

DAY 1 SESSIONS

DECEMBER 11, 2019

Dentistry | Laser Dentistry | Pediatric Dentistry | Prosthodontics | Restorative Dentistry
Maxillofacial Surgery

SESSION CHAIR

Shepard DeLong
Lotus Dental Wellness, USA

SESSION INTRODUCTION

- Title:** Laser in the daily practice, a step forward
Anas karkout, Damascus University, Syria
- Title:** Combining the use of artificial intelligence (AI) and 3D printing to achieve accuracy in reduction and stabilization of complex craniomaxillofacial fractures
Samer Abdelsamie, Temple University Hospital, USA
- Title:** Esthetic restorations in pediatric dentistry: A new era
Jumana Sabbarini, Jordan University of Science and Technology, Jordan
- Title:** CAD/CAM materials in fixed prosthodontics
Abdelhalim Faris, Mansoura University, Egypt
- Title:** Effect of telescopic crown, magnetic attachment and RPI clasp on the supporting structures for lower Kennedy class I dentures
Maha Nagi Kamal, British University in Egypt, Egypt
- Title:** Dental zirconia: An overview on basic biological, physico-mechanical properties and clinical applications
Hoda Gaafar Hammad, Batterjee Medical College, Saudi Arabia
- Title:** Ceramics: Implantology and restorative dentistry
Shepard DeLong, Lotus Dental Wellness, USA
- Title:** Early detection of oral cancer
Hidayah Mohamed AbdulGhafar Elyas, Nahdah International Colleges, Sudan
- Title:** The green dentistry is the high tech dentistry
Natalia Elson, New York University, USA
- Title:** The broken faces and Napoleon's great army
Xavier Riaud, National Academy of Dental Surgery, France

DENTISTRY AND DENTAL MATERIALS

December 11-12, 2019 | Dubai, UAE

Anas Karkout, J Clin Dentistry Oral Health 2019, Volume 3

LASER IN THE DAILY PRACTICE, A STEP FORWARD

Anas Karkout

Damascus University, Syria

It's a great time for dentists to consider an update to their practices! This can be achieved through using new technologies such as Laser. Unlike traditional tools, dental lasers can improve their patients' experiences by eliminating anesthesia, pain, bleeding and fear, as well as accelerating the healing. In this lecture author will discuss all the laser advantages and disadvantages, and the importance of using laser in Biostimulation, periodontal pocket disinfection, root canal disinfection, cavity preparation, depigmentation, gingivectomy, frenectomy, orthodontics, fibroma excision, impacted canine exposure, coagulation, tooth whitening, pain relief and periimplantitis.

BIOGRAPHY

Anas Karkout was graduated from Damascus University in 2009. He got his Master Degree in Dental Laser from Damascus University in 2012. He has been practicing Dental Laser since 2012 in Dubai, UAE. He has published many research papers on this subject in Asia and the Middle East. He is an international laser trainer. He was a guest lecturer in Italy, France, Spain, Japan, Kuwait, Lebanon, United Arab of Emirates and Syria. He holds a Master Degree in Dental Laser (Damascus University).

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DENTISTRY AND DENTAL MATERIALS

December 11-12, 2019 | Dubai, UAE

Samer Abdelsamie et al., J Clin Dentistry Oral Health 2019, Volume 3

COMBINING THE USE OF ARTIFICIAL INTELLIGENCE (AI) AND 3D PRINTING TO ACHIEVE ACCURACY IN REDUCTION AND STABILIZATION OF COMPLEX CRANIOMAXILLOFACIAL FRACTURES

