to the various situations quickly, transforming long treatments in quick and comfortable treatments to the patient and professional. This lecture will discuss about what CAM-CAM technology can bring to the day-to-day dental office, along with the association with the newest link in the digital work flow, the high-performance 3D printers, which today become one more important tool in the digital work flow in a dental practice. The clinical background will originate from the clinical experience of more than 5.000 crowns / inlay / onlay that was successfully milled and installed by the lecturer in his daily clinical routine, as well as having scientific articles which will provide theoretical and scientific background to compare these technologies with traditional dentistry. In addition to presenting the use and benefits that these systems can bring to clinical routine through clinical cases, clinical videos specially developed for the topic.

### Audience Take Away:

- I believe that knowledge is only valid when shared, and for such meetings as the ICDO are fundamental for the development of a dentistry that is humanist and focused on excellence. The colleagues will learn from the presentation the following topics:
- The types of scanners and their main differences.
- What can be done with this type of system.
- Comparison between conventional casting and intraoral scanning
- Videos of oral scanners in action.
- Clinical cases of high complexity solved with the help of cad-cam technology and 3D printers.
- Presentation of scientific articles that support the use and difficulties faced by these systems.
- Ceramic, polymeric and resinous materials for CAD-CAM Systems.
- New perspectives for the future for the evolution of the CAD-CAM System and 3D Printers.
- Digital Planning
- Oral Back-up
- Complete digital work flow for dental treatments
- 3D printers and their features and functionalities
- Time X Cost X Precision
- The colleagues may use what they have learned in the quest to produce a more predictable and dynamic dentistry in their clinical routine, but will also provide an exchange of knowledge and technique between researchers and teachers of different countries.
- Finally, I believe that this moment of exchange of knowledge will be useful for all, as it will serve to clarify doubts, generate knowledge exchange and transmit knowledge about current dentistry, as well as provide the knowledge to face difficulties with a more practical and higher success rate.

### **Biography**

Bruno de Assis Esteves, Dr. MSc, studied at the University of Cuiabá, Brazil and graduated in dentistry in 2010. Started his research in the area of Implantology in 2011 and received his degree in implantology specialist in 2013. In 2016 finished another specialty, in Prosthodontics. The master's degree in Dental Prosthesis supervised by Dr. Milton Edson Miranda was achieved in 2018, all titles by the São Leopoldo Mandic Research Center - Brazil. He is currently a professor at the University of Cuiabá and works in private office using Cad-Cam technology, 3D Printers and surgical microscopy in his dental treatments.

## Maxillofacial prosthetic rehabilitation experience in Nepal

**Shyam K. Maharjan**

People's Dental College and Hospital, Nepal

**M**axillofacial Prosthetic Rehabilitation is the emerging field in Dentistry. Prosthodontic rehabilitation of patient with maxillofacial defects depend on extend of the defect after resection. Rehabilitation of such patient is challenging in our context because of patient awareness, availability of materials and good technical skill. The prime concern during rehabilitation of patient with maxillofacial defects is to have Prosthesis with functional, esthetical, and psychological acceptance. Retention, support, and masticatory efficiency of the prosthesis are few criteria to be fulfilled but difficult to achieve according to clinical variations. Good co-ordination with maxillofacial surgery team will help to maintain quality of work to improve the quality of life. Prosthodontic can assist the surgeon at the time of surgery to improve the prosthodontic prognosis of definite prosthesis.

This presentation will highlights some experiences during treatment planning, assisting the surgical procedure and prosthetic rehabilitation of maxillofacial defect patient in limited resources in Nepalese context.

### **Audience Take Away:**

- Clinician will be able to handle the different cases of Maxillofacial Prosthetic Rehabilitation patient
- Clinician will be able to co-ordination with maxillofacial surgery team during treatment planning.
- Clinician will be able to identify the different problem of maxillofacial defect patient.
- Clinician will be able to deliver different types maxillofacial prosthesis to the patient.
- Clinician will be able to rehabilitate the patient with quality of work to improve the quality of life.

### **Biography**

Dr. Shyam Kaji Maharjan has completed BDS in 2006 and MDS in Prosthodontic and Maxillofacial Prosthesis in 2013 from People's Dental College and Hospital, Tribhuvan University. He has also received Fellowship from International College of Continuing Dental Education (FICCCDE) Singapore. Currently he is working as an assistant professor in Department of Prosthodontic and Maxillofacial Prosthesis, People's Dental College and Hospital and also has responsibility of a Clinical coordinator for the undergraduate program. He has experiences of national and international presentation. He is associated as editor of Journal of Nepal Dental Association and Journal of Nepalese Prosthodontic Society.

## **Mandibular advancement device for sleep apnea**

**Pamela West**

Pamela West DDS, USA

In this session I will be discussing the benefits of treating patients that have Obstructive Sleep Apnea with a Mandibular Advancement Device. Obstructive Sleep Apnea (OSA) is a common sleep disorder. Approximately 25% of the population has sleep apnea and 85% go undiagnosed. OSA is a serious sleep disorder that is identified by breathing that stops during sleep for 10 seconds or more. The Oxygen saturation commonly falls below 90%. I will review the danger of untreated sleep apnea and the basics behind Mandibular Advancement Therapy as an alternative to CPAP therapy. We will review the many comorbidities related to sleep apnea and damage that can occur to the brain and vital organs due to lack of oxygen.

POSTERS

3<sup>rd</sup> INTERNATIONAL CONFERENCE ON

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**HEALTH**

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## Relationship of prefrailty with oral function and oral status in elderly

Manabu Morita<sup>1\*</sup>, Noriko Takeuchi<sup>2</sup>, Nanami Sawada<sup>3</sup>, Yoko Uchida<sup>4</sup>, Hisataka Miyai<sup>5</sup>, Ayano Tabata<sup>6</sup>, Aya Yokoi<sup>7</sup>, Toshiki Yoneda<sup>8</sup>, Takayuki Maruyama<sup>9</sup>, Daisuke Ekuni

Department of Preventive Dentistry, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama, Japan

**Objectives:** It is commonly accepted that frailty is associated with oral function. However, the detail association between prefrailty (a stage prior to frailty) and oral function remains unknown. We investigated the association between prefrailty, oral status and oral function in Japanese elderly.

**Methods:** After obtaining written informed consent, 154 patients (74.2±6.3 years, 45 males, 109 females) participated in this cross-sectional study at the Department of Preventive Dentistry, Okayama University Hospital from 2017 to 2018. Frail status was evaluated according to the Japanese version of Cardiovascular Health Study (J-CHS) based on body weight loss, hand grip strength, exhaustion, a walk speed and physical activity. Patients who were positive in one or two indices (J-CHS) were diagnosed as prefrailty, and those negative were diagnosed as healthy condition.

We also clinically examined the numbers of teeth present and functional teeth, plaque index, periodontal status (bleeding on probing, probing pocket depth, clinical attachment level and tooth mobility), amount of oral bacteria, tongue pressure, masticatory function, oral diadochokinesis (ODK) rate, and occlusal force/area. The unpaired t-test and chi-squared test were used to compare parameters between the healthy and the prefrail groups. The odds ratio (OR) and 95% confidence interval (CI) were calculated using a series of logistic regression models. The level of significance was set at  $p < 0.05$ .

**Results:** In males, 16 patients (35.6%) were diagnosed as those with prefrailty. There were no significant differences in oral health status and oral function between the healthy and the prefrail groups. In females, 69 patients (63.3%) were diagnosed as those with prefrailty. In the logistic analysis, prefrailty was significantly associated with ODK rate (/ta/sound) in females (OR: 0.55; 95%CI: 0.31-0.99) ( $p=0.045$ ).

**Conclusion:** The risk of prefrailty was associated with lower ODK rate in Japanese female elderly.

### Audience Take Away:

- The audience will understand the association between oral function and prefrailty in elderly.
- The presentation will help the audience to use various methods for estimating oral function in their clinical practice.
- Estimating oral function using simple instruments will be one of the keys which contribute to general health in the field of public dental health.

