BOOK
OF
ABSTRACTS

2019
BIDM
Lecuit International Dental Meeting
Dear Colleagues,

Welcome to the 29th edition of the Beirut International Dental Meeting, under the theme “TRADITIONAL V/S INNOVATIVE DENTISTRY” held in Beirut between 3 and 5 October 2019.

Through 70 national and international keynote speakers from over 16 countries, the scientific program has been conceived to present (through “traditional” lectures) how Dentistry is quickly transforming into new concepts and applications.

Margaret Hefferman said: “For good ideas and true innovation, you need human interaction, conflict, argument and debate”. This is why the Scientific Committee multiplied live transmissions, workshops, interactive forum discussions and poster sessions which will provide a unique meeting place for interdisciplinary and multidisciplinary exchange and a continuing education opportunity for dentists from all fields of Dentistry.

Don’t miss the exhibition area where the latest state-of-the-art dental equipment and tools, covering new technologies and latest developments will be presented.

Enjoy BIDM 2019.

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The impact of reciprocating to daily clinics and endodontic education.

In this hands-on workshop we present the recent chronological history of the mechanized preparation culminating in the development of the reciprocating movement, how it has impacted in the overall shaping quality of the root canal, reduced the learning curve of the treatment and resulted in more dentists reaching the standard technical levels of Endodontics.
Attaching a 2-implant mandibular complete denture with Locator attachments.

When complete denture lacks the retention and the stability necessary for a comfortable wear, the attachment implant overdenture is prescribed. A predictable and inexpensive way to improve the treatment outcome of a mandibular denture is to place 2-implants and to use 2 Locators attachments.

The lecture portion of this hands-on session will discuss how to overcome these challenges of poor denture retention and stability with a proper treatment plan. The treatment sequence will be described in a step-by-step simplified approach to provide final prostheses that meet patients’ expectations from esthetic and functional perspectives.

The hands-on session portion, you will attach a mandibular denture using Locator attachments.
Scientific Researcher,
Biomedical Sciences and Biotechnologies

Workshop
Wednesday October 2, 2019
09.00-12.00

CGF system: theoretical bases and biological assumptions in the use of autologous growth factors.

- Presentation of growth factors history.
- Why we use CGF system: theoretical bases and biological assumptions in the use of autologous growth factors.
- Difference with other molecules on the market.
- Use of CGF in orthopedics - Dental Oral Surgery.
Hands on  
Wednesday October 2, 2019  14.00-17.00  

Managing esthetics and tooth wear the MI way. 

Hands-on on models to restore teeth affected by tooth wear. Providing esthetic results, correcting occlusal changes and the esthetic damage caused by all types of tooth wear from erosion, attrition and bruxism. This popular all-day course covers the techniques to restore esthetics and function for teeth damaged by all types of tooth wear. A short seminar will cover the management of all types of tooth wear from prevention with splints through monitoring and management. Techniques for intervention use the latest range of adhesive aesthetic materials as well as traditional methods. Hands-on sessions include tooth build-ups with a range of direct and indirect techniques. Teaching covers the management of sensitivity, aesthetics and function as well as occlusal change in vertical and horizontal dimensions. Splint therapy is discussed. The course is mainly hands-on including treatment of all types of tooth wear from moderate to severe on models.

Three learning outcomes: 
1 be able to recognise tooth surface loss, know when and how to intervene  
2 understand when and how to change the occlusion when restoring teeth affected by wear  
3 how and when to use Dahl and when not to use it  
4 use composite to intervene and improve esthetics and function, monitor and maintain  
5 convert the composite design to ceramics for long lasting esthetics
When a compromised anterior tooth is removed, the presentation of the alveolar socket varies from simple to more complex defect. The remaining tissues surrounding the extraction defect dictates the implant therapies. Several alveolar defect classification systems have been reported. All of these existing classifications however, describe the condition of an already healed edentulous site. A classification of the extraction defect immediately following tooth removal and prior to healing and remodeling which provides guidelines for implant treatment was introduced by Caplanis et al in 2009. The Extraction Defect Sounding (EDS) classification, simplifies the decision-making process when planning for placement of a dental implant. This classification came short and no detailed recommendation of the provisional stage was described before and after surgical treatment for the esthetic zone.

The purpose of this hands-on is two folds:
1. With a slide presentation we will describe and evaluate all possible provisional techniques available to restore a single tooth in the anterior esthetic zone and give recommendations to the preferable techniques during site development and implant placement according to the EDS classification.
2. You will make a provisional crown in the esthetic zone. The hands-on session will help you to do and evaluate a maxillary incisor screw retained provisional implant crown.
Hyflex EDM and Hyflex CM rotary instruments.

Overview on:
1) basic principles and paradigm shift of shaping concepts
2) Features of the “Hyflex EDM” and “Hyflex CM” rotary instruments
3) What instruments and sequence use depending to the anatomy of root canals.

At the end, the participant can expect to:
• Understand the mechanical and physical properties of NiTi rotary instruments “Hyflex EDM” and “Hyflex CM” by Coltene
• Mastering the suggested shaping protocols with the “HyFlex” EDM & CM
• Practice the shaping protocols in straight, curved training blocks and extracted teeth
• Obturate the prepared training blocks by using greater taper gutta-percha points in combination with “GuttaFlow bioseal”.

Workshop
Wednesday October 2, 2019 14.00-17.00
BC’S, Federal University of Rio de Janeiro, Specialist in Dental Prosthesis, São Paulo, Specialist in Implantology, Federal Dental Council, Brazil, MSc in Oral Rehabilitation, Federal University of Uberlandia, Brazil, PhD in Oral Rehabilitation, São Paulo University, Brazil

Thursday October 3, 2019 Hall D 09.00-11.00

Implant bioengineering.

In order to achieve higher clinical success ratios, oral implants should have a range of torque at the moment the fixture is placed, these values must respect biology and local anatomy.

Nowadays scientific literature supports procedures as immediate loading and the torque mentioned is an important reference for this procedure. Since bone anatomy and density varies according to the area of the mouth, implant designs and its drilling protocol are determined from case to case. The present hands on session will introduce a hybrid implant design that can be placed in different techniques, such as placement post extraction or in healed areas, straight or angled.

The drilling protocol will be described in a way that always the ideal torque will be achieved and an exercise of implant placement in blocks of different densities will be placed for proper training before clinical trials.
Individual training oral prophylaxis.

This one-and-a-half-hour seminar will allow you to acquire the particular knowledge and the corresponding individual technique to preserve your teeth all your life and transmit this knowledge to your patients in an individual and customized way.

Program:
- Why does not the existing prophylaxis fulfill its task?
- Criteria for choice of instruments.
- Criteria for choosing the correct technique.
- iTOP concept.

- T2T - touch to teach - Practical part: demonstration of good instruments and good techniques in small groups of 15 maximum.
- How to organize and to make the prophylaxis in the office profitable.
How to read endodontic CBCT?

The use of Cone Beam Computed Tomography (CBCT) is rapidly expanding in dentistry among all clinicians.

This half day course will allow dentists and endodontists to upgrade their clinical experience, through reading and analyzing several challenging endodontic cases which help reveal extra root canal anatomy, traumatic fractures, missed canals, resorptions, and perforations and help the clinician get properly oriented during treatment complications.
Computer guided surgery.

Computer guided is innovative technique which improves predictability and safety of the surgery by using a “user friendly” software.

By exploiting new technologies, we are constantly developing innovations to help dentists give their patients even better smiles and therefore greater satisfaction.

This is the driving force behind cutting-edge Computer Guided Implantology, a quantum leap in the world of dentistry.

Guided Surgery revolutionizes dentistry, enabling more specific diagnoses, virtual planning of surgical procedures, quicker treatments and reduced risk of error.

This revolutionary technology is now available to practitioners wanting to stay abreast of contemporary technology. Quicker, safer and more precise procedures can be offered to an increasingly demanding clientele. This state-of-the-art computer guided surgical technique enables low-risk treatment which is able to transform, in single sitting, removable prostheses into implant-retained ones suitable for immediate use.
Ask the experts in Periodontics and Prosthodontics.

All dental professionals and auxiliaries have questions that have either been left answered or never asked.

This forum workshop encourages and welcomes all dental professionals to “ask the experts” the everyday clinical tips and questions regarding any topics in Periodontics and Prosthodontics.

You can email us your questions one week before the meeting or you can bring it to the meeting.
ProTaper Gold rotary instrument: application and technology.

The workshop and its associated lecture will focus on the attributes and value of the ProTaper Gold rotary instrument. Applications will be highlighted and the uniqueness of this technology will be discussed during the workshop session.
Direct veneer restoration with nanoceramic composite.

- Isolation.
- Preparation of silicone index.
- Bonding protocols.
- Lamination of restoration.
- Finishing and polishing.
ORAL PRESENTATIONS
Influence of mandibular flexure during treatment of complete edentulism with implant supported fixed constructions.

Dental implantology is a science of precise and clear indications, criteria, protocols, materials and technologies. Osseointegration is a proven phenomenon and can not be disputed.

The surgical phase of implantology treatment is extremely important for the final result. For years a leading role in treatment was that of implantology surgeons. The accumulation of knowledge and skills resulted in the term “prosthetic driven implantology.” Consensus was reached on the leadership of prosthetists when planning implantology treatment.

The gravest diagnosis in prosthetic dentistry is total edentulism. The choice whether to make removable dentures or non-removable ones is always on the agenda. The approach to the treatment of upper and lower jaw has to be different due to the difference in the structure and the extent of atrophy of both jaws after complete edentulism.

During the treatment of edentulous lower jaw with fixed implant-retained rigid prostheses, the mandibular flexure during function has a negative influence of the peri-implant bone and create an algorithm for the number, position of the implants and the type of the prostheses in order to prevent the consequences of the mandibular deformation.
Fixed and removable implant supported immediate prosthesis.

Temporalization necessity of implantology treatment could be determined from aesthetic as well as prophylaxis and functional point of view.

From nowadays achievements of Prosthodontics it should be mentioned that prosthesis over teeth and implants on definitive as well as temporary constructions. On crowns and bridges over teeth the term “fixed” is correct, but on implants this particular term does not indicate all peculiarities. Implant prosthodontics could be achieved by several different ways of connections: cement-retained constructions, screw-retained constructions or bar-attachments. This creates the necessity of defining the terminology in order to explain the behavior of prosthetic construction during function and during physiological rest.

In addition the prosthetic constructions could be divided as implant-retained (removable) and implant-carried (fixed). In this sense an implant-system construction of four implants, connected by extended distally bar on the mandible, is accepted as implant-carried, even though it is removable by its nature.

The purpose of the current lecture is to distinguish terminology, indications and principles of implant prosthesis planning and manufacturing of immediate temporary constructions over teeth and implants.
Strategies for lateral, vertical and 3D ridge augmentation.

Management of the deficient ridges in height and width continue to be one of the greatest challenges to optimal implant placement, due to high aesthetic and functional demands.

Also, treatment of improper and failed implant placement necessitates excessive tissue regeneration due to the loss of large amounts of underlying bone. While there are many regeneration techniques that can achieve an excellent outcome, it is often difficult to decide which technique could be best suited for a particular defect.

Vertical and horizontal augmentation presents one of the greatest challenges of bone regeneration in implant dentistry. This is primarily due to the difficulty of the surgical procedure and its potential complications. In the past decade, vertical and horizontal augmentation utilizing guided bone regeneration (GBR) and/or Onlay block bone graft and/or gum grafting, became a major treatment option in the development of optimal support for dental implants.

This presentation will highlight the indications, limitations, technical challenges and complications for treating deficient bone quantity with each of these techniques.
One piece versus two piece dental implants.

One piece implants have been gaining popularity after being reintroduced by implant manufacturers, having one piece implants as part of our armamentarium definitely serves a great purpose but we should not forget about the drawbacks and the limitations for the use of one piece implants, during our talk we will go over the advantages of one piece implants including but not limited to the great bone stability surrounding them as well as the ease of use during full mouth immediate rehabilitation providing a fast and reliable prosthesis the day of surgery.

Of course we should mention the drawbacks which include poor emergence profile, limited use in big bone grafting cases and no possibility for customizing the angle or shape of the abutment to conform to the prosthetic needs of the case.

Marginal bone stability has been well documented in one piece implants, we will compare it to marginal bone changes in the form of bone loss around 2 piece screw type implants, around platform switched implants as well as marginal bone stability around subcrestal taper lock connection press fit implants.

Clinical cases will be discussed to show the uses and limitations of one piece implants as well as one piece temporary implants, not to mention the long term follow up of those cases.
Implant site: preparation and restoration.

Introduction of dental implants and next the implant supported prosthesis has hugely enhanced the quality of life for those partially or fully edentulous patients. Implants provided advantages such as preservation of bone, occlusal vertical dimensions, facial esthetics, improved phonetics, enhancement or granting for restoring of oral proprioception, stability and retention of prosthesis, psychological health and eliminating the need to change.

Based on clinical observations it has been suggested that the main issue, the primary interest in current clinical and animal research is the study of dimensional tissue changes that occur following tooth loss and the proper timing for implant placement and loading. Patient desire for improved masticatory function is often given as a primary reason for treatment with implant-supported or retained dentures.

Implant-supported or retained prosthesis have been increasingly accepted as an alternative to conventional dentures for oral rehabilitation of fully or partially edentulous patients. There is a positive relationship between proper dental implant site preparation and highly remarkable implant success rates and patient satisfaction.

The selection of a specific prosthetic design for implant supported prosthesis is wide and often controversial but then again the restoration is influenced by the type, size, number and orientation of implants that can be planned in relation to anatomical, surgical and prosthetic considerations.
BDS, DU Oral Biology, DU Oral Surgery, 
Clinical Instructor, Department of Oral Medicine and Maxillofacial Radiology, 
Faculty of Dental Medicine, Lebanese University

3D radiological input in dental implants complications.

Dental implants have increased in the last few decades thus increasing the number of complications. Since many of these complications are easily diagnosed on postsurgical images, it is important for radiologists to be familiar with them and to be able to recognize and diagnose them. Radiologists should also have a basic understanding of their treatment.

This presentation will highlight the basic complications of dental implants as well as their common imaging appearances and treatment. Lastly, we will review pertinent dental anatomy and important structures that are vital for radiologists to evaluate in postoperative oral cavity imaging.
Dental waste management in Lebanon: adjacent realities.

Dental health care waste management in the dental practices is as important as for biomedical waste management in the hospitals. Hence the correct management of dental waste has become an essential issue in the preservation of people's health and quality of life.

