2nd International Conference on

Restorative Dentistry and Prosthodontics

May 01-02, 2017 Toronto, Canada

Scientific Tracks & Abstracts

Day 1

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Adam Filali, J Oral Hyg Health 2017, 5:1 (Suppl)
http://dx.doi.org/10.4172/2332-0702-C1-005

Work flow for implant placement and restoration, utilizing digital dentistry

Adam Filali
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Although CAD/CAM systems have been utilized in the practice of dentistry for many years, they are becoming increasingly popular in today's growing digital age. This course will provide you with the knowledge and experience needed to utilize the Sirona Cone Beam CT for the surgical planning of implants in your dental practice. Through a systematic approach, you will learn how to incorporate guided surgery technology into your practice, discuss restoration-driven implant placements, and master digital treatment planning and workflows for the fabrication of surgical guides. The focus of this lecture is to integrate guided surgery into your practice and to be able to communicate with your team and patients.

Biography

Adam Filali completed his degree in General Dentistry, followed by three years of intensive training in the study of Prosthodontics, the discipline focusing on full mouth rehabilitation. This field of dentistry pays special attention to the esthetic appearance and clinical reconstruction of the mouth. He received his Prosthodontic specialty training at the highly esteemed and prestigious Boston University Henry M Goldman School of Dental Medicine. Pursuing his specialized interests, he continued his education by acquiring numerous certifications and credentials in this field.

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Notes:

Zeeshan Sheikh, J Oral Hyg Health 2017, 5:1 (Suppl)
http://dx.doi.org/10.4172/2332-0702-C1-005

Achieving improved and more predictable vertical bone augmentation for dental implant placement by controlling bone graft substitute microstructure

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The long-term success of implants depends upon the degree of osseointegration that can be achieved, which is largely determined by the volume and quality of bone available at the time of surgery. Bone height and volume is often diminished in patients due to the extended time after tooth loss and this is a major limitation impacting long term dental implant treatment success. Some of the commonly used surgical techniques for ridge augmentation are (i) Osteoperiosteal flap (OPF); (ii) Distraction osteogenesis (DO); (iii) Block grafting; (iv) Guided bone regeneration (GBR) using membranes; and (v) Subperiosteal tunneling for minimally invasive approach to GBR. This talk discusses the development of bioceramic graft materials with controlled microstructure and superior biological properties to those currently available. Dicalcium phosphate cements, brushite and monetite, resorb faster than hydroxyapatite (HA). Monetite (unlike brushite) does not re-precipitate as HA *in vivo*, and demonstrates superior osteoconductive properties. We have produced monetite disc grafts by varying processing conditions which alter their physical properties such as porosity, surface area and mechanical strength. Histological observations after 12 weeks of onlay grafting on rabbit calvaria reveal higher bone volume (38%) in autoclaved monetite grafts in comparison with the dry heat prepared monetite grafts (26%). The vertical bone height gained is similar for both the types of monetite grafts (up to 3.2 mm). This talk discusses and provides information regarding two types of monetite onlay grafts prepared with different physical properties that could be used for achieving more predictable vertical bone augmentation.