### Biography

Dr. Morita graduated Osaka University Dental School, Osaka, Japan at 1982. He started his research (Preventive dentistry) at Okayama University Dental School, Okayama, Japan. He received his PhD degree in 1991 at the same institution. After two-year postdoctoral fellowship supervised by Dr Folkers at the University of Texas at Austin and one-year visiting researcher at University of Michigan, he obtained the position of a Professor at Hokkaido University Graduate School of Dental Medicine, Sapporo, Japan at 2000. Then he moved to Okayama University at 2008. He has published more than 180 international research articles.

## Polymerization shrinkage, hygroscopic expansion and microleakage of resin-based temporary filling materials

Nak Yeon Cho<sup>1\*</sup>, In Bog Lee<sup>2</sup>

<sup>1</sup>Department of Conservative Dentistry, Seoul National University Gwanak Dental Hospital,

<sup>2</sup>Department of Conservative Dentistry, Seoul National University, Seoul, Korea.

**T**he purpose of this study was to measure the polymerization shrinkage and hygroscopic expansion of resin-based temporary filling materials and to evaluate microleakage at the interface between the materials and cavity wall.

Five resin-based temporary filling materials were investigated: Fermit (Vivadent), Quicks (Dentkist), Provifil (Promedica), Spacer (Vericom), Clip (Voco). Caviton (GC) was also included for comparison. Polymerization shrinkage of five resin-based temporary filling materials was measured using the bonded disc method. For the measurement of hygroscopic expansion, the discs of six cured temporary filling materials were immersed in distilled water and a LVDT displacement sensor was used to measure the expansion for 7 days. Data were analyzed with ANOVA. For estimating of microleakage, Class I cavities were prepared on 120 extracted human molars and randomly assigned to 6 groups of 20 each. The cavities in each group were filled with six temporary filling materials. All specimens were stored in saline for 4 hours and submitted to 1000 thermocycles, with temperature varying from 5°C /55°C. They were immersed in 2 % methylene blue dye for 12 hours and then sectioned with diamond saw. After temporary filling materials were removed from the cavities, the degree of dye penetration was scored. Data were analyzed with the Kruskal-Wallis test.

Fermit had significantly less polymerization shrinkage than the other resin-based temporary filling material (Fermit<Spacer<Quicks, Provifil, Clip). The hygroscopic expansion rapidly increased within 24 hrs. The hygroscopic expansion of Caviton was the highest (11.5 %). Resin-based temporary filling materials showed 0.43-1.1 % expansion in 7 days. In the microleakage study, Fermit showed the greatest leakage, while Quicks exhibited the least leakage. The microleakage of Spacer and Clip were comparable to Caviton.

There are differences in polymerization shrinkage, hygroscopic expansion and microleakage score between materials. However, there are no correlation between polymerization shrinkage or hygroscopic expansion and microleakage of resin-based temporary filling materials.

### Audience Take Away:

- Resin-based temporary filling materials also undergo polymerization shrinkage similar to restorative composite resin and it could result in formation of gap between tooth and material.
- Temporary filling materials absorb water when exposed to wet environment and expand. Most materials in this study showed hygroscopic expansion so as to compensate for polymerization shrinkage within one day.
- In further studies, it would be interesting to correlate the microleakage extent to the elastic properties and coefficient of thermal expansion of the resin-based temporary filling materials. Additionally, the effect of mastication on marginal adaptation of the resin-based temporary filling materials needs to be considered to study.

### Biography

Dr. Nak Yeon Cho<sup>1</sup> has completed her PhD in Conservative Dentistry from Seoul National University in Korea. She is a Clinical Associate Professor of Conservative Dentistry at Seoul National University Gwanak Dental Hospital in Korea.

## Caries prevalence and gingivitis of preschool age children in community homes of the Cauca valle and related social factors

**Jairo Corchuelo Ojeda**

Public Health Sciences, School of Dentistry, University of the Valley, Cali – Colombia

**D**ental caries and gingivitis is a public health problem due to its high frequency in the population and the costs they imply for society. Caries studies in recent decades in the population under six years of age have found a prevalence in a range between 20 and 70%. The objective of the study was to describe caries indicators as index and level of POPs, history of caries, prevalence of dental caries and prevalence of gingivitis in children in some community homes in six municipalities of Valle del Cauca, Colombia

### Materials and Methods

A cross-sectional study was conducted in 982 children from 11 community homes selected by simple random sampling; the presence of gingivitis and the community plaque index (CPI) were recorded; The DMF index and the modified DMF index were registered according to a clinical instrument provided by the Ministry of Social Protection of Colombia. The estimators were calculated taking into account the design, using the statistical program SPSS version 19

### Results:

A prevalence of gingivitis of 30.8% and a plaque index of 41.3% were found (95% CI 40.4-42.5). Only 2.2% of the children evaluated had an acceptable plate index. The highest prevalence of gingivitis was related to the Afro-descendant population, poor oral hygiene of the preschool children and poor knowledge of oral health by the community mothers of the homes evaluated. A caries prevalence of 45.6% was found (caries with or without cavitation). The DMF index was 1.7 (95% CI: 1.5-1.9) in the population of two to five years and increased to 2.3 including the modified DMF index (caries with and without cavitation). In the simple regression analysis, the type of social security, ethnicity and age were correlated with the DMF level

### Conclusions:

A high prevalence of gingivitis was found related to high levels of bacterial plaque and the presence of caries, which reflects the poor response of health services to the oral problems of preschoolers.

This study found a prevalence and history of caries in the preschool population lower than that reported in the III National Oral Health Study in the population of five years and also lower than the results reported in the IV National Oral Health Study to the three and five years.

**Keywords:** gingivitis, oral hygiene, oral health, dental plaque index, Prevalence, dental caries, DMF index, socioeconomic factors

### Audience Take Away:

- The dentist can begin their prevention activities in preschool children.
- Attendees will have information with scientific evidence to use with the personnel involved in the care of the children.
- Health personnel can prioritize the use of indicators for caries, gingivitis and dental plaque in daily consultation and monitor the hygiene of prevention programs.
- This evidence promotes the monitoring of oral health promotion and disease prevention programs.
- Teachers will be able to participate in multicenter research on the participation of caregivers in the oral health of children

### Biography

Professor of Dentistry at the School of Public Health at the University of Valle, with a doctoral degree in Public Health Sciences at the University of Guadalajara (Mexico), a Master's Degree in Health Administration from University of Valle (Colombia), Specialist in Finance of the Libre University (Colombia), Specialist in Strategic Management in Information Systems of the University of Santiago de Cali (Colombia) and Academic Stay in Dental Public Health at the University College of London.

At the professional level he has been a public health advisor and manager in Hospitals of different levels of care. I have participated in the direction of the National Survey of Health, Welfare and Aging Colombia 2015. He is currently managing the Oral Health Research Group Pacific Siglo XXI. He participated as a tutor in the virtual campus of Public Health of the Pan American Health Organization in the course of Social Determinants in Health.

## **Assessment of Oral hygiene status and Periodontal health of mentally and physically challenged children attending special schools in Riyadh region, KSA**

**Alqahtani Tareq**  
Ministry of Interior, Saudi Arabia

### **Brief resume of the intended work:**

**1. Need for the study:** Dentists today are becoming more aware of the needs of mentally and physically challenged children, although it has been observed that very few children with these conditions seek the services of dental professionals. However, only few investigations have been done to throw light onto the oral condition of these children.

A study of the oral condition of these special children is of great importance because these are conditions brought about by the lack of manual dexterity, which can be prevented with proper research and investigations into the field.

The purpose of this study is to assess the oral hygiene status and periodontal health of mentally and physically challenged children and to give suggestions for improving their oral health.