However, it was shown that in Lebanon, dental practitioners are still not adopting efficient and responsible dental waste management practices in the dental clinics. Most of them are following wrong disposal routes for the different types of dental health care waste. The waste is either mixed with the municipal waste or drained in the wastewater, which is a significant source of hazards for the public health and the environment.

The objectives of this lecture are to draw a status report on dental waste management practices in Lebanon and to provide its “best management practices” (BMP) to be applied by the Lebanese dental community.
Soft tissue management around dental implants: what have we learned?

This presentation will discuss the soft tissue conditions around dental implants including attachment, vertical and horizontal thickness and presence of keratinized tissue. The stability of the peri-implant soft tissue is influenced by myriad factors namely the implant position, implant design, bone availability, soft tissue characteristics and prosthesis design.

This session will explore the soft tissue augmentation techniques and the timing of surgical and restorative interventions, supported with evidence and clinical cases.

Learning objectives:
- Understand the role of soft tissue around dental implants.
- Review the impact of soft tissue influencing factors.
- Learn about the various surgical interventions to address peri-implant soft tissue deficiencies.
Are Allografts the material of choice in ridge preservation and augmentation procedures?

Implant site preparation has been widely performed with a variety of bone replacement grafting materials and techniques. This presentation will focus on socket grafting (ridge preservation) and ridge augmentation techniques using bone allografts. In particular, small-sized bone allografts have been widely used in ridge preservation/augmentation and are available in mineralized and demineralized forms. Nonetheless, the influence of particle size (small vs. large) on the clinical and histologic outcomes has not been clearly elucidated in socket grafting and ridge augmentation procedures.

This session will address the above-mentioned factors, as observed in clinical, radiographic and histologic changes at time of implant placement.

Learning objectives:
- Review minimally invasive techniques in ridge preservation procedures.
- Understand the role of allografts in ridge preservation and augmentation procedures.
- Learn about material choice and influencing factors in implant site hard tissue preparation.
Dental treatment for uncooperative patient under nitrous oxide sedation or general anesthesia: what are the risks?

Dentophobia or "fear of the dentist" is still very frequent among children. The pediatric dentist is confronted to the problem of having to identify these children during the first dental consultation, which is not always easy.

Conscious sedation by inhalation of a nitrous oxide and oxygen gas mixture will allow treatment of young anxious patients and make their dental visit more enjoyable. It represents an excellent alternative before deciding on dental treatment under general anesthesia, which is indicated for extensive surgical interventions, for anxious patients when treatment under sedation is not possible or not appropriate and for children who categorically refuse dental treatment.

Some practitioners are reluctant to use conscious sedation and general anesthesia because they are afraid of the side effects. This presentation will discuss the risks of dental treatment under conscious sedation and general anesthesia.
Alveolar ridge split technique a predictable technique.

General practitioners are facing challenges with implant treatment in their daily practice. Starting from simple to severe cases, they should deal and control all of them. From a simple to an advanced reconstructive surgery, we should control every detail in the soft and hard tissue. A minimum of knowledge is needed to succeed?

Bone thickness to allow implant placement should be at least greater than 1.5mm, both on the vestibular and on the lingual/palatal side. Thus if the alveolar width is less than 6 mm, transversal bone augmentation is generally required to allow implant placement.

The alveolar ridge splitting technique (ARST) became popular in the 1990s through some promising research that demonstrated its efficiency (Simion et al., 1992; Scipioni et al., 1994). In 2000, Vercellotti et al. introduced piezosurgery in the treatment of the atrophic jaw. Piezosurgery made split technique easier, safer, and also reduced the risk of complications in the treatment of extreme atrophic crests.

Split ridge and expansion techniques are effective for the correction of moderately resorbed edentulous ridges in selected cases. Transverse expansion is based on osseous plasticity obtained by corticotomy. It progressively allows for an adequate transversal intercortical diameter large enough to insert one or several dental implants. The gap created by sagittal osteotomy expansion undergoes spontaneous ossification, following a mechanism similar to that occurring in fractures.

Multiple cases will be presented in that oral presentation.
Simplifying surgical and prosthetic treatment of complex implant cases.

The new trend in implant dentistry is shifting towards easy, simplified treatment, which is more known as Keep It Simple and Safe (KISS) concept. But applying this concept, one has to go through thorough case study to find viable and long term alternatives.

These alternatives start with surgical planning to avoid grafting by using the remaining bone or tilting the implants and finding anchorage in the residual bone. Analyzing the 3D image, using guides and virtually planning the implant position reduces tremendously the time and the morbidity of the surgery.

Other options in the preparation of the implant site via orthodontic movements that will reduce the morbidity and the simplifying the treatment without compromising the final outcome.
Traitement orthopédique des classes III: quand intervenir?

Le moment opportun pour traiter les classes III est l’une des questions les plus controversées dans notre spécialité. L’orthopédie précoce des classes III est la pratique la plus utilisée avec de bons résultats cliniques à court terme.

Certaines études mettent en avant les atouts de cette interception précoce permettant de créer un environnement fonctionnel favorable à une meilleure croissance squelettique et une bonne correction des rapports dentaires réduisant ainsi le recours à la chirurgie à l’âge adulte. À l’opposé, d’autres études ont trouvé que l’âge du patient présente une faible influence sur le résultat. Les études sont formelles sur l’absence de preuves scientifiques solides en faveur du bénéfice à long terme du traitement orthopédique précoce.

Ce dilemme d’intervenir précocement ou tardivement sera illustré à travers plusieurs cas cliniques de classe III de deux fratries, traitées de la même façon, mais à des âges différents et avec des résultats différents.
Endodontic microsurgery: the surgical techniques that you should know and master.

Contemporary endodontic microsurgery is fundamentally different from historical apical surgery in terms of instruments, materials, biological principles and, most importantly the success rate. In this presentation we will illustrate eight basic steps in microsurgery using digital pictures, video clips and slides.

Four surgeries will be shown from A to Z by four video clips running at the same time on the screen, so that the participants will have a clear understanding of surgical procedures and principles.
Fiberglass prefabricated crowns for the restoration of deciduous teeth.

Pediatric dentists across the globe experience the same frustrations with most existing prefabricated dental crowns on the market due to their limitations and pitfalls. Designed by a pediatric dentist, fiberglass reinforced resin crowns are becoming the new standard for dental restorations.

From an ease of use product to a true cosmetic perception that mimics the anatomy of a real tooth, these crowns exceed stainless steel, strip, and especially zirconia crowns. They have a unique flex-fit technology that hugs the tooth, avoiding the open margin as well as being autoclavable and adjustable.

One of the advantages of the crown being metal free is that patients with cancer can receive an MRI without any imaging problems. Being radiolucent, they allow the dentist to monitor the pulp of the tooth, the surrounding bone structures as well as the interproximal caries on adjacent teeth with no overlap, thus minimizing the exposure to radiation for the child. Furthermore, with a technique and preparation similar to the stainless steel crowns, the time required for the crown placement is reduced.

In this lecture, we will shed the light on the versatile characteristics of the fiberglass crowns and discuss several clinical cases.
Oral cancer - what we know and what we can do.

Oral cancer, often fatal disease, is the eight most common cancer in the world. A number of risk factors have been recognized including tobacco, alcohol, betel quid and human papilloma virus. Despite better understanding of the disease process and numerous advancements in the treatment options, the 5-year survival rate has remained approximately 50%.

The current gold standard for establishing a definitive oral cancer diagnosis is to perform a surgical biopsy followed by histopathological analysis. However, it suffers from both inter-observer and intra-observer variability. In recent years, there has been an increase in the number of potential oral cancer diagnostic or adjunctive tools that have the aptitude to identify precancerous lesions, enhance visualization and assist in the selection of biopsy site. Although these tools are useful, they should be used with caution in the background of proper training and experience as they may result in misdiagnosis and/or unnecessary biopsies.

Adopting an oral cancer screening program may not only reduce the incidence of oral cancer but may also improve the mortality rates and provide better quality of life to the surviving patients. However, development of firm guidelines is crucial to not only assess screening programs, but also regulate their suitability before they are employed. One easier way to address this issue is to perform opportunistic screening rather than population-based screening because the procedure is very simple and requires very little additional time to perform. Furthermore, the potential benefits this program produce greatly outweigh the minimum risks which may be encountered.
Waterpipe smoking - A growing global threat.

Waterpipe smoking (WPS) is a centuries-old habit among people in Asia, Middle-East and Northern Africa. In recent years, there has been an alarming increase in the global prevalence of WPS, particularly among the youth. One main reason for this popularity is the general belief that WPS is safe as the smoke passes through the water and its harmful effects are “filtered.” Other predominant factors for the resurgence of WPS in the Asian countries and the spread throughout Europe and Northern America are the use of heavily flavored tobacco mixtures, as well as lack of control policies and legislations. Further, the introduction of self-igniting charcoal also contributes to the increasing use of waterpipes especially in the Western hemisphere.

There has been convincing evidence in the literature about the harmful effects of WPS due to the presence of certain toxicants including carcinogenic polycyclic aromatic hydrocarbons, volatile aldehydes, CO, and nicotine. Unfortunately, this ever-growing evidence has been unsuccessful so far in overturning the general belief that WPS is a safe way of smoking. One way to overcome this hurdle is to provide better education and awareness to the general population towards the health-related effects of WPS.

Health care professionals can play a significant role in this since they are generally considered as a reliable source of health-related information. In addition, it is crucial that WPS should be subjected to the same regulations as conventional cigarettes that includes warning labeling practices on waterpipe tobacco products and related accessories, proper enforcement of smoking bans in public places, and bans on advertisement and promotion.
Simplifying surgical treatment of complex implant cases.

We will pass in review complex implant cases where classical teaching of planning and placing the implants cannot be applied due to anatomical deficiencies or to the medically compromised patients! We will present complex clinical cases to illustrate our presentation.

We will concentrate on difficulties due the posterior atrophic maxillae and the presence of the inferior alveolar nerve.
How to maintain esthetic and function in single implant cases.

Nowadays it's well described in the literature that the best moment to replace a loosen tooth with dental implants is right after extraction. Since implant placement post extraction can be done with the support of grafting materials and the technique of immediate loading, clinical studies has been showing that this procedure results in bone maintenance, esthetic and function in the long term.

The main aim of this presentation is to show a proper step by step for implant placement immediate post extraction under immediate loading, from molars to central incisors.

All work flow will be described and surgical and prosthetic cares will be demonstrated in the light of the scientific literature and with clinical cases. Conventional and digital workflow will be shown, as well its advantages and limitations.
Step by step for full arch rehabilitation with a minimum number of implants.

The full arch protocol for oral rehabilitation changed radically in the recent years. New knowledges on implant positioning, its number, distribution and prosthetic options has being developed in order to make clinical results better and more feasible.

The main aim of this presentation will be to show methods of diagnosis and treatment plans that will define the necessity of temporary bridges or no, the amount of bone osteotomy, the type of restoration and restorative material, implant positioning and number in the upper and lower maxilla.

All situations will be described with clinical examples, also a protocol for double arch immediate loading procedure of edentulous and periodontal patients will be demonstrated, with long term results follow up.
Communication approaches for successful implant’s treatment.

I will present you some of the main communication approaches when we interact with our patients.

Which are the basic stages of communication in a dental office? Who are the main participants in a conversation with patients, and their roles? How to present the best sides of our implant’s treatment? How to explain to our patients why they must choose our treatment. Which is the right way to explain the costs of our treatment and the main approaches to manage with the complaints of our patients.

Introduction: The aim of this study was to compare the effect of Nd:YAG laser to that of a new varnish: MI Varnish with RECALDENT (GC), for the treatment of dentin hypersensitivity, with a follow-up of 6 months. Dentinal hypersensitivity was evaluated using a new thermal test never before used on dental tissue.

Materials and methods: A split-mouth design was used. 27 teeth received the Nd:YAG laser treatment, and the 27 contralateral teeth received MI Varnish application. Five parameters were measured, before treatment at baseline (T0), after 1 week (T1), 1 month (T2), 3 months (T3), and 6 months (T4) of the application. Air stimulation to obtain the Schiff air score, the score of discomfort according to the visual analog scale (VAS), the tactile score, and the thermal test that determines the minimum cold-stimulating temperature and the maximum heat-stimulating temperature were all used to assess sensitivity.

Results: There was a clear decrease in dentin hypersensitivity for both treatments (Nd:YAG laser and MI Varnish) especially between baseline and 1 week, with maintenance of this state through the 6-month follow-up period. The difference between the two treatments was not significant, comparing, over time, the Schiff air score, the thermal test, and the VAS; however, the tactile score was significantly improved 6 months after the application of MI Varnish compared to the laser (p = 0.05).

Conclusion: no significant difference between the two treatments, Nd:YAG laser and MI Varnish. Both treatments were effective and reduced dentin hypersensitivity immediately after treatment up to 6 months.
Occlusal appliances to manage the periodontally compromised orthodontic patient.

Loss of occlusal vertical dimension is a frequent consequence for the patient with reduced levels of periodontal attachment, loss of posterior teeth, and chronic parafunctional habits.

This lecture will describe treatment strategies combining fixed and removable orthodontic appliances to ensure predictable and timely outcomes with excellent long-term stability.
Hard and soft tissue grafting to increase the scope of orthodontic treatment.

Mild-to-moderate sagittal and/or transverse skeletal deficiency is a common orthodontic diagnostic finding. This lecture will include a review of the periodontal literature regarding hard and soft tissue grafting procedures which increase the envelope of orthodontic treatment.

Case reports will provide examples of the long-term benefit of grafting procedures.
Prophylactic individual management of caries and periodontal pathogens of clinically healthy adults.

Our hypothesis was to challenge generally accepted belief that interdental spaces do not fall within the scope of prophylaxis, and are consequently only considered when the clinical signs of periodontal lesions appear among adult patients. Our hypothesis was that the interdental spaces constituted refuges for virulent bacteria that could cause systemic diseases from a young age. It therefore sought to re-elevate oral health as an integrated dimension of general health care, a concept which is often put forward, but which is little understood and even less applied.

The value of managing the interdental space to prevent periodontal disease, periimplantitis and systemic diseases

Naturally, dental professionals agree that, despite clinical evidence that supports the importance of interdental biofilm management, effective daily cleaning of interdental spaces remains a challenge among their patients. Removal of interproximal plaque is considered important for the maintenance of gingival health, prevention of periodontal diseases and the reduction of caries, as well as the prevention of systemic diseases. However, dentistry still argues whether today’s interdental cleaning tools are sufficient to interrupt biofilm development. Professionals debate on which tools to use and how to use them correctly, as uncertainty has remained about how to maintain clean interdental spaces.
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DDS, CES,
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Post-operative biological complications in implant dentistry: are they predictable?