Biography

Zeeshan Sheikh is trained as a Dental Clinician and a Biomaterial Scientist with clinical and research degrees of BDS, MSc and PhD in Dentistry. After graduating as a Dentist, he worked as a Dental Surgeon for 2 years before proceeding to obtain an MSc degree in Dental and Biomaterials field from Queen Mary, University of London (QMUL) with distinction. During his MSc, he worked upon synthesizing and characterizing novel polymeric guided tissue regeneration (GTR) membranes for periodontal regeneration applications. He then joined Altamash Institute of Dental Medicine (AIDM) as Head of the Department of Dental Materials and Preclinical Dentistry (2007). He also continued to work as an Assistant Professor in the Department of Oral Anatomy. He then proceeded to obtain a PhD from McGill University, Faculty of Dentistry (2014). During his PhD his work was related to bone grafting and augmentation for maxillofacial and orthopaedic applications using alloplastic bone replacement graft materials. He currently works at Faculty of Dentistry (Matrix Dynamics Group), University of Toronto and the Mt. Sinai Hospital (Lunenfeld-Tanenbaum Research Institute) in Toronto, Canada as a Post Doctoral Research Fellow. In addition to several conference talks and presentations both locally in Canada and internationally, he has more than 35 publications in peer-reviewed journals. He has also co-edited two text books on Oral Biology and Dental Biomaterials. He currently holds two research grants from the American Academy of Implant Dentistry Foundation and the Alpha Omega Foundation of Canada. Being trained extensively as a Clinician Scientist in world renowned insititutions like the Queen Mary University of London, McGill Univeristy and University of Toronto, his expertise lie in developing novel biomaterial options for bone grafting and alveolar ridge augmentation applications.

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Samuel Lee, J Oral Hyg Health 2017, 5:1 (Suppl)
http://dx.doi.org/10.4172/2332-0702-C1-005

Bone grafting techniques from sinus lift, ridge split, to GBR

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Dental implant surgery is a very predictable treatment. However, it is very common to encounter severely resorbed ridges, which makes dental implant treatment difficult. In this presentation, the author will present many innovative options to overcome pneumatized sinus, thin ridges, and loss of vertical bone heights. Diagnosis and guidelines for these treatments will be reviewed concisely. The author will be discussing on: Diagnosis and treatment planning for implant treatment will be discussed, new sinus classification developed by the author, which simplifies the treatment of pneumatized sinus will be discussed, simplified GBR technique will be discussed, new autogenous bone harvesting technique will be introduced, easier mandibular ridge splitting technique will be introduced, biological modifiers will be discussed, non-traumatic Nerve Lateralization Technique will be introduced and cases involving multidiscipline specialties will be presented.

Biography

Samuel Lee is an Innovator with a passion for teaching and developing new technologies. When he was a dental student, he taught Biochemistry at UCLA. Today, he teaches across the globe to dental schools and makes time to conduct CE courses for general dentists and specialists while increasing access to care to underserved populations in developing countries. He is a Diplomat of the International Academy of Dental Implantology and past Diplomat of the American Board of Oral Implantology/Implant Dentistry. He actively conducts research and development, while running a busy private practice in Boston, MA and San Diego, CA which is limited to Implant Surgery and Orthodontics. His credentials include two Doctorate level degrees, Doctor of Medical Science and a specialty certificate in Periodontology from Harvard University and a DDS from UCLA. He also won multiple 1st place Table Clinic Presentation Awards at the American Academy of Implant Dentistry in 2008, American Orthodontic Society and International Congress of Oral Implantologies in 2007. He invented the "Crestal Window Sinus Grafting Technique" and owns patents on various sinus and surgical instruments. He introduced a new method of dental radiography that boasts ultra low dosage radiation and allows for angulation correction that enhances 3D imaging capabilities. He serves as the current President of the International Academy of Dental Implantology.

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Ajibola Adegboye et al., J Oral Hyg Health 2017, 5:1 (Suppl)
http://dx.doi.org/10.4172/2332-0702-C1-005

Oral health behaviours of primary caregivers and early childhood caries in Ekurhuleni health district of South Africa