### **2. Review of literature:**

A study has shown that the need for extractions and complicated restorations was highest in older patients, while the removal of sub- and supragingival calculus was the most common periodontal treatment need. 1

A study has shown that bleeding and calculus components were higher than the healthy components in children suffering from different handicapping conditions studying in various schools in Bombay and almost all the children required treatment in the form of prophylaxis and oral hygiene instructions. 2

A study has shown that oral hygiene in mentally handicapped school children aged 6- 15 years in a Nigerian population was poorer than in normal population.3

A study among 25 institutionalized mentally handicapped school children in Ibadan, Nigeria has shown that none of the children had healthy periodontium and all the children needed oral hygiene care with a significant percentage requiring complex periodontal care. 4

A study has shown that oral hygiene was insufficient in all handicapping conditions studied. 5

### **3. Objectives of the study:**

- 1) To assess the oral hygiene status of the study group.
- 2) To assess the periodontal health of the study group.
- 3) To assess the treatment need and recommend accordingly.

### **4. Methodology:**

#### **4.1 Source of data:**

The subjects attending the special schools in Riyadh at the time of visit will be selected for the study.

#### **4.2 Clinical Protocol:**

1. Subjects will be selected after getting written consent from Parent/ Guardian.
2. Children with sound systemic health will be selected.
3. Children with index teeth not fully erupted will be excluded.

#### **4.3. Method of collection of data:**

A questionnaire will be designed and standardized, which consists of 2 parts.

First part will contain personal information including Medical history, Family history, and Oral hygiene Practices which will be filled by attendants (Parent/ Guardian/ Teacher).

And the Second part will have data drawn from clinical examination.

The examination will be carried out at the respective School's outdoor using direct sunlight as source of light with the aid of mouth mirrors, explorers, and CPITN probes.

The Oral Hygiene Status of each child will be assessed using Oral Hygiene Index – Simplified (OHI-S) of Green and Vermillion, (1964).

The prevalence of caries will be assessed using dmfs index.

The Periodontal Health of each child will be assessed using CPITN index (1982).

The data will be entered in Microsoft Excel Sheet and assessed statistically.

No investigations or interventions to be conducted on these kids



DAY 3

KEYNOTE FORUM

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### Biography

Professor Zvi Loewy, a senior academic leader and an experienced global pharmaceutical – biotechnology executive leverages a diversified background in big-pharma senior management, biotech startup creation and academia. Dr. Loewy is a true visionary, who has been the key inventor on many patents including human DNA identity assays, fully integrated molecular diagnostic platforms, innovative medical devices and consumer healthcare products.

Dr. Loewy's international experience has included leading international research teams; championing the penetration and commercial launch of consumer healthcare products in China and developing markets; and leading open innovation in the Mid-East.

Professor Loewy received his education at Rensselaer Polytechnic Institute and at the Albert Einstein College of Medicine. Dr. Loewy is on the faculty of the Touro College of Pharmacy, New York Medical College and Drexel University; is on the boards of the Jerusalem College of Technology and the New Jersey Technology Incubator; and is an Editor of the Journal of Prosthodontics. Professor Loewy has published broadly and has over 25 issued patents.

## Oral biofilms: Novel methods to control pathogenesis

### Zvi loewy

New York Medical College, USA

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:

- 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.



### Biography

Dr. Mohamed Shehab is currently working as Associate professor at the Department of Oral & Maxillofacial Surgery, Faculty of Dentistry, Cairo University. He received his PhD in Oral & Maxillofacial Surgery from Cairo University at 2010 and his Master's degree at 2007. He accomplished his Fellowship in Oral and maxillofacial surgery at Case Western Reserve University (CWRU), Cleveland, Ohio, USA at 2012. Dr. Shehab has authored several publications in various journals and is also a reviewer in different local and international journals. Dr. Shehab is currently the chairman of the scientific committee at the Egyptian Dental Association (EDA), and Chair of the University Hospital OR Unit at the Faculty of Dentistry, Cairo University.

## Computer-guided applications in oral & maxillofacial surgery: From virtual planning to clinical reality

### Mohamed Shehab

Cairo University, Cairo, Egypt

The applications of computer-aided design and manufacturing techniques have been used over the past 20 years to assist and guide complex surgical repairs. The three dimensional (3D) surgical planning has wide applications in the field of oral and maxillofacial surgery, including orthognathic surgery, reconstructive surgery, Dental Implants, trauma, etc. Pre-surgical planning softwares allows the surgeon to import two-dimensional computed tomography (CT) data and generate a precise three-dimensional virtual representation. The proposed surgical planning can then be performed in a virtual environment prior to the actual procedure. The 3D printed surgical guide splints and patient specific implants using stereolithographic and rapid prototyping techniques generated after virtual planning will soon be considered state of the art in the field of oral and maxillofacial surgery.

#### Audience Take Away:

- Will identify the benefits of using computer assisted pre-operative surgical planning.
- Will recognize the recent applications of CAD/CAM techniques including surgical guide splints and patient specific implants in the field of oral and maxillofacial surgery.
- Will improve their awareness about the importance of virtual treatment planning and its benefits prior to different surgical procedures.
- Will be exposed to different surgical cases treated with the aid of computer surgical softwares.
- Will learn about the cons and pros of computer guided surgery.

SPEAKERS

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## Oral health and dental treatment for people with dementia

**Alexander Schembri**

University of Malta, Malta

People with dementia may no longer have or will reach a stage when they no longer have the ability to voice their needs for oral care and treatment, carry out daily oral hygiene to a level that prevents disease, make informed choice and give valid consent for treatment. This may have a negative effect on the oral health of the individual and on the quality of life. Thus to contribute to maintain an acceptable quality of life of persons with dementia, the dental team has the specific role to keep them free of oral infections, restore their dentition so they can enjoy eating, maintain speech and aesthetics as long as possible.

### **Audience Take Away:**

- 50 million people in the world have dementia and this number will increase further as the world populations continue to age. (World Alzheimer report 2018)
- Dentists will face the challenges of providing dental treatment to such persons who may no longer have, or will reach a stage when they no longer have the ability to voice their oral health care needs, carry out daily oral hygiene, make informed choice and give valid consent for treatment. Besides, the dental team will encounter various barriers in providing dental treatment to persons with dementia

### **Biography**

Graduated in 1989 Bachelor of Dental Surgery, post graduate diploma in Gerodontology and Geriatrics in 1993 and Masters in Gerodontology and Geriatrics in 2003 from the University of Malta. Inducted fellow of FICD in 2016. Founder member of the Maltese Association of Geriatrics and Gerodontology. Past president of the European College of Gerodontology ECG 2016/17. Visiting lecturer at University of Malta and responsible for the teaching of Gerodontology. Author of the children's book "Id-dentatura tan-nanna" (Grandma's dentures). Awarded Best Elderly Oral Healthcare Initiative at the Oral Health & Dentistry Awards 2018.

## Oral dysfunctional occlusion related to periodontal problems

Vinicius Gomes Machado\*, Adolfo Coutinho Martins<sup>2</sup>, Fausto Frizzera<sup>3</sup>, Marco Antônio Masioli<sup>4</sup>, Bianca M. Vimercati<sup>5</sup>, Hindra Colodetti<sup>6</sup>

Invited professor of Restorative Dentistry of the post-graduation Specialization course of Brazilian Dental Association at the state of Espírito Santo/ ABO-ES

<sup>2</sup>.Professor of Restorative Dentistry at ESFA

Invited professor of restorative Dentistry of the post graduation Specialization course of Brazilian Dental Association at the state of Espírito Santo/ ABO-ES MSc in Restorative Dentistry at - Federal Fluminense University Specialist in Restorative Dentistry at ABO-ES

<sup>3</sup>.MSc and Specialist in Periodontology at São Paulo State University - UNESP. PhD in Implant Dentistry at São Paulo State University - UNESP. Full Professor of Periodontology and Implant Dentistry at FAESA.

Professor of Implant Dentistry of the post graduation Specialization courses of Brazilian Dental Association at thstate of Espírito Santo/ ABO-ES Author of the book "Esthetics Integrated in Periodontics and Implant Dentistry" published by Quintessence Publishing Brazil and Napoleão Publishing.