After successful osseointegration and prosthetic rehabilitation, dental implants in function will face different challenges: bacterial and mechanical. What is supposed to last a “lifetime” or the longest term possible, might, at a certain point, develop complications, ranging from mild to severe.

Is it possible to predict the risk factors in order to reduce the post-operative problems? How can different clinical situations affect the behavior of dental implants? A better understanding of the inter-relation between host and implant might lead us to anticipate and avoid those difficulties, with surely regular controls.

This will be discussed during this presentation, based on the literature and some clinical cases.
Seeing through: the key for success.

Knowing how to travel virtually through the maxillofacial region is like having day and night vision in our everyday surgical practice.

Not seeing before and during surgeries is driving across a dark tunnel without knowing where it ends.

Anatomical obstacles and pathologies are not rare findings, and the proper management of these difficulties is our duty.

Because seeing is believing, we have to plan out our interventions the best possible way, in order to provide our patients with the most efficient treatment they deserve.

How is that? Please join me in a series of “radiologically driven” clinical cases.
Overcoming challenges in pediatric dentistry: from myths to realities.

As pediatric dentists, we encounter many challenging clinical situations in children every day and while some dentists try to avoid such challenges and choose the easy ways in treatment, some actually take the opportunity to get one step closer to success and transform everyday challenges into opportunities. Such challenges can be seen daily in dealing with cases of advanced early childhood caries (ECC) in preschool children, with severe coronal destruction of the primary incisors and molars together with the development of apical pathosis and infection in some untreated teeth. Treating those badly decayed teeth is a debatable issue between dentists over years. Many dentists follow old myths in the practice suggest that such badly decayed and/or abscessed primary teeth should be extracted.

However, due to improvements and new levels of innovations in dentistry with the application of new technologies, materials, and disease knowledge; new facts and realities has raised in the practice aimed to save and restore those teeth to its previous function and esthetics. The infected pulp can be treated with various materials show successful results. The use of different types of posts as an intracanal support is advisable in cases with severe coronal destruction. Preformed pediatric zirconia crowns were emerged as an excellent esthetic solution and it perceived interests among pedodontists all over the world.

In this lecture, the clinical procedures and tips to overcome these challenges will be presented and illustrated by reviewing many clinical cases from real life showing successes and failures in an interactive way with the audiences.
Laser use in the management of snoring.

Snoring, which affects more than 30% of the adult population and a significant number of children, is a very common and generally non-desired form of Sleep-Disordered Breathing (SDB). Snoring is known to cause sleep deprivation to the those affected by it and in turn to those around them due to the snores; additional health risks associated with snoring include daytime drowsiness, irritability, lack of focus and decreased libido.

There is a whole range of treatment options for snoring. The treatments include different approaches bringing together various professions such as general practitioners, sleep medicine specialists, otorhinolaryngologists, head and neck surgeons, nutrition experts, and dentists. Even though available treatment methods do exist, patients and physicians are still searching for less invasive and more effective treatment methods for snoring and sleep apnea reduction.

In the field of dentistry, the use of lasers is becoming increasingly widespread due to its technological advances providing improved quality and a wider range of use and benefits.

Recently a new minimally invasive, nonsurgical method using an Er:YAG laser is proposed for the treatment of snoring and promising preliminary results are presented. A quick overview of this advanced technology will be explored.
Flapless crown lengthening surgery treated with Erbium & Diode Laser (a clinical case from A to Z).

We live in the era of beauty and aesthetics, and a person’s smile is one of the most significant factors for the first impression.

A "gummy-smile" person is usually unsatisfied with his physical appearance when he smiles, and for that, many approaches have been described in literature to correct the excessive display of the gum.

The most common technique is the traditional crown lengthening procedure: gingivectomy performed with a blade and osteotomy done with the drill.

In the beginning of the 21 century, Laser became so popular in the market, and all its interaction with oral tissues became clear and built on evidence-based practice, which inspired the dentists to introduce it in their daily profession in order to get all its advantages.

The aim of this lecture is to present a new flapless technic, in which the patient can "enjoy" a surgery with no pain, no swelling, no stitches, no antibiotherapy but above all faster healing.
Implant placement/loading protocols for single tooth replacement: Immediate or delayed.

The advancement in implant dentistry has allowed shortened treatment time by restoring the implants earlier. Immediately and conventionally loaded single-implant crowns are equally successful regarding implant survival and marginal bone loss. This conclusion is primarily derived from studies evaluating implants inserted with a torque $\geq 20$ to $45$ Ncm or an implant stability quotient (ISQ) $\geq 60$ to 65. Immediately and conventionally loaded implants do not appear to differently affect the papilla height during the first year of loading.

However, in the 6th ITI Consensus Conference the PICO (population, intervention, comparison, outcome) question was formulated as follows: “In partially edentulous patients with immediate or early placement and loading protocols, do the implantprosthodontic survival and success differ when compared to conventional protocols?

Nevertheless, it is very important to evaluate outcomes in oral implantology by combining the placement and loading protocols variables as a single denominator for survival/success. Therefore, the selection among the 12 placement/loading types presented, should be based on the consideration of specific procedural criteria for implant placement and loading protocol.

In terms of Patient-Reported Outcome Measures (PROMs), immediate implant placement and loading in single tooth edentulous space seems to be a well-accepted treatment modality from the patients’ perspective and is worthy of consideration in clinical practice.
Innovations within the scope of endodontic practice.

The scope of Endodontics, while in large part encompassing root canal procedures, entails many other aspects of creative dentistry designed to retain teeth in symptom-free function. This lecture will touch on a number of procedures that fall within this scope and present the practicing dentist/endodontist with both the challenge and the opportunity to preserve tooth structure.
Adjunct Faculty of Prosthodontics, College of Dental Medicine, University of Sharjah, UAE, Director, The Elite Academt, Dubai, UAE

New trends in aesthetic dentistry.

"Beauty lies in the eye of the beholder".

Patients seeking elective aesthetic treatments have become more demanding in terms of desired and/or expected results.

New trends have been implemented, starting from the treatment planning phase, the workflow of a smile makeover and the impact of the patient’s personality on the Digital Smile design protocol, to the latest innovations in the type of restorations offered to our patients, from Direct composite restorations following an additive protocol to partial non-prep veneers which are one of the most recent advances in this field as well as modern techniques in teeth preparations such as vertipreps and BOPT technique.
Erbium laser ablation effects and restorative dentistry.

Conventional methods of cavity preparation using high-speed handpieces with burs present several drawbacks such as margins microfractures, excessive removal of healthy tooth, excessive pulpal thermal increase (>15°C), smear layer formation & discomfort due to vibrations etc.

Alternative methods of cavity preparation have always been researched. The advent of erbium laser technology, by Keller & Hibst in mid 1990’s, opened new treatment modalities for dental hard tissue removal.

Hard tissue ablation with erbium laser is influenced by many parameters such as pulse energy, frequency, energy density, irradiation time, distance tip-to-tissue and ratio air/water spray.

The lased cavity is free of smear layer with pulpal temperature increase less than 5°C as it demonstrates selectiveness in tissue removal. But at the same time, the lased surface shows micro-irregularities & change in enamel and dentine structure.

What about bond strength & marginal integrity of cavities prepared with the erbium laser? Is there a standard clinical protocol to follow in order to optimize adhesion, minimize microleakage & enhance restorations success? What does the current available literature present?

A challenge to debate!
Endodontic failures and management: perforation and broken instruments.

The general purpose of the endodontic treatment is to maintain teeth duration as long as possible in the oral cavity.

Endodontic procedural errors, such as perforations and broken instruments, are the direct causes of endodontic failures in dental clinics. This presentation, based on referral clinical cases, will discuss the reasons for separated instruments and perforation, and also some of the guidelines for preventing and managing them. Attendees will better understand the variety of practice modalities available and integrate smart clinical strategies to achieve better endodontic results.
Use of CBCT in managing difficult endodontic cases.

Cone Beam Computed Tomography (CBCT) is a diagnostic imaging modality that provides high-quality, accurate three-dimensional (3D) representations of tooth structure.

The aim of this presentation is to allow dental practitioners and endodontists to upgrade their clinical experience, through application of evidence-based treatment strategies to manage difficult and challenging endodontic cases like missing canals, calcified canal, perforations, resorption...etc.
Impact of soft tissue thickness on orthodontic diagnosis and treatment.

Background: Facial soft tissues (FST) which comprises of muscles, fat and skin can develop in proportion or disproportion to the corresponding skeletal structures. Variations in thickness, length, and tonicity of the soft tissues may affect the position and the relationships among the facial structures thereby affecting facial esthetics.

Aim: Evaluate the association between mandibular divergence and FST features in adults.

Material and Methods: Non growing patients seeking orthodontic treatment (n = 120; 60 women and 60 men), who had an average age of 27.87 (range = 18-56 years), were stratified equally in four subgroups based on cephalometric mandibular plane inclination to anterior cranial base (MP/SN): low = MP/SN ≤ 27°; medium-low = 27° < MP/SN ≤ 32°; medium-high = 32° < MP/SN < 37°; and high = MP/SN ≥ 37°. Length, thickness and inclination of the FST were measured in all patients.

Results: No major gender differences were observed in the FST features. Subjects with hyperdivergent patterns tend to have longer and thinner FST especially at the level of the lower lip and the chin (p<0.001) with more obtuse angles and the level of the chin and the nose.

Conclusion: Thinner and more elongated FST in hyperdivergent mandibles could be an adaptation of a more accentuated vertical growth of the underlying hard tissues. The adaptation may represent a constitutional limitation to orthodontic treatment outcome in these patients, favoring a combined orthodontic/orthognathic/plastic treatment.
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**Blanchiment des dents dévitalisées.**

La décoloration visible des dents permanentes peut avoir un impact sur l’image de soi, la confiance en soi, l’attractivité et l’employabilité physique d’une personne. Le succès du blanchiment d’une dent dévitalisée varie selon l’aspect de l’étiologie, sa localisation, sa gravité et son adhésion à la structure de la dent. Elle peut être définie comme étant intrinsèque ou extrinsèque dépendant de la localisation et de l’étiologie. En outre, le succès du blanchiment dépend de plusieurs facteurs, où les plus importantes sont la cause de la décoloration de la dent, le diagnostic adéquat du problème et le bon choix de la technique et des produits de blanchiment.

Différents phénomènes peuvent faire en sorte que les dents traitées endodontiquement deviennent plus sombres. Bien qu’il existe une carence de la science fondée sur des preuves dans la littérature qui aborde le pronostic des dents dévitalisées blanchies, il est important de toujours être au courant des complications et des risques possibles qui sont associés avec les différentes techniques et agents de blanchiment.
How to get rid of enamel white spot lesion in no time.

Introduction: Approaches for Enamel white-spot lesions (WSLs) management have changed radically in recent years from traditional to minimal invasive approaches. Alongside, the increasing demands for the management of post-orthodontic WSLs are well established in literature. Therefore, resin infiltration (RI) was evolved to offer a simple non-invasive approach for dealing with WSLs. On the other hand, the literature elucidates contradictory results for addressing the efficacy of resin infiltration in WSLs management.

Objective: The objective of this review is to throw light on resin infiltration evidence, concept, and technique to offer the key of success for management of esthetic derangements. Furthermore, to offer a clear way in understanding the debate that has been associated with resin infiltration usage.

Conclusion: Various technologies of various concepts have been emerging for correction of esthetic problems. However, RI appeared to reveal an effective method for providing esthetically convincing results in management of WSLs. Yet, additional long-term studies are required.
Ceramic veneers new classification, failures and longivity: clinical tips and tricks.

Ceramic veneers wouldn’t have existed without the introduction of enamel etching by Buonocore in the mid 50s, the Bis-GMA monomer by R. Bowen in the early 60s and the silane coupling agent that bonds the ceramic fillers and matrix to the Bis-GMA.

The longevity of the veneers restoration depends on several parameters like the preparation itself, the residual enamel, the case planning and the type of ceramic used. According to the latest articles in dental material march 2019 the ceramic veneers recorded a high survival rate of 98% for 14 years if it is done properly and most of the failures are related to the preparation design and the remaining enamel. The preparation itself contains 3 parts:
1- bucco- incisal (window, feather, bevel and overlap).
2- cervical (equigingival, supragingival, and intrasulcular).
3- interproximal with or without the preservation of contact point.

And for the remaining enamel we have 4 class:
1- 95 to 100% residual enamel.
2- 80% residual enamel.
3- more than 50% residual enamel.
4- less than 50% residual enamel.

In the case planning the digital smile design plays an important role in treatment success and offers predictable outcomes.
How to retreat difficult cases from coronal access to filling material removal, to apical preparation and obturation?

The outcome of root canal treatment is mostly favorable. Nonetheless persistent disease may occur and retreatment is indicated with a high survival rate. In most cases, to gain direct access to the canals, coronoradicular restorations should be removed.

Moreover, the complete elimination of the previous root filling material may improve the success rate of retreatment. Many techniques have been advocated for removal of different filling materials using solvents, heat and various instruments such as stainless-steel hand files, nickel-titanium (NiTi) files in continuous rotation or in reciprocation.

Also, a supplementary approach using sonic and ultrasonic activation or special NiTi files are suggested to improve the removal of filling materials. The clinician should afterwards reach the apical foramen without endangering the initial anatomy of the canals.

This presentation will discuss step by step clinical retreatment cases from coronal access to filling material removal, to apical preparation and obturation.
Managing unusual positioned wisdom teeth.

The surgical extraction of wisdom teeth may sometimes be very challenging, especially when they are in an ectopic position. Fortunately, the indication of the extraction of such deeply positioned impacted teeth is rarely justified.

However, such rare indications happen, and are usually associated to large cysts or other pathologies. In those cases, surgical procedures will be discussed in order to avoid complications such as: damage of the adjacent teeth, nerve injuries, fracture of the mandible, teeth pushed in the neighbor regions, or other...

In other extreme cases, and in order to prevent heavy complications, Innovative and yet Traditional Techniques, such as Coronectomy or Marsupialization could be applied.

Very unusual cases of upper and lower wisdom teeth will be presented, in which neither extraction nor abstention is feasible. A special approach for every unique case.
How to close diastema in upper teeth with nanoceramic composite?

Clinical cases will be presented showing different ways of closing diastema with nanoceramic composite in upper teeth.
Optimizing implant treatment in the anterior maxilla: surgical and provisional considerations.

In the anterior maxilla, osseointegration alone is not sufficient; patient satisfaction is a key factor in the success of implant therapy. The esthetic outcome is determined by healthy and stable periimplant tissue as well as the final implant crown.