Ajibola Adegboye[1], **Khomotjo Mpolobosho**[2] and **Sharafadeen Olatunbosun**[2]
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Early Childhood Caries (ECC) has been documented to be of highest prevalence in predominantly Coloured (Mixed-Race) rather than in White- or Black-dominated communities of South Africa. As a result of a new realization that parents/primary caregivers (PCGs) rather than the child are the key individuals who determine the social and behavioural environment that shape oral health practices for children, this study set out to examine the relationship between health behaviours of primary caregivers (Biological parents or not) of preschool children and caries experience in South Africa's Ekurhuleni Health District (using a predominantly Coloured community of Arla Park). A total of 545 PCG-child pairs for children in the age group of 12-71 months were interviewed (PCGs only) and examined, using DMFT/deft indices (PCGs and children). Results showed that overall, the mean deft ranged between 2.88 (aged <4 years) and 3.78 (aged 4-5.11 years); and high deft scores occurred to children with PCGs who are unemployed (78.1%), consume alcohol frequently (59.87%), visited dentist only when in pain and for tooth extraction (68.11%) and admitted to putting infants to sleep with bottle-with-sugary-drinks (65.72%). The strong negative relationship that was revealed in this study between socio-economic profile, oral/dental care and health seeking/child grooming behaviour of PCGs on the one hand, and mean deft index of their children on the other, can be a useful tool for screening and targeting child populations in need of treatment, and also assist public policy planning towards developing health preventative and promotion programmes to aid early intervention and prevention.

Biography

Ajibola Adegboye completed his Dental and Postdoctoral degrees from Nigerian and South African Universities. He owns a solo dental practice in South Africa. He attended the UW, Seattle School of Public Health as a Fogarty Fellow (1990), and he has contributed to scientifically reputed international meetings and journals on infection control and HIV/AIDS, and dentistry. He is currently finalising his MBA dissertation with Management College of Southern Africa (Mancosa). His previous peer-reviewed publications include the collaborations with Joan Kreiss, MD, Femi Soyinka, MD and Greg Moss, MD (1990) and PG Robinson, RW Rowland, Steven Yeung and Newell Johnson (2002).

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Randa Kerassa, J Oral Hyg Health 2017, 5:1 (Suppl)
http://dx.doi.org/10.4172/2332-0702-C1-005

Comparison of the clinical performance of anterior single-retainer all-ceramic and metal fused, and porcelain resin-bonded fixed partial dentures

Randa Kerassa
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Aim: The aim of this systematic review was to compare the clinical performance of anterior single-retainer all-ceramic and metal fused to porcelain resin-bonded fixed partial dentures (RBFPDs) after an observation period of at least 1 year.

Materials & Methods: An electronic PubMed search complemented by manual searching was conducted to identify prospective cohort clinical studies with a mean observation period of at least 1 year. Data extraction and study inclusion were performed independently by 2 reviewers. The studies included reported survival rates of 2-unit anterior all-ceramic and metal-ceramic cantilever RBFPDs. Patients had to be examined at follow-up visit. Survival rates were analysed and descriptive comparisons performed.

Results: The search resulted in 9 prospective cohort studies. Survival rates ranged from 90 -

100% over a mean observation period of 55.4 months for all-ceramic RBFPDs and 93 -100% over a mean observation period of 35.2 months for metal-ceramic RBFPDs. Debonding was the most frequent complication with more occurrences in all-ceramic RBFPDs. However, no observed difference in survival rates was determined between the two types of restorations.

Conclusion: Both types of resin-bonded FPDs provide an effective short to medium term treatment option. All-ceramic single-retainer RBFPDs was shown to have excellent survival rates and esthetic outcome when replacing anterior missing teeth. Dentists should be aware of success rates, longevity and failure modes of this type of restoration and recommend it to patients as a medium to long-term option.

Biography

Randa Kerassa had completed her doctorate from the University of France; she has published many articles and recipient of many awards and grants for his valuable contributions and discoveries in major area of research, currently working as a private dentist at her own clinic at Dubai, UAE.