<sup>4</sup>.PhD in clinical dentistry at Federal university of Rio de Janeiro (UFRJ). MSc in restorative Dentistry at Estadual University of Rio de Janeiro (UERJ). Assistant professor of Dental Photography, Restorative and Prosthetic Dentistry at Federal University of Espírito Santo (UFES).

Professor of Restorative Dentistry of the post-graduation Specialization course of Brazilian Dental Association at the state of Espírito Santo/ ABO-ES

<sup>5</sup>.PhD in restorative dentistry at State University of Rio de Janeiro (UERJ). MSc in restorative dentistry at state University of Rio de Janeiro (UERJ). Specialist in restorative dentistry at Federal University of Espírito Santo (UFES). Professor Of dental sculpture, pre-clinical and clinical Restorative Dentistry at Vila Velha University - UVV.

Professor of Restorative Dentistry of the post-graduation Specialization course of Brazilian Dental Association at the state of Espírito Santo/ ABO-ES MSc at State University of Rio de Janeiro (UERJ). Specialist in restorative dentistry at ABO-ES (EAP / ABO-ES). Professor of Dental Sculpture, Restorative Dentistry and Integrated Clinics at São Francisco de Assis Superior School-ESFA.

<sup>6</sup>.Professor of Restorative Dentistry of the post-graduation Specialization course of Brazilian Dental Association at the state of Espírito Santo/ ABO-ES

**P**remature contacts and occlusal interferences during occlusion and function are known as causes of different problems on stomatognathic system. These problems goes from an acute periapical cementum inflammation to articular disfunction, and may promote dental tissue loss (non-carious cervical lesions) need of endodontic treatment, root resorption or fracture, periodontal tissue loss and tooth extraction. Several cases are associated with pain.

In June, 2018 the American Academy of Periodontology and the European Federation of Periodontology published the proceedings of world's workshop for classification of periodontal and Peri-Implantar diseases and conditions. The occlusal trauma was included in the consensus report regarding the periodontal manifestations of systemic diseases and developmental and acquired conditions. This paper fortunately recognized the relationship between traumatic occlusal forces and it's impact on the injury of both teeth and periodontal tissue.

A stable occlusion must prevent these problems. Posterior contacts during protrusion, non-working contacts during excursive movements, posterior support loss and anterior guidance loss, class II and III malocclusions (where anterior guidance is even poorer). In older patients in which dental surfaces are worn out in anterior teeth and tooth loss is common, improperly contacts may occur. All described types of contacts may accelerate or, in some moment, cause periodontal tissue loss by misapplication of forces overcharging the system.

The planning and execution of rehabilitation should consider those concepts to aim longevity and to preserve all the surrounding tissues. The clinicians executing rehabilitation through fillings, crowns, and orthodontics must consider and understand that.

A properly occlusal diagnostic can prevent tooth loss and periodontal tissue's problems.

### Audience Take Away:

- How to analyze patients' occlusion and the possible connection between inappropriate occlusal contacts and periodontal problems. Plus showing a case series with follow up to illustrate the results.
- How to properly adjusting dental works and dental tissues to prevent traumatic contacts.
- Which kind of contacts must be avoided.
- What we can change to make occlusion better. And how to do it..
- How to analyze and adjust carbon marks.
- By understanding these concepts we can obtain a better approach to direct and prosthetic restoring and rehabilitations, aiming longevity and protection of involved tissues. Develop diagnostic thinking in Periodontology, enhancing the accuracy to detect when traumatic occlusion can be a main factor of the problem.

### Biography

Dr. Vinicius was graduated in dentistry at Federal University of Juiz de Fora in 2001, during graduating participated of Saad – neo (assistance service

to the diagnosis Of neoplasias) extension program. Specialist in implantology in 2007 at Brazilian Dental Association at the state of Minas Gerais , EAP-ABO/MG Muriaé-MG.

Post graduated in restorative dentistry at EAP/ABO-ES with Marco Masioli's team with which he published the chapter "The challenge of color in aesthetic dentistry" at pro-Odonto Aesthetics post-graduation program.

Specialist in Dentistry in 2016 at EAP/ABO-ES, where he became invited professor.

## **Proliferation, viability and collagen secretion by fibroblasts on titanium surfaces treated with different acid-etching protocols: an in vitro study**

**Vilton Zimmermann de Souza\***, Msc ;**Elizabeth Ferreira Martinez**, PhD; **Rafael Manfro**,Msc  
São Leopoldo Mandic , Joaçaba-SC, Brazil

**F**rom the consolidation of surface treatments of dental implants and knowledge of the cellular mechanisms of osseointegration, studies have highlighted the importance of sealing connective tissue and implant, in order to avoid contaminants from the oral environment and biofilm installation. The lecture promotes a contemporary discussion about the use of dental prosthetic components with or without surface treatment. Based on scientific evidence and our in vitro study, we evaluated whether different titanium surface treatments promoted by acids at different times promote increased secretion, proliferation and viability of collagen fibroblast cells.

### **Audience Take Away:**

- The lecture promotes a contemporary discussion about the use of dental prosthetic components with or without surface treatment. From the consolidation of surface treatments of dental implants and the knowledge of the cellular mechanisms of osseointegration, implants research converged to the study of the sealing between bone tissue and the surface of the implant, even knowing that the epithelium acts as a first barrier, avoiding the tendency of the epithelium to migrate apically . Osseointegration is of utmost importance in the success of dental implants, but the biological sealing of the perimplantar connective tissue is crucial to maintain the long-term success of dental implants. Contemporary studies have shown that different types of prosthetic abutments in dental implants may provide a benefit to the connective tissue in contact with the prosthetic abutments. However, further human studies should be performed to obtain more evidence of these results, obtaining several possibilities for new studies.

### **Biography**

Graduate in dentistry, Master and specialist in implantology and.Specialist in dental prosthesis.

## Solubility of bio-ceramic root canal sealer in comparison with other endodontic sealers (an in vitro study)

**Israa Al Ayoobi**

College of Dentistry in Fujairah, United Arab Emirates

### Aim of study:

Highly soluble root canal sealers are never recommended as they often lead to gaps between the root canal filling material and the root dentin that might affect the final outcome of the root canal treatment. The aim of this study was to evaluate & compare the solubility of Bio-ceramic root canal sealer with calcium hydroxide and resin root canal sealers.

### Materials & Method:

Three types of sealer materials had been selected for this study: Bio-ceramic-based sealer.(Bioroot,USA), Resin-based sealer.( Tgadseal , London ,United kingdom ) and Calcium hydroxide sealer.(Metapex, Chungcheongbuk-do , Korea). For each sealer material, a total of 10 disk shaped specimens were prepared using a stainless steel mold of 20 mm diameter 1.5 mm thickness. All the sealers were mixed according to manufacturer's instructions. The material were placed into the mold and pressed between two plastic celluloid strips and glass microscopic slides under hand pressure to extrude any excess material. After specimens were removed from the mold, any excess material was removed. All The sealers samples were subjected to water solubility test.

All samples were set into an incubator at 37°C and >95% relative humidity (Thermo Fisher Scientific, Waltham, MA, USA) for a period corresponding to three times the setting time. The excess of water was removed with absorbent paper and the samples were weighed 3 times. The average reading was recorded to 3 decimal places. The samples were placed two by two into a Petri dish containing 50 mL of distilled water and transferred into the same incubator at 37°C and

>95% relative humidity for 24 hours. After incubation time, the samples were rinsed with 3 ml of distilled water and the washings were allowed to drain back into the Petri dish, and the Petri dishes were dried in an oven at 105 °C for 48 hours (Thermo Fisher Scientific, Waltham, MA, USA), cooled down in the same desiccator and reweighed by using the analytic balance. The values of solubility S were calculated using the following International Standards Organization (ISO) 6876 method and with the American Dental Association (ADA) specification No. 57.  $S = (m_0 - m_1) \times 100m_0$

$m_0$  is the specimen mass before immersion(mg),  $m_1$  is the specimen mass after immersion (mg).

For each group the means and stander deviations for solubility were calculated. Analysis of variance (ANOVA) was applied to determine whether significant differences existed among the groups Significance for all statistical tests was predetermined at  $P < 0.05$ .