This presentation shows anatomic and surgical considerations for these demanding indications for implant therapy. First, potential causes of esthetic failures are reviewed, followed by recommendations for the surgical procedures in single tooth and multiple missing teeth.

Finally a recent study conducted by our team and published in the IJED is described to evaluate the esthetic outcome of the soft tissue around implant-supported single crowns using a five-point scale, and to assess changes after IIPP (immediate implant placement and provisionalisation) in the anterior maxilla at least 1 year after final crown placement.
Radiopacities of the maxillo-facial regions: when to worry?

Some general dental practitioners are less confident at diagnosing radiopaque images of the jaws than radiolucent ones, possibly because the incidence of jaw radiopacities is comparatively low. These radiopaque images may represent normal anatomy/normal variants, iatrogenic errors or pathology including sclerosing (condensing) osteitis, a response to low-grade chronic apical infection, and odontomas, form of odontogenic hamartoma.

Other radiopacities are due to the superimposition of soft tissue calcifications. They frequently manifest on radiographs in various locations and in several sizes and shapes. Accurate diagnosis is important as these finding may indicate serious disease states.

This presentation will cover the majority of radiopaque images referred for a specialist's second opinion and focuses on the ones that needs extra attention and extra treatments.
Guided bone regeneration in the anterior aesthetic zone: treatment modalities related to clinical situation.

Implants nowadays has become a routine treatment in dental practice. The anterior maxilla represent a challenge in implant dentistry due to aesthetic demands, patients expectations and ridge deficiency.

Different factors should be taken into considerations in order to achieve a long term aesthetic and functional success: lip position, smile line, Buccal bone plate, keratinized soft tissue ,....

This lecture will focus on implant therapy in the anterior aesthetic zone and on bone grafting techniques accordingly to clinical situations.
3D reconstruction of horizontal ridge deficiency: techniques and approaches.

Following tooth extraction, trauma, periodontal/endodontic disease, most patients present with tissue deficiencies. Which include deficits of soft tissue (alveolar mucosa) and/or hard tissue (alveolar bone). Alveolar ridge defects can be categorized as horizontal, vertical and combination defects. Without careful consideration and proper treatment planning, hard and/or soft tissue defects may lead to functional, structural, or esthetic compromises in the final prosthesis.

With different ridge augmentation techniques, can we prevent these esthetic and functional complications?

This presentation will present a clinically relevant implant-driven classification of the alveolar ridge width, with the goal to help clinicians to choose the proper ridge augmentation technique.

Treatment management strategies of the horizontally collapsed ridges, especially the ridge-split approach, will be discussed using well supported references and clinical examples of treated cases. Comparison and advantages of different techniques will be presented.
Occlusion and splint therapies.

This lecture covers the principles to follow and what to avoid. Practical tips include: how to carve and check occlusal restorations, how to prep the last tooth in the arch, how to prep teeth “when there is no space”, when to use Dahl and when not to. Also discussed will be the management of TMD, clenchers and bruxists and when and how to use different types of splint.

Learning Outcomes
- Aim to teach dentists a deeper understanding of occlusion, how to avoid problems and treat patients with occlusal problems.
- To teach the management of occlusal change for patients with tooth wear, TMD and bruxism.
- Dentists will be able carve and check restorations with confidence, avoid creating occlusal problems, treat patients with TMD and bruxism.
Managing tooth wear MI way.

This lecture will cover practical tips for the management of tooth wear while correcting the occlusion and aesthetics. Discussion will cover the aetiology and management of all types of tooth wear, from diagnosis and prevention through monitoring and management.

Techniques for intervention use the latest range of adhesive aesthetic materials as well as traditional methods, including build-ups with a range of direct and indirect techniques. Teaching covers the management of sensitivity, aesthetics and function as well as occlusal change in vertical and horizontal dimensions. Maintenance is discussed including conversion from composite to ceramics using a destination driven dentistry approach.

Learning Outcomes:
- Aim to teach dentists a deeper understanding of tooth wear, how to diagnose it and treat it.
- To teach the management of occlusal change for patients with tooth wear.
- Dentists will learn how to make corrections with composite and later convert to other materials if necessary in a predictable way.
Clinical and radiographic evaluations of biodentine™ pulpotomies in primary molars.

The preservation of the integrity and health of primary teeth and their supporting tissues is of great importance in maintaining arch length space, mastication, speech and esthetics. Pulpotomy is a common therapy performed on a primary tooth presenting a reversible pulpitis or a traumatic pulp exposure, allowing its conservation on the arch until its loss.

The ideal dressing material for the radicular pulp should be (1) bactericidal, (2) harmless to the pulp and surrounding structures promoting healing of the radicular pulp, and (3) not interfering with the physiologic process of root resorption.

Pulpotomies performed with Biodentine™ were generally very satisfactory and fulfilled all requirements, covering all needs. This dressing material appears to be a potential innovative pulpotomy agent in primary molars.

This lecture outlines the long term clinical and radiographical follow-up of success and efficacy of Biodentine™ as pulpotomy medicament exclusively on deciduous molars.
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Hopeless tooth? Think again!

Dentists are often confronted with the decision of whether to recommend endodontic treatment or extraction for compromised teeth. The compromise may be due to severe bone loss of endodontic or periodontal origin, structural compromise, or just a fact of difficulty in being able to perform treatment due to process challenges which may lead to a successful treatment outcome.

We will present a series of cases in which teeth were “brought back from the dead” with endodontic and restorative treatment, including recalls of at least 5+ years. We will discuss decision-making process and the treatment protocols used. The intent is to show “what is possible” with endodontic treatment, even in some situations where the teeth seem hopeless. In the end, we will share how to treat these teeth differently today.

Learning Objectives:
1. Learn when to consider teeth with severe bone loss for endodontic treatment,
2. Learn the advantages of endodontic retreatment for some teeth, versus extraction and replacement with an implant,
3. Learn a logical, step by step approach to determining which teeth should be attempted to be treated,
4. Learn how to manage a titrated treatment approach when attempting endodontic treatment of the compromised teeth.
Endodontics has seen a major paradigm shift in the recent past in certain circles, yet it has not had acceptance in the general endodontic community. These group of endodontists have changed the focus of endodontic treatment from an endodontically driven procedure to a restoratively driven one. The new concepts of endodontic treatment takes the entire tooth into account rather than just the root canals in determining success for a longer term retention of the tooth. Endodontic research has traditionally focused on process-centered procedures such as instrumentation, file size, shape, design, sealer type, preparation size, irrigant type and concentration, etc. The Toronto outcome studies in the early 1990’s, led by Dr. Shimon Friedman were the first attempt to look at outcome studies of tooth survival. Later, the group led by Glubabivala, Ng, et. al. at Eastman Kodak Center from England tried to associate process-centered criteria to outcome, only to come up with results that showed that outdated processes to have the more favorable outcome. This was true because they were asking the wrong questions. Only recently has the shift in making clinical treatment to reflect outcome research based on patient-centered rather than process-centered. With this shift in focus, it became necessary to realize endodontic treatment needed to be restoratively driven rather than endodontically driven. As such there was much more attention paid to preserving tooth structure in performing endodontic treatment, both in access design and canal shaping. The importance of the pericervical dentin (PCD), and the removal of as little tooth structure as possible became apparent when critically evaluating catastrophic endodontic failures which led to the loss of the endodontically treated tooth.

Learning Objectives:
1. Learn what the new restoratively driven endodontic principles are; 2. Learn the advantages of endodontic treatment that leverage existing caries, and restorations in preparing appropriate access that reduce tooth removal, 3. Learn the terms and when to apply them in performing endodontic treatment.
Assessment of inferior alveolar nerve injury in relation to lower third molar.

Aims of the study: To investigate the reliability of the RC that indicate high risk of IAN injury in OPG view & to verify of this relationship by CBCT.

Material & Methods: 300 OPGs were randomly selected from our medical records, which were taken for a purpose of third molar removal. Analysis was carried out on these OPGs to identify the radiological criteria of a high risk of IAN injury. A hundred and sixteen cases were found to have third molar with high risk of IAN injury. CBCT was requested for specific patients before the removal of the third molar. CBCT were performed on twenty nine cases of the third molars. Analysis of the reliability of these criteria was undertaken.

Results: It showed that 116 cases of impacted 3rd molars had four high risk criteria and it was found common criteria was darkening of the root, loss of tram line, narrowing of the IAN canal, and Juxta-apical area was the least common. CBCT verification of 29 cases confirmed that the darkening of the roots and loss of tram line were the most significant one.

Conclusion: In conclusion two radiological criteria were confirmed to be High risk for IAN injury from the OPG and the other three still need to be verified by CBCT. Clinicians need to observe carefully those radiological criteria and identify them before removing lower third molars.
The revolution of implantology in the difficult clinical cases.

For difficult cases, including an atrophic mandible, implant design that understands and utilizes the behaviour of hard and soft tissue is critical for achieving functional restoration that is biologically compatible and aesthetically pleasing with minimized patient discomfort.

Based on published scientific evidence and long-term clinical cases, this presentation will show how biologically-driven implant design features, such as the surface treatment, connection, platform switching, and knife thread depth can all impact immediate placement and loading protocols and long-term soft tissue stability.

The advent of digital pathology has drastically changed the landscape of diagnostic pathology. Whole slide imaging has allowed the pathologist to circumvent the limitations of conventional pathology including degrading stains, and storage space. The past decade has seen a surge in the application of digital pathology in conferences and as a prominent teaching tool for undergraduates and post-graduates.

Through digital pathology, it is possible to enhance and modify the contrast of the image, hue, etc., which provides the pathologist with diverse views, allowing compartmentalization of complex histopathologies. In addition to being an academic tool, there is increasing use of digital pathology to obtain long distance second opinion consults.

Digitalization provides an ideal modality to store large amounts of data which in turn can be referred or re-examined at any time points given its ease of accessibility and lack of any detrimental change to the staining patterns. In addition to this, the digital data can be fed to artificial intelligence systems to generate algorithms capable of enhancing our diagnostic accuracy.

My presentation will focus on the current trends and future prospects of digital pathology.
Current trends and future prospects of Artificial Intelligence in dentistry.

Past two decades have seen the increasing use of artificial intelligence (AI) in various fields of science including medicine. Much interest has been focussed in integrating AI with diagnostics and therapeutics.

The aim is to use AI-based algorithms to provide early diagnosis, optimal treatment protocol, and treatment outcome. In the field of dentistry, AI is being used to formulate customized treatment protocols including the need for extraction in orthodontic treatment, colour matching of ceramic restorations, classification of teeth in cone-beam CT.

In addition to treatment protocols, AI has been used for early detection of several oral diseases including dental caries, oral potentially malignant disorders and oral cancer.

My presentation will focus on the current application and future prospects of AI in various disciplines of dentistry, including aesthetic dentistry, radiology, orthodontics, and diagnostic pathology.

Mechanical instrumentation represents a crucial step in the control of intracanal microbial infection for successful root canal treatment.

However, the complexity of root canal anatomy and the different mechanical properties and/or way to use of Nickel – Titanium (NiTi) instruments lead the dentists to change their clinical approach on the shaping procedures. Therefore, different instrumentations and different shaping aims will apply by the dentist depending on the clinical cases.

The conference will address the anatomical and instrumental limits to be evaluated following a clinical approach based on current scientific evidence.

Moreover, the often oval anatomy of the root canal is challenging, with todays tools and techniques, which are designed to work ideally in circular ducts. Consequently some changes in operational techniques and/or endodontic instruments must be carried out during the shaping and disinfection of the endodontic system.

Indeed, modern endodontic treatment needs to improve: disinfection of root canals mechanically, chemically and physically while maintaining original anatomy and avoiding iatrogenic errors; the correct selection of the final apical diameter and the relative size of the filling.
Shaping the longevity of endodontically treated teeth.

The longevity of endodontically treated teeth is always an opened point of discussion among dentists and endodontists. Many factors (as patient occlusion and reduced dentine removal) are involved in the persistence of teeth with root canal treated in the mouth of patients. Moreover, several treatment options (as orthograde retreatment or endodontic microsurgery) could increase the “survival rate” of endodontically treated teeth.

Procedures as coronal and root canal pre-flaring should be performed in the right amount to improve the quality of endodontic treatment maintaining as much sound dentine as possible.

Moreover, shaping procedures should be minimally invasive to increase the long-life of endodontically treated teeth.

However, endodontic treatments could fail due to fractures but also due to the persistence of a bacterial load. Therefore, all endodontic procedures, including also the apical finishing ones, should try to find the right compromise between the dentine removal and the reduction of root canal bacteria extending the life-time retention in the mouth of endodontically treated teeth.
Kinematics in endodontics: from the continuous rotation to the automatic gear control of the endodontic instruments.

Kinematics of endodontic motors changed in the last years deeply. Mechanical nickel-titanium (NiTi) instruments were used only in continuous rotation until ten years ago. Then, the introduction of reciprocating movements as well as of reverse rotation controlled by torque allowed increasing the speed and safety of endodontic shaping procedures. However, continuous rotation does not protect the NiTi instruments to the torsional fracture; reciprocation could transport or extrude debris apically, reverse rotation does not allow the apical advancement of the endodontic instrument.

Many studies investigated the kinematics in endodontics, however, different study designs applied and contrasting findings were reported. Therefore, a review of the pros and cons of the different kinematics related to endodontic procedures and instruments will be done critically following the findings of the most recent literature available and their relation with the clinical experience.

Moreover, the new perspective in kinematics of endodontic instruments as the new fully automated, electric controlled, “Jenì” movement and its “self-driving mode” and “shaping guided irrigation” algorithm will be discussed.
Real world conventional and implant fixed prosthodontics for a former academic in a specialist practice.

It has often been said that dental academics would not be able to manage in the “real world” of a busy dentist or dental specialist practice. A selection of cases showing multiple historical classic approaches with conventional fixed prosthodontics (included precision attachments) as well as more modern ones, including implant fixed prosthodontics will be presented from a specialist private practice.

Conformative approaches in a case-series format with IPS e-Max lithium disilicate glass-ceramics (LS2) as well as re-organized approaches using metal-resin, metal-ceramic and monolithic zirconia and zirconia layered ceramic will be presented. The challenge of full-arch implant rehabilitations will be discussed, including related aspects of anticipating prosthodontic maintenance. Findings of recent systematic reviews, prospective and retrospective studies will be introduced for comparison.

Current digital approaches will be critically reviewed against classic analogue approaches. The advantages of digital laboratory fabrication of long-term PMMA temporary crown, bridges and implant bridges will be shown.