Samer Abdelsamie and Pooja Sukumar
Temple University Hospital, USA

The surgical management of complex facial fractures is challenging and time consuming. Author highlights the benefits of combining AI and 3D printing to achieve optimal surgical outcomes, reduce operating time, and improve patient satisfaction. They present a workflow for using AI and 3D planning in the management of complex facial fractures. Literature related to AI applications in the field of craniofacial surgery, virtual surgical planning and 3D printing were reviewed. The team completed multiple complex craniofacial trauma reconstruction cases using the proposed workflow. In all cases, 1mm thick CT scans were obtained and virtual reduction of fractured segments was completed in three dimensions. Based on this analysis, stereolithographic splints were then 3D printed and inserted intraoperatively. In a second case, custom-made fixation plates were fabricated. The same protocol was used in a third case to fabricate a custom prosthesis to replace severely comminuted bony segments. Post-operative CT scans were then obtained to evaluate accuracy of bony reduction. AI and 3D printing facilitated the fabrication of intraoperative and postoperative splints which modelled the desired outcome for bony reduction in patients with complex midface and mandible fractures. The splints were utilized during surgery to help sequence the steps in reconstruction. The splints were also helpful to stabilize the palatal vault and prevent distraction along fracture lines. Accurate reduction of all fractured segments was achieved and facial contours were restored. The workflow proved to be a powerful tool for managing complex cases and allows surgeons to manage complex craniomaxillofacial fractures in a structured and consistent manner. The use of virtual surgical planning can help achieve high-quality anatomical reduction and fracture stabilization. Thereafter, optimal facial height, width and contours are observed clinically. The ultimate outcome is reduction in operating time, reduced complications, shorter hospital stays and improved surgeon confidence.

BIOGRAPHY

Samer Abdelsamie, is the Associate Program Director of Academic Affairs at the Oral and Maxillofacial Surgery Division of Temple University Hospital, He is a Clinical Assistant Professor at Temple University Lewis Katz School of Medicine, Department of Surgery. He completed his Dental School at Temple University Kornberg School of Dentistry, and his OMFS Training at Loyola University Medical Center, and Hines VA Hospital in Chicago. He practice broad scope oral and maxillofacial surgery, with emphasis on management of maxillofacial trauma, reconstruction, orthognathic surgery, surgical and non-surgical management of TMJ disorders, and dental implants. His time is dedicated to teaching the post graduate residents at the Temple University Hospital, his research interests are in the advances in management of maxillofacial trauma, wound healing, management of patients with MRONJ and IV sedation in complex patient's population.

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December 11-12, 2019 | Dubai, UAE

Jumana Sabbarini, J Clin Dentistry Oral Health 2019, Volume 3

ESTHETIC RESTORATIONS IN PEDIATRIC DENTISTRY: A NEW ERA

Jumana Sabbarini

Jordan University of Science and Technology, Jordan

A variety of esthetic restorative materials are available for restoring primary incisors and molars. Intracoronal restorations of primary teeth may utilize resin composites, glass ionomer cements, resin-modified ionomers or polyacid-modified resins. Each has distinct advantages and disadvantages and the clinical conditions of placement may be a strong determining factor as to which material is utilized. Full coronal restoration of primary teeth may be indicated for a number of reasons. Crowns available for restoration of primary teeth include those that are directly bonded onto the tooth, which generally are a resin material and those crowns that are luted onto the tooth and are some type of stainless steel crown. NuSmile Pediatric Crowns introduces Signature Crowns that are made of stainless steel, but they feature a natural looking, tooth colored coating for a more esthetic appearance. Recently, NuSmile ZR, Cheng Crowns, Kinder crowns and Flex Crowns (Pediatric Zirconia Crown) the pediatric crowns that look like the real thing and is even better since it's also stronger than natural teeth. Many options exist to repair carious primary teeth, but there is insufficient controlled, clinical data to suggest that one type of restoration is superior to another. This does not discount the fact that dentists have been using many of these crowns for years with much success. Operator preferences, esthetic demands by parents, the child's behaviour and moisture and haemorrhage control are all variables which affect the decision and ultimate outcome of whatever restorative treatment is chosen.

BIOGRAPHY

Jumana Sabbarini completed her Bachelor Degree in Dental Surgery (1992) from Jordan University of Science and Technology, Jordan. She completed Master degree in Pediatric Dentistry (2005) from Alexandria University, Egypt. She is the Member of Jordanian Board in Pediatric Dentistry (March 2007). She is the Consultant in Pediatric Dentistry in Arabella Private Center. She is the Lecturer in Jordan University of Science and Technology (JUST) Irbid-Jordan. She is the Former Consultant in Pediatric Dentistry in Ministry of Health in Jordan. She is the Member of the European Academy of Pediatric Dentistry since 2013. She is the Member of the International Academy of Pediatric Dentistry. She is an Clinical Advisor of Esthetic Nusmile Crowns in Jordan. She is the Former Member and Examiner in the Jordanian Board Committee (Pediatric Dentistry) - Jordanian Medical Council.