Results: All the tested materials demonstrated different degrees of solubility. One way analysis of variance (ANOVA) revealed that, there was a statistically significant differences between the three sealer groups being tested ( $P \leq 0.05$ ).

Conclusion: The study indicated that, resin-based sealer has low solubility values followed by Bio-ceramic and calcium hydroxide which exhibited the highest solubility values.

**Key words:** Solubility , Resin-based sealer , Bioceramic-based sealer , Calcium hydroxide sealer.

## The use of laser therapy in Dentistry

Neliana Salomao Rodrigues<sup>1\*</sup>; Ramos, T.R<sup>2</sup>; Sader, G<sup>3</sup>.

<sup>1</sup> Department of Pathology and Stomatology, University Center- Unifaminas, Muriaé-MG, Brazil.

<sup>3</sup> Department of Stomatology, Dentistry School-UERJ, Rio de Janeiro-RJ, Brazil

<sup>2</sup> Graduate student of dentistry, Universidade Nova Iguaçu - Campus V, Itaperuna / RJ.

The current trend in dentistry is the incorporation of less invasive and innovative methods in order to minimize pain and discomfort during and after dental interventions. Thus, it is believed that laser therapy is an excellent treatment option, since it has beneficial effects on the irradiated tissues, such as microcirculation activation, vascular permeability, anti-inflammatory and analgesic effects, as well as stimulating growth and cellular regeneration. The understanding of the interaction between lasers and tissues is mainly based on the understanding of the reactions that can be induced in these tissues by laser light. This work aims to demonstrate the relevance of the physical properties of the laser as well as its interaction with the biological tissues. Low-level laser can be safely applied to accelerate the resolution of pain, cutaneous wounds and others, although this fact is closely related to the election of parameters such as doses, time of exposure and wavelength. The quality of life improved after the sessions of laser therapy and it can be seen that the most significant changes occurred in areas related to pain, appearance, swallowing, chewing, speech, taste and salivation, corroborating for the studies that indicate low laser power as efficient tool in Dentistry.

### Audience Take Away:

- The word laser corresponds to an acronym consisting of the first letters of light amplification by stimulated emission of radiation, which means “amplification of light by stimulated emission of radiation”. Knowing the ability of the laser to provide the body with a better response to inflammation, with consequent reduction of edema, minimization of painful symptoms and cellular biostimulation, laser therapy presents itself as an alternative for processes that present inflammatory reaction, pain and the need for tissue regeneration.
- The radiation emitted by the low power lasers has demonstrated analgesic, anti-inflammatory and cicatrizing effects and is therefore widely used in the tissue repair process, due to the low energy densities used and wavelengths capable of penetrating the tissues.
- The tendency of dentistry is the incorporation of less invasive methods in order to minimize pain and discomfort during and after dental interventions. Therefore, it is believed that laser therapy is an excellent treatment option, since it has beneficial effects on irradiated tissues, such as activation of the microcirculation, production of new capillaries, anti-inflammatory and analgesic effects, as well as stimulation growth and cell regeneration

### Biography

Graduated in Dentistry from Universidade Federal Fluminense, Nova Friburgo-RJ, Brazil.

Specialist in Estomology at the State University of Rio de Janeiro, Rio de Janeiro-RJ, Brazil.

Master in Stomatology at Aracatuba School of Dentistry, Unesp – Univ Estadual Paulista, Araçatuba-SP, Brazil.

Coordinator of the Dentistry course in University Center Unifaminas- Muriaé-MG, Brazil.

Adjunct Professor in Stomatology and Oral Pathology at University Center Unifaminas-Muriaé-MG, Brazil

## Evaluation of bleeding as a method of immediate control of blood pressure in patients submitted to dental procedures

Andrea Gomes Dellovo<sup>1\*</sup>, Fernanda Gama VENCESLAU<sup>1</sup>, Klinger de Souza AMORIM<sup>1</sup>, Rodrigo Pimentel da SILVEIRA<sup>1</sup>, Francisco Carlos Groppo<sup>2</sup>, Liane Maciel Almeida SOUZA<sup>1</sup>

<sup>1</sup>Department of Dentistry, Federal University of Sergipe, Aracaju, Sergipe, Brasil

<sup>2</sup>Dentistry College of Piracicaba, FOP, UNICAMP, Piracicaba, São Paulo, Brasil

**H**igh blood pressure, even in controlled hypertensive patients, is a risk factor that makes it impossible to perform the dental treatment that requires anesthesia. Traditional Chinese Medicine has studies and techniques for the control of blood pressure, among them is bleeding at the apex of the ear, which has as one of the functions hypotension. To evaluate the immediate control of blood pressure by means of bleeding technique and to evaluate if the pressure is maintained throughout the dental treatment. This was an experimental human clinical trial of a quantitative nature in 65 volunteers who were previously with blood pressure above 140/90mmHg. These had the pressure measured 5 minutes after the first measurement and then performed bleeding. Subsequently the pressure was measured 15 minutes after bleeding, after anesthesia and at the end of the procedure. There were significantly more successes than failures. In addition, there was clearly sex influence with higher failure rates in men. In those who were successful, the pressure remained at the recommended levels after anesthesia and at the end of the procedure. The technique of bleeding at the apex of the ear was able to reduce the pressure satisfactorily in most cases, remaining at the recommended mean levels even when verified after anesthesia and at the end of the procedure.

### Audience Take Away:

- The audience will learn an alternative treatments for reducing blood pressure for dental procedures that require anesthesia
- There are no reports in the literature that associate the bleeding technique with any type of undesirable effects and can be safely used in the dental office, providing a practical solution to a problem that could simplify or make a designer's job more efficient
- There are few studies in the literature and this study could stimulate new research

### Biography

Dr. Andrea Gomes Dellovo studied Odontology at the Federal University of Sergipe, Brazil and graduated in 2017. She is a master student in dental prosthesis at the São Leopoldo Mandic, Campinas, Brazil.

## The use of LED phototherapy to reduce orthodontic pain

Taiana Oliveira Baldo<sup>1\*</sup>, Daniella Prado Ferreira<sup>2</sup>, Renata de Faria Santos<sup>3</sup>, André Tortamano<sup>4</sup>, Gladys Cristina Dominguez<sup>5</sup>

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5.Department of Orthodontics. Dental School of University of São Paulo. São Paulo / SP – Brazil

The discomfort of pain during orthodontic treatment is one of the main complaints among patients. However, there are few clinical reports using LED devices to reduce pain. The presentation will discuss the study that evaluated the effect of LED phototherapy as a method for reducing orthodontic pain. Fourteen patients (13 -18 years old; mean, 15.2 years) underwent extraction of their four first premolars and were randomly divided into two groups: LED group (LEDG) consisted of 7 patients (5 male, 2 female) who performed daily self-application of LED (850 nm) during the anterior retraction phase, and control group (CG) consisted of 7 patients (5 male, 2 female) who did not use LED during the same phase. All patients completed a survey for 7 consecutive days after every retraction activation for a period of 4 months (T1, T2, T3, and T4) to quantify the pain experienced using a score from 0 to 10. The results showed a statistically significant difference between the two groups on days 1 and 2 in T3 and in the mean pain scores for LEDG and CG, using the four surveys, with significantly lower values in the LEDG. Although the difference was not statistically significant at T1, T2 and T4, there were numerically different results regarding the reduction of pain with the use of the LED device after orthodontic activation, since pain scores for LEDG were numerically lower than the CG scores at all evaluated timepoints, indicating that LED therapy was effective in reducing pain in this study.

### Audience Take Away:

- It is well-known that pain and discomfort are major concerns for patients who are starting orthodontic treatment and can both discourage patients from initiating treatment and reduce patient compliance. This study indicated that LED therapy is an effective alternative to reduce orthodontic pain.
- LED devices are simple, practical and lower cost options compared to lasers, which makes them quite feasible in clinical practice.
- The LED procedure was easily performed by the patient, who was capable of performing the self-treatment for 10 minutes per day at home after receiving the appropriate usage guidelines. In that way, LED therapy did not require extra chair time.
- There are controversies in the literature about the efficacy of LED phototherapy. Probably because of the lack of methodological standardization of the studies, the results are still controversial. Thus, studies should be based on published methodologies to enable future comparisons.