All-On-Four patient rehabilitations on multiple patients with be presented and critically assessed in terms of their outcomes related to patient selection. Finally, the challenge of the Quad-Zygoma approach for full arch maxillary rehabilitations from a prosthodontic perspective will reveal the unique challenges of this treatment option emphasizing the need for patient selection, treatment planning, and excellent laboratory support. Related to using the All-On-Four rehabilitations, specific aspects of prosthodontic material selection related to the opposing (antagonistic) arch will be presented.
Attachment systems for implant overdenture in edentulous jaws - The Cochrane collaboration review.

The findings of a recent Cochrane Oral Health Group systematic review will be presented where the aim was to compare different attachment systems for maxillary and mandibular implant overdentures in terms of prosthodontic success, prosthodontic maintenance, patient preference, patient satisfaction/quality of life and costs. All randomised controlled trials (RCT’s), including cross-over trials on maxillary or mandibular implant overdentures with different attachment systems with at least one year follow-up were evaluated.

The plethora of attachment systems available for dentists and dental specialists today dictates a need for clinicians to understand their prosthodontic and patient-related outcomes. Conclusions of this Cochrane review were that, for mandibular overdentures, there is insufficient evidence to determine the relative effectiveness of different attachment systems on prosthodontic success, prosthodontic maintenance, patient satisfaction, preference or costs. It was not possible to determine any preferred attachment system for mandibular overdentures. For maxillary overdentures, there is no evidence (with no trials identified) to determine the relative effectiveness of different attachment systems prosthodontic success, prosthodontic maintenance, patient satisfaction, patient preference or costs.
Oral squamous cell carcinoma and translational medicine.

Oral squamous cell carcinoma (OSCC) comprises a wide spectrum of clinical characteristics with different tumor biologies, prognosis and response to therapies. Similar to most tumors, several patient-related factors, (e.g. genetics and environment) and disease-related factors (e.g. tumor location, TMN staging) play a significant role on survival.

Thus, the problem in defining the prognosis is that the clinical course and response to treatment differ considerably among patients. Such interindividual variability is related to the heterogeneity of the tumor, genetic and epigenetic variations, thus reflecting the interaction of multiple biological components that result in a unique phenotype. Integrative genomics are developed to identify the molecular pathways leading to cancer at the individual level and find novel prognostic markers for OSCC, hence tailoring a treatment accordingly.

Here, we summarize the current state of knowledge that elucidates the translation of genetic data into clinical benefit.
How to navigate your way through TMJ pain: comprehensive approach.

Temporo-mandibular joint (TMJ) is the most complex joint in the human being, and temporo-mandibular disorders (TMDs) are really common having dentists as the primary care providers, despite that, there is still many controversies in literature about the relationship between occlusion, dental treatment and TMJ.

However, 33% of the population has at least one TMD symptom and 3.6 to 7.0% of the population has TMD with sufficient severity that they desire treatment. Thus the importance for each dentist to have a sound understanding of joint, muscular and other causes of oro-facial pain.

A good history about TMD pain and a detailed examination of muscle and TMJ palpation, TMJ sounds, locking, deviation and limitation in opening can help the clinician to determine the most accurate diagnosis of joint disorder and differential diagnosis with other oro-facial pain and lead the most indicated therapy.

A vision of the literature and an explanation of international classification and many clinical cases will be considered together with a nod to therapy.
Preformed metal crowns for children: ugly or nice?

Stainless steel crowns offer an invaluable restorative solution for children’s teeth in many clinical situations. They have been used for many decades, with good reported success rates, but of course do come with some limitations, such as poor aesthetics, wear and nickel allergies. In this presentation I will review the evidence-base for the use of stainless steel crowns for children’s primary and permanent teeth.

We will consider their applications for both caries, and enamel and dentine defects. In particular, I will provide practical advice for the use of the non-invasive Hall Technique for placement of stainless steel crowns, which has become a very popular treatment approach in the United Kingdom. Lastly, I will consider the patient’s viewpoint, and present some unique patient and parent perspectives.
Cognitive behavioural therapy for dentally anxious children: it really does work.

Dental anxiety is common in childhood, affecting around 30% worldwide. Children with dental anxiety suffer many negative health outcomes, and the management of anxious children can also be a source of stress for the dental professional.

In this lecture I will present some interesting insights into the things that make children worried at the dentist. I will then review the evidence for the use of cognitive behavioural therapy (CBT) as a way of helping children manage their dental anxiety.

Specifically, I will describe the development and application of a guided self-help CBT intervention for use by the dental team, which has really changed our practice.
MD, CCWS, CTTS, Assistant Professor, Director, Health and Wellness Center, Associate Director, Residency Program, Department of Family Medicine, American University of Beirut Medical Center

New trends in smoking cessation: 30 seconds to save a life!

Lebanon ranks 3rd globally in the number of cigarettes smoked annually per capita and approximately 4,100 people die annually in Lebanon due to tobacco-related diseases and this number is expected to double in the coming years because of the increasing number of adolescents and adults smoking waterpipe, cigarettes, and vapes.

Smoking has significant negative effects on oral health causing periodontal disease and oral cancer. All smokers, regardless of their smoking period or quantity benefit from smoking cessation, even if they quit after the development of chronic diseases or cancer. Studies have shown that Dentists have a unique opportunity and a credible role to help their patients quit smoking by providing smoking cessation interventions.

Electronic cigarettes use was marketed as a smoking cessation tool because it is less dangerous than cigarettes, however, evidence has shown that it poses a tremendous threat to oral as well as general health. Oral health professionals must be aware of the benefits and risks of e-cigarettes to advise their patients appropriately about their use.

At the end of this presentation, Dentists will be introduced to evidence-based smoking cessation strategies, they will be able to discuss the e-cigarettes’ benefits and risks with their patients and demonstrate the ability to provide a 30-seconds intervention to save their patients’ life.
A different approach for the posterior maxillary deficiency.

Anatomical conditions can provide some limitations in the placement of dental implants in both mandible and maxilla. The posterior maxillary bone area, in which the presence of a large maxillary sinus, accessibility problems and poor bone in terms of quality and quantity could be drawbacks for implant treatment in this area.

To resolve these challenging situation various techniques have been adopted in Implantology: sinus lifts, bone grafts, zygomatic implants. A new graftless approach is the the placement of implants in the pterygoid-maxillary area and anchored into the pterygoid plate of the sphenoid bone to avoid complicated 2 stages approach bone graft and conventional implant placement.

The lecture will be focused on the atrophic posterior maxilla comparing different techniques and introducing the pterygoid implants.
Soft tissue management around implants: choice of incision design.

For an optimal long term implant therapy, a minimum amount of bone should surround the dental implant. This bone is critical for implant maintenance and will help, along with many other factors, reduce the risk of periimplantitis which has nowadays a high prevalence in our implant practice.

If the role of bone around the implant is crucial and will affect dental implant survival, then the effect of keratinized mucosa around dental implant is questionable. Soft tissue dehiscence around implant could be a risk factor for further development of periimplant disease, which may jeopardize long term implant success. Moreover patients with soft tissue deficiencies around implant complain from metal appearance and/or translucency and consequently unaesthetic appearance.

The goal is to create a minimum thickness of keratinized tissue together with optimal implant placement and thick bone wall as well as appropriate plaque control, all these factors would prevent soft tissue dehiscence and unpleasant appearance of the underneath metal.

During this presentation we will present an original approach of an "envelope flap design" allowing an optimal healing process and ensuring an appropriate coverage of soft tissue dehiscence, in some selective cases.

Guidelines for the selection of the appropriate procedures of many approach for soft tissue management around implant, related to each clinical scenario, will be assessed as well.
The crestal sinus augmentation and complications.

The combination of post-extraction ridge resorption and pneumatization of the maxillary sinus often limits the bone available for implant placement in the posterior maxilla. Fortunately, the lateral and crestal approaches to sinus floor elevation and augmentation can reproduce adequate subantral bone volumes for implant-supported rehabilitation in this region. The lateral window osteotomy (technique can be quite aggressive and often patients would prefer an option that stresses a less invasive approach.

The less invasive transcrestal approach for sinus floor elevation was first suggested by Tatum and later developed as an osteotome technique by Summers in 1994. Summers’ bone-added osteotome sinus floor elevation (BAOSFE) procedure uses tapered concave-tipped osteotomes to reposition existing crestal bone under the sinus along with graft materials, elevating the sinus floor and increasing osseous support for the simultaneously placed implant(s).

The future site development technique, Summers 1995, is advocated when the subsinus bone height is less than 5 mm and a staged protocol for implant placement needs to be considered. A trephine drill with an internal diameter of 5 mm is used to cut a cylindrical bone core just short of the sinus floor. The osteotome No. 5 with a broad concave tip is then used to intrude the bone cylinder through simple pushing or gentle malleting if required. As a result, the sinus membrane is elevated with the moveable bone cylinder acting as an intermediate shock absorber. Autogenous bone and/or bone substitutes are then progressively added to backfill the osteotomy sites.

In addition to these above mentioned techniques, a personal protocol has been applied since 2004 when the residual bone height is less than 2 mm and when a primary implant stability could not be achieved when trying to place implants simultaneously with the sinus floor augmentation.

Many techniques of sinus floor augmentation will be discussed in our presentation with some of the complications encountered during or after the surgery and sometimes several months post loading.
Bulk Fill composites: an 8 years clinical update.

Filling posterior cavities using resin composites has always been a challenging task for dentists looking for a fast and reliable technique.

The concept of bulk fill is not new in restorative dentistry, many products have been used in layers of 4-5 mm since almost ten years. The main advantages of those resin based materials are the reduction of application time and the improved adaptation of the first layer of composite.

Today, more than twenty five bulk filling systems from different companies are available. They are classified in five categories relying on different technologies such as flowable resin composite, sonic energy, fiber-based resin composite, and high fillers density composites. Those systems allow optimal composite packing in one or two layers and good adaptation to cavity walls and adequate time for material sculpturing.

The aim of this presentation, is to give an overview as well as an eight years clinical update of bulk filling systems using well documented clinical cases.
DCD, MS,
Clinical Associate in Orthodontics and Dentofacial Orthopedics,
American University of Beirut Medical Center and Private Practice

The orthodontic - orthognathic surgery interface.

An increasing number of patients are seeking treatment today to improve their appearance. While adult orthodontics alone can improve dental esthetics, it could fail to fully address facial and smile esthetics.

This lecture will describe the possibilities of orthognathic surgery today, how combined with orthodontics it can be used similar to plastic surgery to better target the face and smile, and how additional adjunct procedures can enhance the overall outcome.
Dental implants for the medically compromised patient: an evidence-based approach.

Dental Implants have revolutionized the field of dentistry for the rehabilitation of partially or fully-edentulous patients. Patients may present to dentists and dental specialists with various medical conditions.

This overview will discuss the management of patients with various medical conditions ensuring the safe placement of dental implants in medically-compromised patients.
Orthodontic biomechanical considerations in treatment of class II division 2 malocclusion.

A successful Orthodontic treatment of class II Div. 2 malocclusion requires careful diagnosis, clear achievable treatment objectives, and sound biomechanical principles. Since deep overbite (closed bite) with retroclination of maxillary incisors are the unique features of this Class II interarch relationship, the wise clinician should be aware of the wire-bracket force systems generated and other auxiliary appliances, to control tooth movements without endangering the periodontium and/or the TMJ.

In this lecture, the author will present different treatment mechanics for class II Div.2 malocclusions that successfully corrected and retained the antero-posterior, transverse and vertical components of the dentofacial deformities, taking into consideration the patients? and parents? expectations and esthetic satisfaction.
Contemporary aesthetic periodontal plastic surgery.

Adequate position, volume and color of gingival tissues are important aspects of dento-gingival aesthetics. Significant advances have been achieved in periodontal plastic surgery, with particular emphasis on root coverage, zenith positioning and soft tissue volume management.

These advances will be discussed in association with multidisciplinary approaches involving Periodontics, Orthodontics and Prosthodontics.
Periimplant tissue reconstruction and regeneration - autogenous or substitutes?

Soft and hard tissue loss impose significant challenges to implant therapy in the aesthetic zone and multiple approaches have been advocated to manage these conditions. Although autogenous tissues have been considered the “Gold-standart” for tissue reconstruction, the use of synthetic and natural substitutes have gained significant importance.

The indications and limitations of both approaches will be presented and discussed.
MD, DDS,
Post Graduate Course in Cosmetic Dentistry,
European Master Degree in Oral Laser Applications,
Master of Laser in Dermoaesthetic Pathology,
Master of Science in Lasers in Dentistry

Thursday October 3, 2019    Hall B 09.00-11.00

**Soft and hard tissue procedures.**

Live procedure on patient with diode laser i.e.
Soft tissue procedure: simple lingual frenectomy or upper lip frenectomy, tissue depigmentation, etc...

Live procedure on patient with erbium laser i.e.
Soft tissue procedure and hard tissue procedure: class 1 or class 2 cavities, etc...
MD, DDS,
Post Graduate Course in Cosmetic Dentistry,
European Master Degree in Oral Laser Applications,
Master of Laser in Dermoaesthetic Pathology,
Master of Science in Lasers in Dentistry

Orofacial fotobiocosmetics with laser systems.
Recent updates on dental trauma.

Dental traumatic injuries are reportedly the fifth most prevalent diseases in the world, but they are being neglected. Management of these injuries poses a challenge for the dentist.

Research and evidence based guidelines play an important role in clinician decisions while managing different kinds of traumatic injuries. This presentation will focus on the most recent updates in this field.
Medication-related osteonecrosis of the jaw; how much do we know?

Bisphosphonate (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 at 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).

This lecture will cover:
- Bisphosphonates
- Their clinical applications
- Drug chemistry and actions
- Side effects of BF
- BRONJ
- Staging of BRONJ
- Treatment of BRONJ
- Latest management and recommendations.
Clinical evaluation of the efficiency of intralesional injection of autologous platelet rich plasma in treatment of erosive oral lichen planus.

Background: Treatment of symptomatic OLP is challenging. Several drugs have been used with varying efficacy. Autologous platelet rich plasma (PRP) is characterized by large amounts of growth factors, which are released after platelet activation and are able to stimulate the production of collagen and extra cellular matrix.

Materials and Methods: The study group comprised of ten patients with oral erosive Lichen presenting to the Oral Medicine and Periodontology Department, Faculty of Dentistry, Mansoura University in Egypt. Digital photographs were taken of the target site. They were repeated on each clinical visit (once weekly) for four weeks. The two main variables used for evaluation of the patient is pain control and healing of the lesion. Each visit consists of measuring the target lesion size and pain evaluation by (VAS).