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Notes:

Negin Kouchak Dezfuli et al., J Oral Hyg Health 2017, 5:1 (Suppl)
http://dx.doi.org/10.4172/2332-0702-C1-005

Comparison of the biocompatibility of proroot MTA, MTA Plus and Retro MTA using an MTT assay study

Negin Kouchak Dezfuli, Ehsan Asnaashari and **Zohreh Khalilak**
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The purpose of this *in vitro* study is to evaluate and compare the cytotoxicity of three commercially available root-ending materials, MTA Plus, Pro root MTA and Retro MTA, at different storage times after mixing on human periodontal fibroblast using a MTT assay method. Varied concentrations (3, 6, 12, 25, 50 mg/ml) of the fresh and set root-ending materials (ProRoot MTA, MTA Plus and Retro MTA) were placed in adjacent flasks of human periodontal fibroblast in DMEM medium within 96-well plates. Cellular viability was evaluated using a MTT assay after 24, 48, and 72 h of initial mixing. The results were analyzed with 1-way ANOVA. The results showed that there was no significant difference between the biocompatibility of MTA Plus, and that of Pro root MTA or Retro MTA (P>0.05). Furthermore, no significant difference was observed between different time intervals for each group (P>0.05). The current *in vitro* study showed almost similar biocompatibility for ProRoot MTA and MTA Plus and Retro MTA.

Biography

Negin Kouchak Dezfuli received a Doctor of Dental Medicine degree from the Faculty of Dentistry at the Islamic Azad University of Tehran in 2014. She has been a Teacher Assistant during her study in the Cosmetic & Restorative department. She has worked as a General Dentist in Dental Treatment department of Alborz University of Medical Sciences, Tehran, Iran, for one year. She is currently training the Oral Health Technicians in Alborz University of Medical Sciences. She is also the member of the Dental Research Center of this university.

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Scientific Tracks & Abstracts

Day 2

Arundeep Kaur, J Oral Hyg Health 2017, 5:1 (Suppl)
http://dx.doi.org/10.4172/2332-0702-C1-005

Antimicrobial photodynamic therapy: A new disinfection frontier in dentistry

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Introduction: Microorganisms have been identified as the main culprits of oro-dental diseases. With the advent of photodynamic therapy, a new minimally invasive and precise approach towards disinfection has been developed. Photodynamic therapy means light induced athermal inactivation of cells and microorganisms. The principle of photodynamic therapy is that, by using a photosensitizer, the microorganisms are first stained, then sensitized and destroyed after irradiation with light of suitable wavelength and energy density.

Case Series: In this case series, antimicrobial photodynamic therapy was used for periodontal pocket therapy, root canal disinfection, treatment of alveolar osteitis, management of peri-implantitis and disinfection after caries excavation in pediatric patients. In all conditions, it was found to be effective in eradicating pathogenic bacteria and controlling inflammation.

Conclusion: Antimicrobial photodynamic therapy successfully stops inflammation without antibiotics, without surgical intervention and without any adverse effects with maximum therapeutic benefits in different oro-dental infections. Future directions should conduct researches involving new photosensitive compounds seeking improved photophysical and photochemical properties to maximize the photodynamic action in the biological environment.

Biography

Arundeep Kaur is the Chief of the Department of Periodontics and Oral Implantology at the Maulana Azad Institute of Dental Sciences, New Delhi, India for the last 25 years. She did her Post Graduation in Periodontics from PGDC, Amritsar. She was a recipient of 16 medals in different subjects. She is an Eminent Speaker in many national and international forums. She has 65 scientific publications to her credit.

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Notes:

Shruti Tandon, J Oral Hyg Health 2017, 5:1 (Suppl)
http://dx.doi.org/10.4172/2332-0702-C1-005

AMSA field block for maxillary anaesthesia using computer-controlled delivery system

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Introduction: The anterior middle superior alveolar (AMSA) field block was discovered during the development of computer-controlled local anaesthetic delivery (CCLAD) system. It is known to anaesthetize ipsi-lateral palatal and buccal, hard and soft tissues, with a single injection and can be administered with ease using CCLAD system. This study was conducted to determine the extent of maxillary anaesthesia achieved with AMSA field block given with CCLAD system during periodontal surgery.