### Biography

Dr Taiana Baldo graduated in Dentistry at the Bauru Dental School, University of São Paulo in 2007 and received the “Prof. João Sampaio Doria Award” for having graduated as the best student of the 43rd class. She received her M.Sc. degree in Orthodontics in 2011 at the same institution. She completed update in Orofacial Pain with Bauru Orofacial Pain Group at University of São Paulo in 2014. She is currently completing her PhD in Orthodontics at Dental School of University of São Paulo. Associate Professor of Orthodontics at “Association of Dental Surgeons of Santos” since 2016.

## Early diagnosis of Paracoccidioidomycosis from oral lesion

Patricia Fernandes Avila Ribeiro,<sup>1\*</sup> Guilherme Zanella<sup>2</sup>, Silvio Avila Junior<sup>3</sup>, Ana Carolina Conti<sup>4</sup>

<sup>1</sup>Department of Dentistry, Universidade do Extremo Sul Catarinense, Criciúma, Santa Catarina, Brasil

<sup>2</sup>Dentist, Criciúma, Santa Catarina, Brasil

<sup>3</sup>Department of Pharmacy, Universidade do Extremo Sul Catarinense, Criciúma, Santa Catarina, Brasil

<sup>4</sup>Department of Dentistry, Universidade do Extremo Sul Catarinense, Criciúma, Santa Catarina, Brasil

**P**aracoccidioides brasiliensis infection is a clinical occurrence that has drawn attention to the health services in their specialties by having increased the number of cases in recent times. Among the listed specialties is dentistry, where some findings of the case are presented in this paper. A 56-year-old woman, smoker, visited the dental health service of a town located in the South of Brazil, without exposure to any factor that can conduce to the development of the disease. The present study describes the occurrence that was elucidated with the use of the histopathological examination as a diagnostic tool for fungal infection in patients immunosuppressed or not. The case has presented by a main lesion, painless ulcer in the gingiva between the lower incisors, the furrow fund, with a duration of 15 days. After the diagnosis of Paracoccidioidomycosis, patient was referred to an infectious physician who, through imaging exams, detected outbreaks of the infection in the lungs. The patient started the treatment and is being kept in control. As conclusion we can affirm that the early diagnosis of this disease is essential to conduce to appropriate therapy, which will contributes to avoid serious sequelae or even death, when used in conjunction with other professionals, applying the science of interdisciplinarity, it is possible to enhance diagnostic tools, guaranteeing a better use of the treatment possibilities, accelerating the healing process and consequently giving the patient the functionality of the affected tissues and quality of life.

### Audience Take Away:

- The Knowledge of systemic diseases that may present with oral manifestations is extremely important in daily clinical practice.
- Using aspects of fungal infection, the characteristics of the lesion and the clinical history to close the diagnosis.
- The importance of the dentist in the diagnosis of paracoccidioidomycosis due to the frequency of their oral manifestations, after the sub-clinical stage of the disease.
- The importance of multidisciplinary work.
- How to manage and follow a case of fungal infection.

### Biography

Mrs. Patricia graduated in dentistry at Universidade Federal de Santa Catarina, Brazil, 1999. Specialized in dental radiology, at Associação Brasileira de Ensino Odontológico, São Paulo Brazil, 2005; Improvement course in computed tomography of cone beam at FUNDECTO, Universidade de São Paulo, São Paulo, Brazil, 2006; Master's Degree in Oral Pathology and improvement course in stomatology at Faculdade de Odontologia São Leopoldo Mandic, Campinas, São Paulo, Brazil, 2015. Doctor student in dental radiology, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil. Since 2012, teaches Oral Diagnosis and Oral Pathology at Universidade do Extermo Sul Catarinense, Criciúma, Santa Catarina, Brazil.

## PLA (Polylactic Acid) scaffold printed by 3D technologie and funcionalized by plasma of oxygen

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**Introduction:** The purpose of tissue engineering is to repair, replace, create or regenerate tissues and organs. To this end, PLA (Polylactic acid) meets the interesting physical properties, as well as biodegradability and biocompatibility. To create a scaffold with PLA, we use rapid prototyping. This new field of research is a versatile technique for generating large quantities polymer shapes and sizes. To promote and increase properties such as hidrofilicity, adhesion and proliferation, we must work the surface with oxygen plasma. Nowadays, it is necessary to have biomaterial, which allows tissue engineering to construct and mold for 3D technology to support cells to repair organs with biocompatibility, chemical and physical properties that make it possible for the surface to be functionalized.

**Objectives:** The goal of this study is to develop polylactic acid scaffolds printed by 3D printing (PLA) by superficially functionalizing the scaffold with oxygen plasma to increase the fixation and growth of osteocyte cells.

**Materials and methods:** To obtain the scaffold we used FDM 3D printer (condensed deposition model), called Good 3D printing, model Stella, Curitiba-PR, Brazil. With a 0.2 mm nozzle and a first layer temperature of 200°C and subsequent layers of 195°C. The scaffolds were modeled (10 mm in diameter x 1 mm in height) in Autodesk Inventor CAD software and exported in the format STL. Movitech filament with a diameter of 1.75 mm was used for the extrusion of PLA.

To increase the roughness, we used the functionalization of the oxygen plasma on the surface of the scaffold. The system consists of a stainless steel reactor (~ 5.2 x 10<sup>-3</sup>m<sup>3</sup>) containing two circular electrodes parallel with 11.9 cm in diameter, separated by 5cm.

**Results:** We evaluated the contact angle (water) and it showed 38.95°; 16.5 °; 13.31°; 8.63 °; 29.88 ° for the times of 1 min, 5 min, 10 min and 20 min respectively. Analyzing the results of the contact angle, we realized that the functionalization through oxygen plasma provided the surface of the PLA greater hydrophilicity. We used AFM atomic force microscopy to investigate surface roughness and reached up to 450% increase on the scaffold compared to untreated scaffold. We also noticed that increased roughness, caused by oxygen plasma, increased cell adhesion and proliferation on the scaffold. Conclusions - It is understood that the scaffold obtained by extrusion of 3D printing with PLA and functionalized with oxygen plasma promotes a better control of shape and size of the organ or tissue to be built and mimics of the extracellular matrix.

### Biography

I'm a dental implant specialist by Uningá/Bauru –São Paulo – Brazil since 2011.

I have a master of a degree in odontology sciences with an emphasis in implantology by the University of Araraquara – São Paulo – Brazil.

Currently, I'm studying for a Ph.D. at the University of Araraquara – São Paulo- Brazil where I have been conducting a research with polymer biomaterial and additive manufacturing. We print a 3D scaffold of PLA (polylactic acid) and make functionalities in their surface to optimize osseointegration and biocompatibility of the material to the human body.

My research line is to study bone substitutes: beta-tricalcium Phosphate, lyophilized xenogenic bone, and natural polymers. Therefore my research area is Dental Biomaterials and Bioengineering

## Photobiomodulation therapy in the treatment of oral mucositis, dysgeusia and oral dryness as side-effects of head and neck radiotherapy in a cancer patient: Case report

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**S**uccessful management of oral mucositis, dysgeusia and oral dryness was made with five sessions of photobiomodulation (PBM). Methods: The severity of oral mucositis was measured according to the World Health Organization scale for the assessment of oral mucositis. Dysgeusia testing was performed according to the International Standards Organization (ISO). For the assessment of oral dryness or hyposalivation, quantity of the total resting and stimulated saliva was measured. Photobiomodulation parameters, applications, and treatment protocol used were suggested by an international multidisciplinary panel of clinicians and researchers with expertise in the area of supportive care in cancer and/or PBM clinical application and dosimetry.