The lesions were measured on their longest dimension using Thongprasom scale. Each patient was injected with 0.5 ml of autologous PRP per 1cm² of the ulcerated mucosa using a 25 gauge needle once weekly for 4 weeks. Total of 4 injections has been injected for each patient. Patients were recalled after 2 weeks of the last injection to obtain the end point measures. Patients were followed up for 2 months.

Statistical analysis: The data were analyzed using SPSS software version 22.

Results: There was a significant difference in median scores of VAS and Thongprasom scale between observation times.

Conclusions: This method offers a more effective solution for those suffering from refractory erosive OLP and in cases where conventional therapy is not able to heal the wound.
Is the apical limit a relevant indicator of endodontic success?

One of the basic concepts of Endodontics is related to the idea that the length of instrumentation and obturation will directly influence the success rate of the Endodontic treatment.

This generally accepted concept is the basis for many scientific and philosophical discussions around this topic, raising various interpretations on where should be ideal length for root canal treatment. Our purpose with this lecture is to demonstrate the scientific basis that led Endodontics to accept this general idea as valid, and to invite the audience to questioning the validity of such concept driving a very thoughting-full and scientifically supported reconsidering of these ideas.

We will discuss the concepts of technical predictability and biological plausibility as the most important background to help the audience taking the best most supported clinical decisions regarding the apical limit.
Endodontic disinfection in a high speed preparation world.

Endodontic disinfection is certainly the crucial phase of the treatment and besides its fate and role in the outcome it is the single technical step that lacks a clear and meaningful measurement tool. Because of this limitation, endodontic disinfection is solely estimated by various technical landmarks - such as working length, quality and size of preparation, radiographic quality of obturation, quality of irrigation, chemical solution used etc...

Although related, none of these technical parameters provide a direct measure of disinfection level, and therefore could be regarded as disinfection surrogates. Unfortunately, root canal disinfection is nearly 100% estimated on the basis of surrogates. Moreover, several of those surrogates are constantly not proven to be directly correlated to apical healing. Since almost all technological advancements in the field are tested against common clinical and laboratorial surrogates, this may lead the profession towards technological investments that do not result in useful advancements for the outcome of the treatment.

In this lecture, we explore this topic using a very thought-provoking approach, addressing the current most important surrogates of Endodontic disinfection and its relation with the high speed of preparation giving by instruments and tools largely available nowadays.
Current approaches in the treatment of periimplantitis.

Periimplantitis is a very frequent complication of implant treatment that may ultimately leads to implant loss if not managed properly. Its main etiology is infection caused by the biofilm. It can be prosthetically or surgically induced and the reaction may be modulated by the individual immune system.

Several treatment modalities have been proposed but we still need a protocol, based on evidence, that allows the clinician to treat this complication in an effective and reliable way.

In this presentation, we will review the concepts related to the etiopahogenicity of periimplantitis and present the current treatments proposed to manage this situation.
Dynamic navigation for dental implantation. Mapping virtual to reality.

Navident offers dental surgeons an easy to use, accurate, highly portable and affordable way to plan the desired restoration and implant placement on a virtual patient, then execute the plan on the real patient’s jaw. The virtual patient’s jaw is created from the CT and digital impression data, in seconds. The plan, including crowns and implants, is prepared in a few minutes and can be modified at any time. During surgery, Navident shows the advance of the drill tip or implant in the patient’s jaw relative to surrounding structures and the implantation plan.

The position of the implant is planned in advanced on screen by optimizing the implant position considering both bone and crowns. This information allows the computer to calculate and display the virtual position relative to the image. After planning the surgery we track the CBCT scan of the patient by selecting 3-6 landmarks on the screen and tracing around those landmarks in the mouth with a tracer too. This system dynamically tracks the drill and the patient providing the guidance and the visual feedback to ensure the implants are placed according to plan. This process is guided through sensors attached to the handpiece and the traced landmarks. 3D positional information is transformed into the camera this information allows the computer to calculate the virtual position relative to the image data.

The benefit of navident is performed a flapless surgery leading to reduce patient discomfort, faster the recovery period, reduce the iatrogenic damage to anatomical structures, finally increasing the success rate of implant osteointegration by reducing the risk of infection. Therefore it reduces the practitioner stress level during the surgery. It also reduces the treatment cost, moreover, it demonstrates to the patients the ability to leverage the latest technology delivering better safer and less INVASIVE care.

Recent publications and techniques shows the utility and usage of Navident in Piezo surgery and in difficult endodontic treatments.
Guided Surgery for 2 implants from planning to delivery of a temporary bridge.

This live transmission describes a digital approach for computer-guided surgery and immediate provisionalization in a partially edentulous patient.

With diagnostic data obtained from cone-beam computed tomography and intraoral digital diagnostic scans, a digital pathway of virtual diagnostic waxing, a virtual prosthetically driven surgical plan, a computer-aided design and computer-aided manufacturing (CAD/CAM) surgical template, and implant-supported screw-retained interim restorations are realized with an 3 Shape CAID System.

In this session, we will present all the steps from scanning, planning, designing and manufacturing before performing the surgery than will place the 2 Straumann BLT implants with a fully guided approach immediately loaded with the interim restorations.
Chairside full digital workflow for a monolithic crown on a prepared tooth.

The continuous development in dental processing technology ensures new opportunities in the field of fixed prosthodontics in a complete virtual environment without any physical model situations.

The aim of this presentation is the introduction of a step-wise sequence for chairside treatment with a posterior restoration in a complete digital workflow.

The case describes the prosthodontic workflows for the rehabilitation with a crown using a complete digital workflow starting with digital data acquisition CAI, designing CAD, processing and production of the restoration CAM using a chairside milling machine.
Vaccaro Gabriele¹
Al Assady Ahmad²

1. DDS, MS
2. DDS, MA Medical Technology, MS Prosthodontics, Italy

Effective problem solving and natural prosthetic harmony.

Several studies have recently described an increasing of missing teeth in all the European countries due to the increasing tooth decay and periodontal prevention.

However, in the next years, the expected demographic aging is going to increase the need of treatment for edentulous patients.

The great diffusion of osseointegrated implants in dental practice, has significantly improved the satisfaction of these patients thanks to the possibility support and retain conventional dentures.

However, even with implant overdentures aesthetic and functional problems may occur, thus in order to achieve a complete clinical success, it is required to plane the prosthetic rehabilitation from the early clinical evaluations.

The aim of this lecture is to give a scientific support useful to the clinicians and dental technicians for the selection of proper implants overdenture reconstructions and the possibility to build a passive bar connection between implants with big divergence avoiding stresses on teeth or implants.

Lastly, some clinical cases will be reported evaluating everyday problems and approaching their solutions considering the rehabilitation process from the implant placing to the selection of the attachment system.
Oral potentially malignant disorders: clinical presentations and management.

A proportion of oral cancers stem from pre-existing oral potentially malignant disorders. These are a group of disorders whose natural history is not clearly characterised but there is sufficient evidence that some may transform to cancer. Their taxonomy was described following an expert meeting of the WHO Collaborating Centre for Oral Cancer in 2005. Included under the term Oral Potentially Malignant Disorders (OPMD) are oral leukoplakia, erythroplakia, erythroleukoplakia, oral submucous fibrosis, palatal lesions in reverse smokers, oral lichen planus, lupus erythematosus and some hereditary conditions such as dyskeratosis congenita and epidermolysis bullosa. Actinic cheilitis of the lower lip is also associated with an increased risk of lip cancer. Of these the most common is oral leukoplakia that appears predominantly as a white patch of the oral mucosa but erythroplakia presenting as a red patch is more sinister, but is fortunately rare. The prevalence of OPMD worldwide is around 5%.

Most of these conditions are asymptomatic and may be detected during an oral screening examination by a health professional. The clinical features vary and a diagnostic biopsy is performed to assess the grade of dysplasia. Factors that should be considered for stratification of their risk include oral site, colour, size of the lesion and the grade of dysplasia. The management includes interventions on risky life styles mainly tobacco cessation, surveillance of low risk lesions and surgical excision of lesions demonstrating higher grades of dysplasia.

The detection of OPMDs in clinical practice or by screening helps in the identification of high risk subjects. The application of appropriate interventions may help in reducing the burden of oral cancer in communities.
Risk factors for oral cancer and oropharyngeal cancers.

Tobacco, betel quid and alcohol are established risk factors for oral cavity cancer that have been known for decades. Tobacco exposure includes smoking cigarettes, cigars, pipes, bidis, chewing tobacco, and using snuff. Any association of involuntary smoking with oral cavity cancer is not established and it is a difficult exposure to measure. There are no studies yet on e-cigarettes but there is emerging evidence on smoking of water pipes and the risk of oral cavity cancer. Studies of oral cavity cancer for these forms of tobacco smoking would be of interest as a future direction of research. When individuals stopped smoking, their oral cavity cancer risks reduced to that of never-smokers after 10 or more years of cessation. Both case-control and cohort studies support the independent effect of alcohol drinking on risk of oral cavity cancer, with strong dose-response relationships measured by frequency or duration of alcohol drinking. All types of alcoholic beverages confer an excess risk. Cessation of alcohol drinking reduces risks, with risks returning to those of never drinkers after 10 years. Tobacco and alcohol have a synergistic effect. Betel quid, contains a mixture of substances: the primary ingredient is areca nut wrapped in a betel leaf and is traditionally consumed by Asian population groups and by migrants arising therefrom. Betel quid with or without tobacco is also confirmed to be carcinogenic to man. Prolonged exposure to sunlight increases the risk of lip cancer. There is a long list of controversial factors for oral cavity cancers discussed in the literature. For example, chronic trauma, oral microbes, qat chewing, mate drinking, Marijuana (cannabis) smoking, occupational exposures, alcohol containing mouthwashes for all of which there is only limited evidence.

There is strong evidence that supports human papillomavirus (HPV) infection as an etiological cause for distinct oro-pharyngeal sub-sites, primarily the base of tongue and tonsil.
Periodontal regeneration with Emdogain.

Several materials have been used in periodontal regeneration. One of these materials is Emdogain. In the last 20 years a group of researchers in Sweden including Hammanstrom et al (1991) found that enamel matrix proteins could be used as biological agent capable of periodontal regeneration.

The aim of this presentation is to evaluate the effect of Emdogain clinically and radiographically.

Material and methods: 5 cases with chronic periodontitis. All patients received the non-surgical therapy. 2 to 3 months after the initial therapy, the infrabony defect was treated with Emdogain and bone material. Plaque index, Bleeding on Probing and Attachment Level were measured at baseline, 6 months 1 year, and 3 years after the surgical treatment associated with radiographic examination.

Results: all sites showed reduction in Pocket depth, absence of Bleeding on Probing and slight gain on attachment level for the last 2 recent cases and about partially gain for the 3 cases treated 3 years ago.

Conclusion: the treatment with Emdogain is able after several years with a recall program to remain at the same clinical stability for the pocket depth, attachment level, absence of Bleeding on Probing and also for the radiographic changes. This results due to the property of the Emdogain as antimicrobial and his capacity to enhance the early phase of mucosal healing (angiogenic activity).
Innovative technique of biological tissue guidance in immediate implant treatments for complete maxilla, mandible and full-mouth.

The rehabilitation of patients with a severely degraded dental situation to the point of considering the avulsion of the remaining teeth still is a prominent challenge.

Meeting this challenge today means taking into account the new expectations of patients: their search for aesthetic and less invasive treatment with less discomfort and uncompromising result and their request to recover fixed teeth in a short amount of time thanks to the possibility of immediate loading of the prosthesis.

The purpose of this lecture is to shed new light on the different key stages of surgical and prosthetic treatment. You will discover "Healing with biological tissue guidance": a procedure that combines implant prosthetic guidance with prosthetic guidance of biomaterials and soft tissues.

This biological tissue guidance is obtained through a planning of the desired tissue architecture, by modeling in the dental laboratory, associated with implants planning in the context of surgical procedures.

During a single session, this technique allows the extraction, implantation and immediate loading for complete maxilla, mandible or full-mouth rehabilitation to optimize the esthetics.
Single immediate implant in aesthetic zone and implant success.

Just like the delayed approach, immediate implant treatment cannot be separated from the question of implant success, which imposes three requirements: aesthetic, functional and biological requirements, which must be sustainable.

We know that during healing and later, positioning in the vertical and horizontal direction of the peri-implant biological width is decisive for aesthetics.

The purpose of this lecture is to highlight the essential of our knowledge to describe an immediate prosthetic-surgical procedure allowing the prosthetic guidance of the implant, biomaterials and soft tissues. This strategy helps to guide the healing of the biological width around the implant in an aesthetic position.

In addition, the immediate implant by its presence, reduces the tissue volume to be created, which in contact with a hydrophilic surface would evolve toward favorable conditions.

This approach provides better control of this immediate single therapeutic option.
YOUNG PODIUM
Post-endodontic flare-ups after a single visit treatment using FUI scoring method and associated factors: a clinical prospective study.

Objectives: Flare-ups following a root canal treatment are still a major problem both to the patient and to the clinician. Its definition, etiology, incidence and risk factors have been the subject of long-standing debate. We conducted this study to investigate the incidence of flare-ups after a single visit treatment and to identify the factors associated with the Flare-up index (FUI).

Material and Methods: All patients treated by post-graduate residents in endodontic specialty at Saint Joseph University of Beirut from June 2018 to January 2019 were invited to participate in the study. After a routine root canal treatment, patients were given a questionnaire to fill after 24h-48h-7days, covering post-operative assessment of symptoms using the Visual analogue scale (VAS) and FUI. Patients who experienced severe postoperative pain and/or swelling were identified and categorized as having a flare-up.

Results: A total of 423 patients (age: 39.76±12.428 years) were included in the study. The incidence of flare-up was 1.9%. The mean FUI was 5.94±5.646 and was highly correlated with the VAS score (p<0.001). The factors that significantly influenced the occurrence of flare-ups were: pulpal diagnosis (p<0.001), preoperative drug intake (p<0.001), preoperative symptoms (>24 hours) before treatment (p<0.001) and tooth type (p=0.013).

Conclusion: FUI should be used in further studies to confirm our results since it is a valid quantitative method to assess this clinical phenomenon. Clinical Relevance: Endodontists should take into consideration the diagnosis and the history of preoperative symptoms since it plays an important role in predicting the occurrence of flare-ups.
Association between genes and familial mandibular micrognathism in an Eastern Mediterranean population.

Mandibular micrognathism (MM) reflects an underdeveloped mandible expressed in a microgenic and convex profile, typically associated with a Class II, division 1 malocclusion (Cl.II/1). MM has been seen to segregate in families. However, data on the genetic determinants is fragmentary.