Materials & Methods: 44 subjects indicated for periodontal flap surgery of either of the maxillary quadrants were enrolled for the study. Anaesthesia was provided with a single AMSA injection with a CCLAD system. Subjective and objective signs of local anaesthesia were assessed 15 minutes after the injection. Extent of anaesthesia was observed for palatal and buccal, hard and soft tissues both before and after the periodontal surgery.

Results: The results revealed that the palatal hard and soft tissues were significantly highly anesthetised (p=0.001) as compared to the buccal hard and soft tissues. Anterior to the first molar, palatal anaesthesia was significantly more as compared to posterior to the first molar in both hard (p=0.001) and soft tissues (p=0.04).

Conclusion: The AMSA field block is highly effective in anaesthetizing the ipsi-lateral palatal hard and soft tissues. A single injection is sufficient to numb the palatal tissues, anterior to first molar, to carry out periodontal surgery, in the maxilla.

Biography

Shruti Tandon completed her Master's degree in Periodontics from University of Mumbai and has since been working as a Faculty in the Department of Periodontics and Oral Implantology, Maulana Azad Institute of Dental Sciences, New Delhi, the prime dental school of India. She has many research publications to her credit and has presented her clinical work at many national and international conferences.

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Notes:

Mudher Ali, J Oral Hyg Health 2017, 5:1 (Suppl)
http://dx.doi.org/10.4172/2332-0702-C1-005

The psychological effect of smile line on the personality behavior

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Cosmetic dentistry is considered as one of the priorities that people need all around the world in a high percentage. According to that, cosmetic dentistry is considered the subject of today. Based on this fact, the term cosmetic dentistry has become vernacular across the globe. Most of the patients nowadays are looking for cosmetic corrections. They may ask to rehabilitate their smile so that they can get the most beautiful smile according to their convenience. The reason behind this patient demand may have great effect on the psychological behavior of the patient. The variation of this demand depends on the severity of the appearing beauty of the smile line of the patient. Many of these patients may become shy; others may become aggressive with psychological trauma. Also some of these patients may isolate themselves from the community so, they may not share any social activities and the end result is inferior complexity. So the clinician here is playing the role of a dentist and a psychiatrist at the same time. Hence, the dentist or the specialist who is working in the field of cosmetic dentistry may change the whole life of the patient. In other words, you are rehabilitating the life of your patient. The difficulties in cosmetic correction may vary from one case to another depending on many factors. The most important target of all these cases is bad looking smile line which affects the personality behavior. These factors may include 1. The severity in complicated cases, like severe crowding, which may need huge space availability, 2. Difficulties to treat cases like gum smile profile patient, 3. Difficulties to treat patients lacking the required inter occlusal space relationship, 4. Difficulty to treat patients having big diastema spaces, 5. Difficulties to treat canine cases out of occlusion which might be situated labially, 6. Difficulty to treat patients with severe bone loss in the anterior region, 7. Difficulty to treat patients with inconvenience in the level of gingival margin, 8. Difficulties to treat patients with shifted midline that is clearly visualized and diagnosed, and 9. Difficulty to treat patients having traumatic accidents that require immediate solution to improve the aesthetic profile. This article discusses these difficulties by displaying some clinical case reports of many patients suffering from bad smile line. Most of these patients have psychological trauma and they were looking for immediate solution. Meanwhile, they were looking for a dentist with deep emotion that he has a spiritual behavior towards them. This is considered part of the keys for successful end results. The final conclusion of this article is how to make your patients live happy and practice their life normally keeping in the mind that money is not everything in our faded life.

Biography

Mudher Ali is General Secretary and Board member of the Iraqi Dental Association. He is the Councilor at the IAOR (Iraqi Association of Oral Research) which belongs to the International Association for Dental Research (IADR). He is the Head of the Department of Prosthodontics at the Iraqi University. He was selected as one of the best ten personal fair and honest personalities among the Iraqi community in 2013-2014 which is organized by TEDX (in Iraq).