**Results:** Five sessions of PBM were made with a 24 hours between each. Oral mucositis that was 2 before treatment dropped to 0 after treatment World health organization scale). Dysgeusia was back to normal: patient scored 5/5 on the ISO test. Quantity of saliva (Q-sal, mL/min) increased from respectively 0.05 and 0.11 for the resting and stimulating saliva to 0.12 and 0.27 respectively. Conclusion: This case report confirms the effectiveness of photobiomodulation therapy in the management of oral mucositis, dysgeusia, and oral dryness.

**Key words:** Photobiomodulation, head and neck radiotherapy, oral mucositis, dysgeusia, hyposalivation, cancer.

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### Audience Take Away:

- Understand the key components of cognitive behavioral therapy for insomnia (CBTI)
- Learn an effective behavioral medicine strategy for treating chronic insomnia as an alternative to initiating sleep medication
- Practical steps for implementing CBTI for the purpose of reducing sleep medication usage in conjunction with a sleep medication taper regimen

## Periodontal disease and its relationship with the population determinants in Argentina

**Gustavo Feser\*, Esteban Funosas, Ileana Boccio, Ivette Dulong, Virginia Antuña, Anabella Quintero, Andres Barros**  
Periodontal Chair, School of Dentistry, National University of Rosario, Rosario, Santa Fe, Argentina

**P**eriodontal disease is one of the most prevalent diseases worldwide. In spite of the efforts made to try to reduce the tooth loss that this pathology causes, even today the consequences from the functional and the aesthetic reach a large part of the population of developed or developing countries. Despite having an infectious cause, it is not only that, the only one to neutralize to diminish the negative impact of the pathology. Environmental factors and inherent to humans also play a role of importance for the development or outcome to a more severe disease that ends with greater tooth loss in patients who are affected. At this point the monitoring of populations that are affected by periodontal diseases and the knowledge of their evolution and their relationship with the different environmental variables make us rethink that treatments should be made with a critical look and not only focused on the infectious factor but also to the aspects that involve the individual as a social being. The work addresses our research in the follow-up of periodontitis of different levels of severity and its different levels of care in reference to people who correspond to different social levels and therefore different access to health care means. Involves not only the treatment from the initial phases but also the monitoring of more than 15 years performed on teeth and osseointegrated implants.

### Audience Take Away:

- Know the evolution of periodontal disease in different human groups.
- Know the evolution of the treatments that were performed.
- Understand the risk paradigm in relation to the environmental factors involved.
- It is useful to share knowledge with other universities and study centers.
- Application of our results for the private clinic

### Biography

Gustavo Feser studied at the Faculty of Dentistry of the National University of Rosario and graduated in 1994.  
Professor in this University.  
PhD in dentistry.  
Researcher Category III. Co-director of the Research Area.  
Specialist in Periodontics by the Argentine Society of Periodontology.  
Author of research and clinical works in national and international journals.  
Member of the Latin American Network for Community Research on Periodontal Diseases.  
President of the Periodontics and Implant Group of the Argentine Society of Dental Research. IADR  
Director of PERIOTEAM5 clinical group and research in periodontics and implants.  
Evaluator of research work at the Argentine Society of Dental Research

## Perceptions, knowledge and attitudes of health professionals and health-school's student about the oral health of pregnant women

**Jairo Corchuelo Ojeda**

PhD Public Health Sciences, School of Dentistry, University of the Valley, Cali – Colombia

This study seeks to determine the level of understanding regarding oral health in expectant mothers and its relationship to complications during birth between health's professionals and health's students

### Materials and Methods

Two Cross-sectional study, applying a questionnaire among attendees of the 20th Latin American Congress of Gynecology and Obstetrics "FLASOG 2011", which was attended by physicians specialized in obstetrics and gynecology, resident physicians, general practitioners and professional nurses. The other study the target population was students in medical, nursing, and dental programs who were finishing their last year of study in a public and in a private university in the city of Cali, Colombia during the period lasting from December 2014 to August 2015.

For the first study, a simple random sampling was performed, with a final sample of 103 was defined. For the second study, the sample size took into account the total number of students as recorded by the registrar's office at each of the selected institutions; 257 students enrolled in the medical, nursing, and dentistry programs at the health schools in two universities in the city of Cali were evaluated. Once the data were obtained, they were processed in statistical software SPSS (Statistical package for Social Science) v.22 for tabulation and analysis, were taken frequency and percentage measures for categorical variables and measures of central tendency for numerical variables. Depending on the response tendencies found among different professionals, possible hypotheses were explored for future studies, applying the Chi2 test considering as significant a value of  $p \leq 0.05$ .

**Results:** 84 surveys were answered, of which 53.6% were gynecologists and obstetricians, 23.8% were general practitioners, 16.7% were professional nurses, and 6% were post-graduate students of specialization in gynecology and obstetrics. 19 countries attending the Congress. 57.1% had not received training received in oral pathologies. Poor oral health was associated with low birth weight (53.6%), premature birth (60.7%), premature rupture of membranes (46.4%), pre-eclampsia (29.8%) and none complication 15.5%. The professionals' knowledge about the oral health of pregnant women was 3.4 (95% CI, 3.2-3.5). The evaluation of the attitude of professionals about promoting the oral health of pregnant women was 3.5 (95% CI 3.4-3.7).

In the study of health professional 84 surveys were answered, of which 53.6% were gynecologists and obstetricians, 23.8% were general practitioners, 16.7% were professional nurses, and 6% were post-graduate students of specialization in gynecology and obstetrics. 19 countries attending the Congress. 57.1% had not received training received in oral pathologies. Poor oral health was associated with low birth weight (53.6%), premature birth (60.7%), premature rupture of membranes (46.4%), pre-eclampsia (29.8%) and none complication 15.5%. The professionals' knowledge about the oral health of pregnant women was 3.4 (95% CI, 3.2-3.5). The evaluation of the attitude of professionals about promoting the oral health of pregnant women was 3.5 (95% CI 3.4-3.7).

In the study of health's students Gaps of around 50% were found between the students, where 45.5% had received training in oral pathologies and 55.6% had received training on physiology. 52.9% of students connected poor oral health in expectant mothers to low birth weight; 63% to preterm births; 59.1% with premature rupture of membranes; and 27.2% with preeclampsia.

**Conclusions:** 1. There are gaps between the different professionals surveyed about the oral health of pregnant women. Training and teamwork are recommended; 2. Disparities and differences in students' knowledge regarding oral diseases and complications in pregnancy were evident.

### Audience Take Away:

- Will provide participants with tools on the need to advance studies to close the gaps between the different professionals surveyed on the oral health of pregnant women.
- The dentist can initiate interdisciplinary studies with other health professionals to improve oral health.
- Showing these evidences will improve the designs of preventive actions in pregnant women.
- Will have information with scientific evidence to use with staff involved in the care of children and mothers.

### **Biography**

Professor of Dentistry at the School of Public Health at the University of Valle, with a doctoral degree in Public Health Sciences at the University of Guadalajara (Mexico), a Master's Degree in Health Administration from University of Valle (Colombia), Specialist in Finance of the Libre University (Colombia), Specialist in Strategic Management in Information Systems of the University of Santiago de Cali (Colombia) and Academic Stay in Dental Public Health at the University College of London.

At the professional level he has been a public health advisor and manager in Hospitals of different levels of care. I have participated in the direction of the National Survey of Health, Welfare and Aging Colombia 2015. He is currently managing the Oral Health Research Group Pacific Siglo XXI. He participated as a tutor in the virtual campus of Public Health of the Pan American Health Organization in the course of Social Determinants in Health.