The aim was to explore the candidate genes or genomic regions in patients with Cl.II/1 associated with MM, and define the inheritance pattern implicated in the development and familial transmission of MM in an Eastern Mediterranean population. The sample consisted of patients affected with Cl.II/1/MM (n=33) whose malocclusion severity was determined in a comparison with patients with Class I malocclusion (n=28). To this end, angular and linear cephalometric measurements were used to gauge the relationship of jaws and teeth to the cranial base and to each other, using the Dolphin Imaging program (version 11.5). Pedigrees were drawn from 11 families with members affected with Cl.II/1/MM to determine the mode of transmission. Five families accepted and consented to participate in the study. 5cc of blood were collected, and genomic DNA was isolated from affected and non-affected individuals to investigate protein-coding regions via whole exome sequencing (WES) performed on a HiSeq2000 Illumina platform.

Results on inheritance and candidate genes will be presented that explain the variation in mandibular growth and potential prediction of the final manifestation of the growth pattern. The significance of these findings is the incorporation of genetic information in the clinical-decision making process.
Common gingival lumps: a simplified diagnostic approach.

In clinical dentistry, patients frequently report with isolated/regional or generalized gingival enlargements, which could fall under varied presentations, making the diagnosis of these entities difficult and challenging.

However, a perfect diagnosis is critically important, since the management of these lesions and prevention of their recurrence is completely dependent on it. They can be categorized based on their etiopathogenesis, location, size, extent, etc.

The purpose of this lecture is to highlight significant findings of different types of gingival enlargement which would help the clinician to differentiate between them.
Decortication v/s microperforation: a finite element analysis.

Background: Adjunctive corticotomies such as decortication and microperforations reportedly reduce the duration of orthodontic treatment, but their effectiveness remains controversial.

Objectives: To compare the stresses and displacements generated by maxillary distalization against miniscrews aided by decortication (DEC) versus microperforation (MOP).

Methods: A 3D model of the maxilla containing teeth, PDL, cortical and trabecular bone was prepared for finite element analysis (FEA) using dedicated meshing and modeling software. Buccal segment distalization was simulated with a force (150 grams) directed from a miniscrew placed between the 2nd premolar and 1st molar to the canine bracket. With DEC and MOP introduced distal to the canine six models were generated: Control, DEC, and 4 MOP (with 3, 4, 5 and 6 perforations). Initial canine displacement and stress distribution on the PDL and the trabecular bone were compared.

Results: With the amount of cortical bone around the canine reduced with increasing perforations, higher stress on the canine PDL and displacement were recorded. MOP with 6 perforations yielded the highest stresses on all the canine surfaces, and the greatest initial displacement. Upon DEC, whereby the canine does not contact buccal cortical bone, stress was significantly reduced on the buccal surface, and displacement maximized. DEC also had the highest effect on the trabecular bone, indicating that removal of cortical bone resistance shifts most stress to the trabecular bone.

Conclusions: Microperforation is as effective as decortication with increased numbers of perforation. Our results suggest that effective acceleration of tooth movement requires more than the currently advocated 3
Dentinal hypersensitivity treatment using diode laser 980nm: in vivo study.

Discomfort of patients due to dentinal hypersensitivity (DH) is one of the main challenges that dentists face in daily practice. Difficulties in DH treatment gave rise to many protocols which are currently used.

The aim of this oral presentation is to share a recently published In-vivo study that evaluated the effectiveness of a new protocol on the reduction of DH with diode laser 980 nm and the application of a graphite paste. 184 patients were enrolled; the degree of pain was evaluated by visual analogue scale (VAS) before treatment, immediately and 6 months after treatment.

The application of the diode laser 980 nm was made with a continuous mode, backward motion, and tangential incidence of the beam in non-contact mode and a delivery output of 1W. Fiber diameter was 320 microns and the total exposure time depended on the time necessary to remove the graphite paste. Statistical analyses were performed using Prism 5 software.

Pain in post-operative significantly decreased immediately after the treatment. Mean values stayed stable until 6-month follow-up. The application is considered to be safe with long-term effectiveness.
The troublesome dental patient: dealing with the medically compromised.

From the very common cardiovascular elderly population to patients with exceptional diseases, dealing with the medically-complex patient population is an increasing routine in the dental office. When should we modify treatment? When to differ? When to transfer the intervention to hospital? Lots of gaps exist among the Lebanese dental professionals regarding latest medical guidelines and safety measures.

Consequently, this mini-lecture will try to cover the basic management algorithms for medically-complex dental patients confronted in the dental office.
Prognosis of short implants in oral rehabilitation.

Objective: The purpose of this review is to evaluate the long-term prognosis of short-length implants (≤ 6mm) placed in the posterior maxilla and to review their clinical, radiographic and patient-reported outcomes based on prospective randomized controlled trials.

Materials and methods: An electronic MEDLINE (PubMed) search was conducted to identify randomized clinical trials comparing short implants (≤ 6mm) to longer implants (≥ 6mm) placed in the posterior maxilla with or without sinus elevation procedures. The studies that did not meet the inclusion and exclusion criteria were eliminated. Patient, implant and prosthesis information were gathered in tables and a systematic review was performed on the clinical, radiographic and patient reported outcomes.

Results: Eight RCTs were selected for the study and a total of 409 short implants placed in 260 patients and 422 longer implants in 252 patients were analyzed. Out of all these included implants, 20 short and 8 long were lost after 3 to 5-year follow-up. Both groups showed high survival rates ranging between 86.7% and 100% for group short and between 95.6% and 100% for group long. Higher failure rate was reported in short implants. Biological complications mainly occurred in group long where augmentation procedures were performed. The short implant group showed more favorable outcomes in terms of PROM levels, post-operative morbidity as well as surgical time and cost.

Conclusion: The findings of the present systematic review suggest that short implants may be considered a promising therapeutic option for posterior maxilla rehabilitation, especially in elderly or medically compromised patients where augmentation procedures should be avoided or at least simplified. However, short implants should be carefully selected in young patients as they may be associated to high failure rates on the long term.

Key words: Short dental implants, Survival rate, C/I ratio, Marginal bone loss, Biological complications, Prosthetic complications
Orthodontic mini-implants (MI) facilitate the intrusion of maxillary posterior teeth, but the definite mechanics involved for predictable outcomes should be explored.

**Aims:** Compare in a finite element analysis (FEA) stresses and displacements generated on maxillary teeth through four intrusion modalities, accounting for individual variation.

**Methods:** A 3D simulation model of a maxilla containing the different components (teeth, PDL, trabecular and cortical bones) was developed with 4 intrusion modalities:

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<td>MIs [force applied on]</td>
<td>1 buccal (B), 2 palatal (P) [archwire]</td>
<td>2B, 1P [brackets]</td>
<td>2B, 2P [brackets]</td>
<td>2B, 2P [archwire]</td>
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Bone stiffness/thickness measurements of 11 subjects from a previous study were applied to determine individual variation. The specimens were meshed and the FEA run through specific softwares. Intrusion was replicated with a force equivalent to 400gms. Stress levels and displacement were measured at the molar and adjacent teeth.

**Results:** Highest stress was concentrated on the root surface of the first premolar in all modalities, mostly on its buccal aspect, and the least on the second molar. Similar displacement patterns were registered in all modalities with the highest rate of stress/displacement in #4. Upon stiffness variation, stress configurations in the PDL on the mesial, distal, buccal and lingual sides of each tooth differed significantly (p<0.05) between modalities.

**Conclusion:** The use of 2 palatal and 2 buccal MIs appeared to be the most efficient intrusion modality. The first premolar withstood the highest stresses. Further studies should gauge the association between clinical measurements and FE stress evaluation run in tandem.
Delayed replantation of an avulsed permanent incisor: a case report.

Tooth avulsion can be defined as the total displacement of the tooth out of its alveolar socket. It rates between 0.5 and 3% among all dental injuries. It occurs the most between 7 and 14 years old and represents 1 to 6% of the traumatic dental injuries. These injuries contribute to serious disturbance of the child due to the esthetic alterations and the subsequent psychological impact.

The management of avulsion is delicate and depends on several factors such as the stage of root maturation, the extraoral period of the tooth, the storage conditions, and the damage severity of both the tooth and the surrounding structures. Many complications can occur because the periodontal ligament fibers, the neurovascular bundle at the apex, the cement, the alveolar bone and the gingiva are all injured. A 7-years-old girl who underwent an avulsion of the upper left incisor due to trauma, was referred to the division of Endodontics, Faculty of Dentistry, Beirut Arab University, 2 hours after the injury. The avulsed tooth was kept in dry conditions for 1 hour than put in milk for the second hour. After the examination of the patient, bone fracture was observed in the maxilla.

Treatment guidelines for the avulsed immature teeth with prolonged extraoral time were followed and extraoral endodontic treatment was completed. After that bone stabilization was performed for 4 weeks in addition to the replantation of the avulsed tooth. Clinical and radiographic follow up were done for 7 months in order to evaluate the long-term prognosis of the tooth and the presence of any sign of resorption or ankylosis.
Occlusal analysis of post orthodontics patients using T-Scan® III.

Occlusion has been a major part in all dental specialties, it is defined as normal occlusal relations of the inclined planes when the jaws close. This theory was further broadened by Angle, by adding that normal occlusal inclined planes must coincide with correct proximal contact as well as axial position, normal development, and location of associated parts.

Occlusion might be conform to the demanded specification of normal occlusion, yet still not be considered a good function. For this reason, many methods were used in order to measure the contact occlusion; Subjects groups were divided into non-orthodontic and post-orthodontic groups. The T-Scan III is a digital occlusal machine was used to measure occlusal balance, by recording real time recording of occlusion. It recorded data such as maximum intercuspation (MI) and symmetry of occlusal loads. The teeth contacts in the two subjects’ group were mostly on the central incisors and on the second molars as well. For the most maximum force tooth was the left second molar tooth, and higher for post-orthodontic teeth than non-orthodontic teeth. No differences seen for bilateral side forces for all group subjects nor different for non-orthodontic and post orthodontic groups.

Significant discrepancies in terms of occlusion were found in subjects of post-orthodontic group with relatively greater percentages in the posterior quadrant and less force in the anterior teeth compared to natural dentition groups. T scan III then modify poor contacts into a sequence where equal loads contacts are occluding bilaterally and at the same time.
Introduction: Microorganisms in untreated or overlooked root canals can cause endodontic failure or infection and inflammation. Therefore, a thorough knowledge of root canal morphology is crucial for the success of root canal treatment. The purpose of this study was to investigate the root canal morphology of mandibular premolars using cone beam computed tomography (CBCT) in a Turkish Cypriot population.

Materials and Methods: This study consisted of retrospective evaluation of CBCT scans from 204 adult patients (aged 17–80 years). The number of roots and their morphology, the number of canals per root and the canal configuration were examined according to Vertucci’s classification. The data were recorded and statistically analyzed using the chi-square test (P < .05).

Results: In the present study, totally 642 mandibular premolar teeth were evaluated and all first and second premolar teeth were found to have a single root. The most prevalent root canal configuration was type I for both in first premolar (94%) and second premolar (93.1%) teeth, followed by type V (3.7% and 3.1% in the first and second premolar respectively). The percentage of two root canals were 6.4% in mandibular premolar teeth. There was no gender or side difference in the root canal configurations and the numbers of canals.

Conclusion: Single root with type I root canal configuration was the most prevalent of mandibular premolars in the Turkish Cypriot population. It should be noted that approximately one of fifteen mandibular premolar have an additional root canal.
Systematic review on the efficacy of T-Scan versus conventional methods in occlusal contacts optimization and adjustment.

Introduction: This systematic review was done to compare the accuracy of the T-Scan line of devices over conventional methods such as articulating paper in clinical application.

Methods: Searching through online databases such as Research Gate and PubMed, scanning the references provided within each article were performed strictly through relevant articles and journals. Only publications with significant results were included in this review.

Results: Out of twenty two clinical trials that were found only twelve met the right criteria. The articles show that analysis using the T-Scan line of devices has significant headway with regard to accuracy and the exclusion of the subjective sense of the dentist in determining the high and low contact points, while also being able to record, visualize, digitalize the occlusal data in comparison to the conventional methods.

Conclusion: Within the methods of this review, there is significant evidence to support the idea that the T-Scan line of devices is more accurate over conventional methods while also providing a myriad of other useful features. Further research should be performed to assess the accuracy of T-Scan analysis compared to conventional methods in prosthodontics and restorative fields.
Appareil de Croll modifié: à propos de deux cas cliniques.

Le rôle du pédodontiste est primordial dans le diagnostic précoce et la prise en charge thérapeutique interceptive des problèmes d’occlusion en dentures lactéale et mixte.

Aux alentours de l’âge de six ans, une éruption ectopique de la première molaire permanente peut survenir suite à une déviation de son trajet normal. Dans ce cas-là, elle provoque généralement une résorption de la racine disto-vestibulaire de la deuxième molaire temporaire adjacente. En l’absence d’un traitement interceptif, une perte d’espace survient, réduisant le "lee-way space" pouvant aboutir à une rétention de la deuxième prémolaire. Une des solutions pour rattraper tôt ce problème est l’appareil de Croll.

L’objectif de cette affiche est de présenter deux cas cliniques où fut utilisé l’appareil de Croll modifié afin d’assurer le redressement de l’axe d’éruption ectopique de premières molaires permanentes supérieures.

La première molaire permanente peut évoluer selon une trajectoire mésiale anormale, provoquant ainsi la résorption pathologique de la racine disto-vestibulaire de la deuxième molaire temporaire adjacente.

En 1923, Chapman a décrit pour la première fois le phénomène d’éruption ectopique. Ce dernier se définit par une déviation du trajet normal d’éruption de la 1ère molaire permanente provoquant ainsi la résorption pathologique de la racine disto-vestibulaire de la 2ème molaire temporaire adjacente.
Clinically and Radiographic comparison effects of Biodentine and Mineral Trioxide Aggregate (MTA) as pulpotomy medicament agents.

A major role of pediatric dentistry is to maintain the primary dentition in an intact state till the permanent successors erupt. Aim of this study: to evaluate clinically and radiographically the effect of Biodentine and Mineral Trioxide Aggregate (MTA) as pulpotomy medicament agents versus Formocresol in primary molars.