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DENTISTRY AND DENTAL MATERIALS

December 11-12, 2019 | Dubai, UAE

Abdelhalim Faris, J Clin Dentistry Oral Health 2019, Volume 3

CAD/CAM MATERIALS IN FIXED PROSTHODONTICS

Abdelhalim Faris

Mansoura University, Egypt

Many materials are used in CAD-CAM, each material has its properties and its indications. Conceiving these materials is a power for both dentists and technicians. During the presentation, author will discuss all the materials used in CAD-CAM and differences between them and how to select the suitable materials for your case. The presentation will be supported with clinical cases.

BIOGRAPHY

Abdelhalim Faris is an Egyptian dental technician. He has 20 years of experience in the field of dental technology. Recently, He was chosen to a "Key Opinion Leader" at Renfert. He is also the dental technician of tomorrow tooth in Egypt. He was a speaker at many national and international conferences like 25th Euro Congress and Expo on Dental and Oral Health, at Budapest, Hungary and the 1st Dental Technicians Conference, at Cairo, Egypt and other conferences.

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4th World Congress on DENTISTRY AND DENTAL MATERIALS

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Maha Nagi Kamal et al., J Clin Dentistry Oral Health 2019, Volume 3

EFFECT OF TELESCOPIC CROWN, MAGNETIC ATTACHMENT AND RPI CLASP ON THE SUPPORTING STRUCTURES FOR LOWER KENNEDY CLASS I DENTURES

Maha Nagi Kamal¹, Rami Maher Ghali² and Fatma El-Zahraa Awad²

¹British University in Egypt, Egypt

²Ain Shams University, Egypt

Aim of the study: The aim of this study was to evaluate and compare the effect of RPI clasp, telescopic crowns and magnets as retainers for Kennedy class I partial dentures on the supporting structures using digital radiography.

Materials & Methods: Twenty one partially edentulous patients having Kennedy class I lower ridges with lower first premolar as last abutment were selected according to certain criteria. According to the type of direct retainer, patients were divided into three groups: group I, received removable partial dentures retained by RPI clasp; group II: received removable partial dentures retained by telescopic crowns exhibiting a 6 degrees taper angle and Group III: received removable partial dentures retained by magnetic attachments. Radiographic evaluation was performed to evaluate bone height mesial and distal to the abutments and the crestal bone height at specially marked points on the residual ridge by serial standardized periapical radiographs made by long cone paralleling technique.

Results: There was a statistically significant decrease in crestal bone height around the abutments, telescopic attachment retainer showed the statistically significantly highest crestal bone loss around the abutment, while RPI clasp retainer showed statistically significantly lower crestal bone loss followed by the magnetic attachment retainer that showed the lowest crestal bone loss. However, regarding the effect of different direct retainers on the residual ridge, there was a statistically significant decrease in the residual ridge height. RPI clasp retainer showed the statistically significantly highest amount of bone loss, however, there were no statistically significant differences between amounts of bone loss in telescopic attachment retainer and magnetic attachment retainer, both showed the lowest mean amounts.

Conclusion: RPI clasp retained partial dentures distributed more stresses on the residual ridge rather than on the abutment teeth. While, using telescopic retained partial dentures distributed more stresses on the abutment teeth rather than on the residual ridge. Finally using magnetic retained partial dentures distributed stresses more or less equally among the abutment teeth and the residual ridge compared to the other direct retainers.

BIOGRAPHY

Maha Nagi Kamal has completed her PhD from Ain Shams University, Egypt. She works as Lecturer of removable prosthodontics at BUE.

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DENTISTRY AND DENTAL MATERIALS