## The use of fractal analysis in Implantodology

Erika Storck Cezário<sup>1,2\*</sup>, Amaro Ilídio Vespasiano Silva<sup>1</sup> and Elton Gonçalves Zenóbio<sup>1</sup>

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Studies indicate that bone quality is one of the predisposing factors to the long-term success of implant therapy. Thus, non-invasive tools that allow the analysis and measurement of bone quality are extremely relevant for the predictability of treatment. The fractal analysis was developed to verify the complexity of the structures by means of mathematical calculations. It has been employed in Dentistry in panoramic intra-oral radiographs and periapical radiographs with the purpose of studying the microarchitecture of the maxilla and mandible bones. Researchers report that the fractal dimension obtained by fractal analysis is not influenced by variation in the exposure, alignment and region of interest. Some authors have used fractal analysis to evaluate the peri-implant bone region. The results show that the fractal dimension can be used as a predictor of the initial stability of implants as well as to indicate bone microarchitecture over time. It is interesting to note that many studies have shown that the peri-implant bone micro-architecture, estimated by the fractal dimension, becomes more complex over time. That is, the larger the fractal dimension, the greater the complexity of the bone micro-architecture. At the same time, fractal analysis has also been applied to verify the bone density of grafts in maxillary sinus lift. The researches indicate that the fractal dimension found depends on the type of graft used, but that this tool can signal the best moment for implant installation as well as prosthetic loading.

### Audience Take Away:

- Will be able to use this tool to help to decide the better moment to install an implant or predict the initial stability.
- It is an accurate method to determine the bone microarchitecture and measure bone remodeling in peri-implant and grafted areas.
- This method can be employed to help dental students since undergraduation to better understand the process of bone remodeling.

### Biography

I hold a bachelor's degree in Dentistry from the Federal University of Juiz de Fora (1999), a Master's degree (2006) and a Specialization in Periodontics (2002) from the Pontifical Catholic University of Minas Gerais and a Specialization in Implantodontics from the Brazilian Dentistry Association (2016). I am currently a teacher and coordinator of the Dentistry course at the University Center of the East of Minas Gerais (Unileste) and A DDS Student at Pontifical Catholic University of Minas Gerais.  
Details of presenting author to be mentioned in certifica

## Can speech problems be associated with malocclusion in children? What kind of malocclusions? An epidemiological view!

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<sup>2</sup>Department of Stomatology, School of Dentistry, Federal University of Santa Maria, Brazil

The ability to communicate and interact socially is of high importance for individuals of all ages, and language is a key factor for communication between people. Speech is the result of the planning and execution of sequences of movements, which require very precise neuromuscular coordination. Speech disorders may begin as early as childhood, approximately 33.6% of children presented some type of alteration in the articulation of sounds in a Brazilian sample. Among the factors that influence the precision of the articulatory points are the presence and position of the teeth, mobility of the lips, cheeks and soft palate, and the position and mobility of the tongue and mandible, as well as the intraoral space for articulation and resonance, deviations in the functions of chewing, swallowing and breathing may also be associated. When the origin of the speech disorder occurs at skeletal and muscular structures of the stomatognathic system, we call these alterations as having a musculoskeletal origin represented by the distortion of sounds, which occurs as adjustments or compensations for more intelligible speech, such as anterior and lateral lisp (phoneme error / s /). Alteration of the shape of the dental arch added to tongue hypofunction are the factors most frequently associated with anterior and lateral lisp. The high sample size of our cross-sectional study (547 mixed-dentition children from state schools in the city of Santa Maria – Brazil), combined with a complete occlusal evaluation, considering the three occlusion components (vertical, transverse and sagittal), respiratory mode evaluation, tongue position and specific diagnosis of distortion type, have the potential to clarify doubts about the association between malocclusion, altered respiratory mode (oral / oronasal), alterations in the position of the tongue and speech dysfunction. This would enable dentists and speech therapists, when observing certain alterations, to plan interdisciplinary treatments, guaranteeing an adequate occlusal relationship and phonoarticulatory function. As a result of the study, we observed that individuals with deep overbite present a protective relationship to speech distortion, whereas posterior crossbite is a risk factor for this problem. Regarding the alteration in the position of the tongue, anterior open bite and oral/oronasal respiratory mode represent a risk factors, while the presence of deep overbite and being male represent protection factors for the tongue in normal position.

### Audience Take Away:

- It is an interdisciplinary study adding knowledge in the areas of dentistry and speech therapy;
- To understand the types of malocclusion that may be associated with speech and tongue position alterations;
- The acquired knowledge will be useful to indicate, since childhood, orthodontic treatments also for the purpose of assisting in the therapy of speech disorders;
- Rethinking correction of mild or moderate deep bites in childhood.

### Biography

Dra. Débora Assaf graduated in Dentistry from Federal University of Santa Maria, Brazil. She specialized in Orthodontics from the Group of Orthodontic Studies and Services, in Araraquara, Brazil. Currently, she is a Master's Student from Federal University of Santa Maria. She works in a private clinic in Santa Maria, Brazil.

## Immediate implant in the esthetic zone: A new technique for defects class II

Jamal Hassan Assaf<sup>1</sup>, Henrique Hollweg<sup>2</sup>

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<sup>2</sup>Department of Restorative Dentistry, School of Dentistry, Federal University of Santa Maria, Brazil

Studies involving dehiscence implant sites have also investigated grafts without a membrane and reported similar results to those in which a membrane was used. In Class II dehiscence defects, in which volume stability is achieved by the adjacent bone walls in combination with an implant placed within the confines of the bony defect, partial regeneration of the defect occurs even without use of regenerative techniques. In spite of such gain being only partial, this fact alone demonstrates the excellent regenerating potential of this type of defect. Use of immediate implants at sites with Class II and III bony dehiscence defects is usually accompanied by guided bone regeneration (GBR), where a surgical flap is necessary, as well as use of biomaterials or autologous or allogenic bone and a membrane. The literature, however, is scarce on regenerative approaches that feature simple procedures. Therefore, the aim of this study was to evaluate a new technique for treating dehiscence buccal bone sites (Class II) without using a surgical flap and membrane, in immediate implant surgeries.

### Audience Take Away:

- The audience will learn a new technique for treating Class II defects;
- This is a simple procedure when compared to traditional technique;
- The use of the new technique presents low morbidity for the patient and could simplify the treatment.

### Biography

Dr. Jamal Hassan Assaf is an Associate Professor of the Federal University of Santa Maria, Brazil. He received his PhD degree in 2012 at São Leopoldo Mandic Institute and Dental Research Center, Campinas, Brazil. He dedicates himself primarily to the Private Practice. His research is clinical focused on regeneration and immediate implants in esthetic zone.

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## Preschool dental initiative: Is it the cornerstone of dental public health infrastructure?

**Afraa Talal Barzanji**

Department of Public Health, Ministry of Health, Madinah, Saudi Arabia

**D**ental public health infrastructure is the network of work force employee, governmental and private organizations, as well as policies and programs provided to the population regardless of their social determinants. Population based dental health aims to prevent teeth related problems and promote oral health in all community members. Its scope is much more than secondary prevention provided by traditional dental clinics. Among patient complaints, caries is a highly prevalent as discovered through dental examination globally. Children younger than seven year's old are at high risk for having dental caries. Unfortunately, Baby teeth got non-enough carefulness because of the misconception that only permanent teeth need to be cared for, but in fact 'Baby Teeth Count Too'. Dental decay affects oral health on the long term in addition to impacting general health and social life. But we can intervene before all of this happen. In early years of childhood period, there is an opportunity for establishing behaviours that support health status; which in turn can improve Community health.

As stated by world health organization, oral health education should be frequently reinforced by health-promoting school programs, throughout the children's school span. Fluoride application is also a commonly used tool for promoting dental care. Preschool dental health programs were feasible in different countries around the globe, and there are key lessons revealed.

### **Audience Take Away:**

- Know about the Dental Public Health Infrastructure
- Identify the functions and accomplishments of preschool dental health programs
- Identify the gap in preschool dental health effectiveness

### **Biography**

Dr. Afraa is a community consultant doctor. She is a holder of bachelor degree of medicine and surgery from Taibah University, Madinah, Saudi Arabia. Then she had her specialization through Saudi Board in community medicine in Riyadh and she was recognized as the best resident among her batch. In 2016, she became a certified professional in healthcare quality which is earned from the National association for Healthcare quality in United States. Many researches and reviews were done by her; and among the domains she is focusing on is prevention and risk factors. She currently works in public health department, Madinah.

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