Materials and methods: Sixty carious primary molars of 30 children, indicated for pulpotomy were selected from Pediatric Dental Clinic, Faculty of Dentistry, Mansoura University. Profound local anesthesia, isolation by rubber dam was performed. Whole caries and undermined enamel was removed, coronal pulp was amputated using sharp spoon excavator, after blood clot establishment, pulp medicaments were applied over the pulp stump according to manufacture instructions. Teeth were classified into 3 groups according to the type of medicament, formocresol (GroupI), MTA (GroupII) and biodentine (Group III). The study design was a split mouth design. Teeth in one side treated by formocresol (30 teeth) and the contra lateral side was treated either by MTA or biodentine (15each). Final restoration was performed with composite. Both clinical and radiographic evaluation was done for all teeth at 3, 6, 9 months. The data were collected then statistically analyzed using chi-square test to show the difference between groups.

Results: There was a better statistical significant difference for Biodentine group when compared with MTA group at 9 month follow up (p=0.001), on the other hand there was a statistically better higher significant difference for biodentine when compared to its control group (p<0.05) and between MTA group and its control group (P<0.05) at different follow up periods.

Conclusion: Both MTA and Biodentine can be considered substitutes to formocresol as pulp medicaments for primary molars pulpotomy.
Cephalometrics versus esthetics.

For the past century, orthodontists have been using cephalometrics to set orthodontic objectives and goals.

However, cephalometric measurements do not correspond always with good esthetics.

Do esthetic goals prevail in such cases? A pilot study is conducted in an attempt to answer the latter.
2D and 3D analysis of the effect of unilateral versus bilateral sagittal split osteotomy in treatment of Class III laterognathia.

Background: The bilateral sagittal split osteotomy (BSSO) is the standard procedure to correct skeletal mandibular deformities, including Class III malocclusions associated with laterognathia. More recently, unilateral sagittal split osteotomy (USSO) was introduced as an alternative procedure to correct such deformities with the advantages of operating one ramus of the mandible, thereby shorter operating time and less post-surgical side effects.

Aim: Assess 1- treatment outcome following BSSO vs. USSO in the treatment of Class III laterognathia. 2- Impact on the temporo-mandibular joint (TMJ) in both surgical techniques.

Methods: A pilot retrospective study was conducted on 2 groups of patients with skeletal Class III associated with laterognathia who underwent either BSSO or USSSO. Preoperative (T1) and postoperative (T2) lateral cephalograms were taken and the following skeletal measurements were registered: gonial angle (Co-Go-Me); ramus length (Co-Go); corpus length (Go-Me). Another in-vitro study was conducted on Cone Beam Computed Tomography (CBCT) to compare different changes at the level of the TMJ in both surgical modalities.

Results: Go-Me decrease and amount of mandibular set back were more significant with BSSO post-surgically. Co-Go-Me was not significantly different between both groups. CBCT study revealed that more rotation of the condyle was associated with BSSO compared to USSO at both TMJ.

Conclusion: USSO is a valid alternative in the correction of skeletal Class III malocclusion with laterognathia with reduced operating time and morbidity when compared to BSSO. The degree of condyle rotation in the cavity was within the parameters of articular adaptation which didn’t induce any TMJ symptom.
The elements of success of growth modification in Class II and Class III malocclusions.

Aim: To describe the use of growth modification in the treatment of severe skeletal discrepancies in 2 growing females with distoclusion and mesiocclusion.

Treatment reports: The patient with Class II, division 1 was postpubertal (13.5y old) exhibited an ANB angle of 7.1o, bilateral full Cl.II between molars and canines, an overjet of 10mm and an impinging overbite. A first phase of treatment aimed at opening the bite and enhancing differential growth and ended in achieving proper overbite and Class I occlusion with the use of an anterior bite plate and a cervical headgear. The Class III patient was prepubertal (10.1y) had an ANB of -1.2o, bilateral dental Cl.III, posterior crossbite, and end/on incisor occlusion with absence of positive overjet and overbite. Following rapid maxillary expansion and facemask treatment, the overjet was overcorrected. Significant level of improvement of facial esthetics were depicted after the end of phase I in both patients. The ensuing corrective phase 2 with conventional fixed appliances led to optimal Class I occlusions.

Assessment: The successful treatment of these two opposite malocclusions with sagittal skeletal discrepancies was significant when the growth potential in the respective malocclusion could have affected the outcome negatively. The ability to affect facial growth is rooted in a common ground of proper consideration of the diagnostic components (including age and malocclusion severity), the growth potential and the compliance of the patient. Nevertheless, it is also affected by the less predictable prognostic elements.
Management of a complicated crown root fracture of the maxillary central incisor.

Anterior dental trauma is the most common injury pattern of the dento-alveolar system. These types of trauma are distressing to the child and parents and challenging for the dentist. They compromise the integrity of a previously healthy dentition, and would affect the child’s self-esteem.

The aim of this case report is to present a practical management of anterior dental trauma. A 9 years’ old girl was referred to Beirut Arab University postgraduate endodontic clinics for a second opinion after being advised to extract a traumatized maxillary right central incisor with multiple root fractures.

Upon clinical examination the tooth had grade II mobility with a deep crown fracture leading to pulp exposure. Findings of radiographic examination revealed several root fractures in addition to the complicated crown fracture.
Leucopasie: facteurs étiologiques et carcinogéniques.

L'infection au virus du papillome humain (HPV) est la maladie sexuellement transmissible la plus répandue. On distingue plus de 200 génotypes différents, divisés en HPV à risque élevé et à faible risque. Au cours des dernières décennies plusieurs autorités scientifiques ont confirmé l'imputabilité de certains virus dans le processus carcinogénique parmi eux, les HPV16 et 18 à risque élevé dans certains types de cancers ano-génitaux ainsi que des sous-ensembles de carcinomes épidermoïdes de la tête et du cou, en particulier le cancer de l'oropharynx.

Les lésions papillomateuses de la cavité buccale liées à l'HPV, uniques ou multiples, vont des infections asymptomatiques aux lésions verruqueuses bénignes à faible risque (HPV 6,11) à haut risque oncogénique (HPV 16,18). Après le tabagisme, le HPV 16 est un facteur étiologique majeur des leucoplasies orales homogènes et inhomogènes, et de la leucoplasie verruqueuse proliférative.

Une femme de 61 ans, tabagique à 6 PA, présentait cliniquement de multiples lésions blanches homogènes gingivales antéro-inférieure, linguale secteur 44 à 46, vestibulaire en regard de la dent 36, vestibulaire en regard de la dent 16 et une plaque palatine bilatérale.


Le tabac reste le facteur étiologique majeur des leucoplasies. Dans les formes résistantes ou réfractaires aux traitements, l'infection HPV doit être envisagée, surtout après l'arrêt définitif de la consommation de tabac.
1. DDS, PGY3 Resident in Orthodontics and Dentofacial Orthopedics, American University of Beirut Medical Center

**Treatment of Class II, division 1 with cant of the occlusal plane.**

Background: Treatment of the cant of the occlusal plane represents a challenge for orthodontists as it requires complex mechanics and may sometimes mandate orthognathic surgery. Recently, mini-implants (MIs) have been advocated to provide skeletal anchorage and aid conventional orthodontic mechanics to correct such malocclusions.

Aim: To describe the effective use of MIs in the correction of occlusal cant in a 22-year-old female through unilateral intrusion of the maxillary dentition thus avoiding surgical intervention.

Diagnosis: The patient presented a skeletal Class II with a normodivergent facial pattern concomitant with a dental Cl II division 1. Upon smiling, she had a cant of the occlusal plane associated with increased gingival display (3mm) on the right side.

Treatment: The treatment with bimaxillary fixed appliance consisted of placing 3 orthodontic MIs: 2 on the maxillary right side (1 anterior and 1 posterior), and 1 posterior on the left side. Both posterior MIs were used for distalization to correct the dental Class 2, and the anterior MI was used for intrusion of the right dental segment. Leveling of the arches was initiated followed by unilateral intrusion of the occlusal plane on the right side. Symmetry of the intrusion was judged by assessing the cant of the occlusal plane upon occlusion and measuring the amount of gingival display upon smiling. Active treatment duration was 30 months.

Conclusion: During orthodontic treatment, strategic placement and directional forces using MIs represent an effective treatment option for the correction of an occlusal cant and asymmetrical gingival display during smile.
1. DDS, PGY2 Resident in Orthodontics and Dentofacial Orthopedics, American University of Beirut Medical Center

Tissue engineering in dentistry.

Introduction: Tooth loss caused by pathological processes leads to functional and psychological complications in patients. Tissue engineering (TE) refers to various procedures that promote tissue formation or healing. In dentistry, TE encompasses a wide range, and may be categorized in developmental TE, such as use of stem cells to regenerate new or lost tissues, and modeling TE, such as the movement of teeth to generate lost bone or remodel existing bone. Considered multidisciplinary in nature, developmental TE involves three key elements for tissue regeneration: scaffolds; cells, and growth factors. These three elements may be combined to induce regeneration of the dental pulp, bone and periodontal tissue, among others.

Aim: to explore through a literature review the applicability and future outlook of TE in dentistry.

Material and methods: A literature search was conducted in Medline and Pubmed to identify different strategies used for TE, biomaterials employed for this purpose, the major attempts to engineer different dental structures.

Results: TE has been used in almost all fields of dentistry including periodontics, endodontics, prosthodontics, and orthodontics. The applications have evolved to include regeneration of different craniofacial components such salivary glands, temporomandibular joint, as well as in patients with cleft palate.

Conclusion: Studies on stem cells have advanced the applications of TE in dentistry. The reconstructed tissues by tissue engineering could supersede the current synthetic materials in the near future.
Biofilms in endodontics.

Endodontic disease is a biofilm-mediated infection, and primary aim in the management of endodontic disease is the elimination of bacterial biofilm from the root canal system.

The most common endodontic infections are caused by the surface-associated growth of microorganisms.

The aim of this presentation is to review the mechanisms of biofilms’ formation, their roles in pulpal and peri-apical pathosis, the different types of biofilms, the factors influencing biofilm formation, the mechanisms of their antimicrobial resistance, and techniques to identify biofilms.
The influence of hyoid bone position on upper airway function: a pilot study.

The hyoid bone is unique due to its location and mobility. It sits at the base of the tongue and serves as an insertion platform to the muscles that control the geometry of the upper airway (UA). Accordingly, the hyoid is essential in maintaining UA patency, particularly when exposed to inspiratory suction pressures. Recurrent UA collapse during sleep is characteristic of obstructive sleep apnea (OSA). The hyoid is inferiorly positioned in OSA patients compared with healthy subjects. However, the precise influence of hyoid position on UA function is not known.

The aim of the study is to determine the effect of varying hyoid positions on UA function.

The protocol includes the following: 1) male New Zealand White rabbits are anaesthetized, placed supine and then tracheotomized to breathe spontaneously via the caudal trachea (relieving the UA from airflow or muscle activity); 2) the hyoid is repositioned from baseline position within the mid-sagittal plane (cranial-caudal +/- anterior) from 0 to 4mm at increments of 0.5mm, and along 45° vector directions using a customized device; 3) the effect of hyoid position on UA function is quantified with the use of UA closing pressure (Pclose: the negative pressure required to close the airway).

We hypothesize that a more cranial-anterior hyoid position will decrease airway collapsibility. This is the first study to mechanistically examine the influence of hyoid position on UA function. Pclose outcomes will provide new proof of concept data regarding the hyoid’s role in OSA pathogenesis and potential pathways for more targeted therapies.
Benefits and sins of CBCT 3D imaging.

Aim: Evaluate both the contributions and misdirected use of cone beam computed tomography (CBCT) as an imaging tool used in the diagnosis and treatment of orthodontic conditions.

Methods: A literature search was conducted in Medline and Pubmed, surveying the potential and limitations of CBCT in orthodontic practice.

Results: CBCT in maxillofacial imaging provided advantages over medical CT: lower effective radiation doses, lower cost, fewer space requirements, easier image acquisition, and interactive display modes. Despite an initial excitement to using the “all-in-one” record that replaced required x-rays (lateral and anteroposterior cephalograms), the enthusiasm was balanced with the need to reduce radiation, whereby the recommendation that a CBCT scan should not be the routine record. While exceptional in detecting pathology (and incidental findings), the additional knowledge acquired from CBCT on basic growth and development, diagnosis of malocclusion and response to treatment, has not elevated the information gathered from decades of 2D cephalometric analysis. Basic cephalometric measures and analyses have not changed. In treatment evaluation, CBCT scans have been abused when obtained within weeks of each other to investigate nasopharyngeal volume following rapid palatal expansion in normal or cleft-palate children. In contrast, in studying tooth movement, ongoing applications of finite element analysis to explore initial or time-dependent displacement would require 3D imaging.

Conclusions: CBCT utilization has yet to be controlled despite stricter checkpoints in practice and publication requirements by scientific journals. Until further developments should reduce CBCT radiation, the premise that no radiation is safer than any radiation must be respected.
Maxillary central incisor with two root canals: a case report and literature review.

The internal anatomy of the maxillary central incisor is well known and usually presents with one root and one radicular canal system. Although the dental literature has indicated that most of the maxillary lateral incisors have a single canal anatomy, it is possible for these teeth to have extra canals.

Therefore, to achieve a technically satisfactory endodontic outcome, the clinician must have adequate knowledge of the internal canal morphology and its variations in order to debride and obturate the root canal system thoroughly.

The purpose of this report was to presents a case of an endodontic re-treatment of a two canal maxillary incisor with an associated large periapical lesion and review of the relevant literature.
Decision making in Class II biprotrusion: extraction versus non extraction.

Bimaxillary protrusion (BP) is characterized by proclined maxillary and mandibular incisors and associated protrusive lips. Facial aesthetics is often a primary concern of patients with this malocclusion. Typical orthodontic treatment of the deformity includes retroclination of the incisors possibly involving the extraction of the four first premolars, depending on space requirements for the retroclination. Our hypothesis was that BP could be corrected successfully with or without the extraction of premolars, based on accurate diagnosis of the various components of the malocclusion and comprehensive planning of mechanotherapy.

Objective: Assess changes in facial esthetics in two Class II patients with similar BP treated with and without premolar extractions.

Treatment Reports: Pre-, per-, and post-treatment records of two adult female patients of similar age and exhibiting Class II malocclusion with lip protrusion were compared. In the non-extraction treatment (duration 1y10m), maxillary posterior mini-implants were used to distalize the maxillary dentition and anchor Class III elastics to distalize the mandibular teeth. In the other patient, maxillary first premolars and mandibular second premolars were extracted (treatment duration: 2 years). In both patients, protrusion of the lips was reduced and optimal esthetics achieved.

Conclusion: Extraction and distalization are viable options in borderline treatment of biprotrusion as long as the severity of the malocclusion is judiciously evaluated, (e.g. required amount of incisor retraction, periodontal status, and smile characteristics) and the treatment mechanics are controlled.
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