December 11-12, 2019 | Dubai, UAE

Hoda Gaafar Hammad, J Clin Dentistry Oral Health 2019, Volume 3

DENTAL ZIRCONIA: AN OVERVIEW ON BASIC BIOLOGICAL, PHYSICO-MECHANICAL PROPERTIES AND CLINICAL APPLICATIONS

Hoda Gaafar Hammad

Batterjee Medical College, Saudi Arabia

Zirconia is a ceramic crystalline biomaterial of zirconium dioxide “ZrO₂” that provides adequate biological and physico-mechanical properties for manufacturing of multiple medical and dental devices. Zirconia had reported not only a wonderful biocompatibility in multiple *in vivo* studies, but also an amazing bioactivity “Biointegration” following it’s insertion into living bones or muscles. Stresses on a Zirconia surface produce a crystalline transformation “Transformation Toughness of Zirconia” associated with volumetric changes which hinders the propagation of cracks. The anelastic strain of smart yttria-stabilized zirconia “3Y-TZP” is supposed to modulate any stress concentration in order to avoid catastrophic failure in that brittle material. Nowadays, zirconia cores are esthetically used upon mutilated anterior and posterior teeth for construction of fixed partial dentures “FPDs” as well as on implant fixtures. However inherent zirconia opacity is very useful in certain clinical situations like masking color of discolored abutment teeth, there is scarcity of the aesthetic translucency. Development of technology offers solution to achieve translucent zirconia “Lava zirconia”. In addition, zirconia radiopacity is actually helpful in radiographic evaluations. Computer aided design/computer aided manufacturing “CAD/CAM” technology is implemented to obtain zirconia based restorations. Cementation of zirconia restorations to tooth structure is performed with recent resin adhesive systems. Fracture toughness of zirconia based FPDs are superior to that of other non-metallic restorations. Zirconia implant is characterized by performing successful biointegration into bone and realizing an excellent aesthetic outcome for implant supported prosthetic rehabilitations. Newly introduced zirconia implants are manifested by superb biological, magnificent esthetic and amazing mechanical properties; which recommend further researches.

BIOGRAPHY

Hoda Gaafar Hammad is an Assistant Professor and Head of Division of Dental Biomaterials, as well as Assistant Professor of Operative Dentistry; BMC (Batterjee Medical College), Dental Program, Jeddah, Saudi Arabia (KSA) since 15 October 2018 to till date. She Completed her PhD in Restorative Dentistry: Dental Biomaterials, Faculty of Dentistry, Cairo University as collaboration with University of Rennes 1, France: “Fabrication of a bioactive composite scaffold for drug delivery” from 2011 to 2014. She completed Master Degree of “Clinical Restorative Dentistry” including; Operative Dentistry, Endodontics, Fixed Prothodontics (Laminates, inlays crowns and bridges) and Dental Biomaterials, Faculty of Dentistry, Cairo university: “Effect of acid etching on shear bond strength of resin modified glass ionomer and polyacid modified resin composite to human enamel and dentin” from 1998 to 2001. She completed her Bachelor of Oral Medicine and Dental Surgery and Faculty of Dentistry, Cairo University, Egypt during 1990 to 1994.

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4th World Congress on DENTISTRY AND DENTAL MATERIALS

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Shepard DeLong, J Clin Dentistry Oral Health 2019, Volume 3

CERAMICS: IMPLANTOLOGY AND RESTORATIVE DENTISTRY

Shepard DeLong

Lotus Dental Wellness, USA

Ceramics have long been an essential and vital part of restorative dentistry. More recently, ceramic implant fixtures as well as new restorative materials provide metal free life like and biocompatible solutions for patient's dental needs. Functional and immunologically sound, ceramics are building momentum in clinical dentistry and surgery. Globally, only a small fraction of dentists, surgeons, researchers, technicians, restorative and implant manufacturers are participating in this growing field. In this presentation Dr DeLong will share a series of his own clinical case reports, research behind currently available ceramics and a view towards the future of non-metal dentistry.



Figure:1

BIOGRAPHY

Shepard DeLong is a General Dentist in Portland, Oregon, USA. He holds a BS from Portland State University, DMD from Oregon Health and Sciences University and completed a General Practice Residency at The Queen's Medical Center in Honolulu, Hawaii. Since 2010, he has been in practice throughout the western US and has volunteered internationally in India and Guatemala. He is an active member of the IAOMT, HDA, IABDM and serves as a mentor for cerecdotors.com. He has been on the forefront of modern dental medicine as a part of Mint Dental Works, the first LEED certified hi-tech, eco-friendly practice in the US and practices part time at Pure Health Dentistry on the Island of Maui, Hawaii. Currently he maintains a full-time private practice at Lotus Dental Wellness which he founded in 2017, offering patients biological treatment options to renew and maintain oral health and whole body wellness.