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Notes:

Nazli Yesilyurt Aydin et al., J Oral Hyg Health 2017, 5:1 (Suppl)
http://dx.doi.org/10.4172/2332-0702-C1-005

Comparison of the internal and marginal adaptation of metal substructures fabricated by different manufacturing techniques

Nazli Yesilyurt Aydin, Yurdanur Ucar and **Orhun Ekren**
Cukurova University, Turkey

Using computer aided methods, a final object can be manufactured either by milling from a block or additive manufacturing which allows standard object production with low cost and decreased manufacturing time. The aim of the study was to compare the internal and marginal fit of crowns fabricated using conventional casting, laser sintering and soft-metal milling. A first maxillary molar die made of metal was fabricated. Metal substructures with standardized sizes were manufactured using conventional casting, laser sintering and soft-metal milling (N=15/group). Internal-fit and marginal-fit of metal substructures were evaluated. The metal substructures were seated on the metal die using light body silicone material. Excess silicone was cleaned. Following the setting, crowns were removed and silicone was weighed to evaluate the 3D internal cement gap. Same specimens were used for marginal gap measurements under a light microscope. Statistical analysis was performed using one-way ANOVA followed by Tukey HSD test (α=.05). A statistically significant difference was observed for both internal and marginal fit among compared groups ($p<0.05$). The highest mean silicone weight (standard error) was observed in casting group (36.8±1.9 mg) followed by laser sintering (26.6±1.5 mg) and soft-metal milling (20.7±1.4 mg) groups. The lowest mean marginal gap (standard error) was observed in laser sintering group (4.2±1.2 µm) followed by casting (8.7±1.2 µm) and soft-metal milling (22.3±1.2 µm) groups. Although statistically significant differences were observed among all compared groups, a clinically significant difference can't be mentioned.

Biography

Nazli Yesilyurt Aydin has completed her license in 2013 from Marmara University, College of Dentistry. She is currently enrolled in a Specialty Program in Department of Prosthetic Dentistry at Cukurova University.

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Notes:

Jones Ozokwere et al., J Oral Hyg Health 2017, 5:1 (Suppl)
http://dx.doi.org/10.4172/2332-0702-C1-005

Formulation of a chewing gum for treating oral candidiasis

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[1]Tshwane University of Technology, South Africa
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Fungal infections have become major causes of morbidity and mortality among immuno-compromised patients. Oral candidiasis is a fungal infection caused the opportunistic pathogen named *Candida albicans*. Conventional available treatments for oral candidiasis include topical antifungal azoles such as Miconazole, Amphotericin B and Nystatin. Miconazole, in various formulations (gels, lozenges or mixtures) for local application, is an effective antimycotic drug for treating oral candidiasis. However the increase of resistant micro-organisms to conventional treatment is becoming a challenge, researchers are trying to identify potential drugs and alternatives treatments with better and improved therapeutic effects and fewer adverse effects. Essential oils have been used for the treatment of several diseases. They possess antibacterial, antifungal, antiviral and antiseptic activities. Certain essential oils have been shown to have antifungal activity or reduce the risk of fungal infections. In this study, a selection of essential oils was made and evaluated based on their anti-candidal activity, organoleptic properties, availability and minimum inhibitory concentration for possible inclusion and formulation into the chewing gum as an active pharmaceutical ingredient. Preformulation studies were conducted to identify suitable excipients and evaluate physicochemical compatibilities of the actives with selected excipients. From three placebo formulations obtained from the gum base manufacturer, preliminary development of the formulation was done. A series of formulations were developed by varying different tablet components. The active pharmaceutical ingredients (API's) were included in the gum core both at 2% (w/w) of the MCG composition. The formula was subjected to scale-up. Produced MCG's from the scale-up were film coated to improve stability. Finished products were subjected to post-compression evaluation including *in vitro* release of the API's from the dosage form. This study proved that it is possible to develop a medicated chewing gum with a combination of essential oils as active substances for the effective treatment of oral candidiasis.

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