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DENTISTRY AND DENTAL MATERIALS

December 11-12, 2019 | Dubai, UAE

Hidayah Mohamed AbdulGhafar Elyas, J Clin Dentistry Oral Health 2019, Volume 3

EARLY DETECTION OF ORAL CANCER

Hidayah Mohamed AbdulGhafar Elyas

Nahdah International Colleges, Sudan

Cancer is Latinized from Greek word “karkinos” Meaning crab, denoting how carcinoma extends its claws like a crab into adjacent tissues. Cancer is a disease caused by mutated normal cells which grow in an uncontrolled way, cause sing a lump called a tumor to form. Oral cancer sites: Tongue’s surface, lips, cheek, gums, roof and floor of the mouth, tonsils and salivary glands. Squamous cell carcinoma is the most common malignant tumor of the oral cavity. For most countries, five-year survival rates of oral cavity cancer are around 50%. The best outcome is for lip cancer, 90% of patients surviving for five years. The lowest survival was for hypo pharyngeal tumors. In general, prognosis decreases with advanced disease stage. For most countries age adjusted death rates from oral cancer was estimated at 3-4 per 100,000 male and 1.0-2.0 per 100,000 for female. It is multi factorial in origin. Recognized risk factors are tobacco, alcohol and areca nut use, infection with human papillomavirus (HPV). And many others risk factors. Dentists can be risk factors!!! Clinical appearance of potentially malignant lesions is an important predictor of malignant transformation, occurring about five years earlier than oral cancer. Both public and professional awareness of oral cancer is fundamental for minimizing the time from onset of signs or symptoms to diagnosis. All lesions of the oral cavity that persist or do not respond to the usual therapeutic measures must be considered precancerous or malignant until proven otherwise. The earliest signs of oral cancer may be mistaken for other condition such as a tonsillitis or cold. The detection of asymptomatic cancer is a significant problem. Inspection of head and neck with assessment of cervical lymph nodes and cranial nerve function can help in early detection.

BIOGRAPHY

Hidayah Mohamed AbdulGhafar Elyas has completed her MSc at the age of 35 years from Riyadh Elm University, KSA. She is the Director of Oral Radiology Riyadh Elm University, KSA. She has over than nine researches as supervisor for the students.

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DENTISTRY AND DENTAL MATERIALS

December 11-12, 2019 | Dubai, UAE

Natalia Elson, J Clin Dentistry Oral Health 2019, Volume 3

THE GREEN DENTISTRY IS THE HIGH TECH DENTISTRY

Natalia Elson

New York University, USA

Green or eco-friendly dentistry slowly becomes a reality in today world when awareness to create a safe living environment for future generations raised. Effectively designed dental clinic, patient education and eco-friendly products usage is the way to reduce detrimental impact of dental practices on the future healthy and sustainable planet. Dentist should take a leading role in the society by implementing 'green' initiatives to reduce their impact on the environment. The collective efforts of many small offices as well as multi specialist's practices and hospitals and colleges can ensure that dentists will not be responsible for damage it. The technical innovations in Dentistry also play important role not just improving treatment outcomes and comfort our patients but helping dental professionals achieve their target for waste reduction and resource conservation. EDA (Eco friendly Dental Association) is a very valuable source for implementing this newest mindset in every dental practice.

BIOGRAPHY

Natalia Elson graduated from Dnepropetrovsk Medical Institute in 1977. She had a general practice residency in 1977 in Ukraine, 2011 in USA and Oral Maxillofacial Surgery Residency in 1986. She was the active member of Academy of Laser Dentistry.

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DENTISTRY AND DENTAL MATERIALS

December 11-12, 2019 | Dubai, UAE

Xavier Riaud, J Clin Dentistry Oral Health 2019, Volume 3

THE BROKEN FACES AND NAPOLEON'S GREAT ARMY

Xavier Riaud

National Academy of Dental Surgery, France

If author dwell upon Baron General Louis-François Lejeune's painting entitled "The Battle of Moskova" and painted in 1822, they can notice a man standing in the corner of the canvas. The man in uniform has brown hair and is putting a bandage around an injured man's face. If they look at it carefully, they can easily identify that this man who is practicing surgery is none other than Dominique Larrey, the Chief Surgeon of Napoleon's Great Army in 1812.

BIOGRAPHY

Xavier Riaud has completed his DDS at the age of 25 and his PhD in History of Sciences and Technics at the age of 35 from University of Nantes, France. He was awarded Laureate (1998) and Associate Member (2010) and Full Member of the National Academy of Dental Surgery in 2019. He was then awarded Free member of the National Academy of Surgery (2012). He has published more than 500 papers in 5 languages and 30 books.

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