36th Annual Conference
of the European Prosthodontic Association

Conference Theme

Be prEPAred for your patient

Venue: De Doelen, Rotterdam
Dates: September 6-8, 2012

Conference Programme

Oxford Lecture and Keynote Lectures

Conference Programme - EPA 2012 Rotterdam

Thursday, September 6, 2012 - Keynote Lectures
Willem Burger Zaal (Main Room)

Programme

14:00 – 15:45	**Keynote Lectures session** Chair Persons: Willem Fennis and Anastassia Kossioni	
14:00 – 15:00	Daniel Wismeijer	**"Digital dentistry; where is this taking us?"**
15:00 – 15:45	Joerd van der Meer	**"A digital impression of digital workflows"**
15:45 – 16:00	Coffee break	
16:00 – 17:30	**Keynote Lecture session** Chair Persons: Warner Kalk and Timo Närhi	
16:00 – 17:30	Finbarr Allen	**"Hypodontia and Quality of Life"**

Friday, September 7, 2012 - Oxford Lecture and Keynote Lectures
Willem Burger Zaal (Main Room)

Programme

09:00 – 10:00	**Oxford Lecture session** Chair Persons: Cees de Baat and Jeffrey Wilson	
09:00 – 10:00	Nico Creugers	**"On dental status and oral function"**
10:00 – 10:30	Coffee break	
10:30 – 12:00	**Keynote Lectures session** Chair Persons: Luc De Visschere and Regina Mericske-Stern	
10:30 – 11:15	Gert Meijer	**"The extensive atrophic edentulous maxilla; how to reconstruct?"**
11:15 – 12:00	Marco Cune	**"Clinical, microbiological, histological and esthetic aspects of zirconia in permucosal applications"**
12:00 – 13:30	Lunch	
13:30 – 15:00	**Keynote Lectures session** Chair Persons: Khee Hian Phoa and Hana Hubalkova	
13:30 – 14:15	Hans van Pelt	**"Differentiation and specialization in restorative dentistry in the Netherlands"**
14:15 – 15:00	Albert Feilzer	**"Allergy to dental materials an issue?"**
15:00 – 15:30	Coffee break	
15:30 – 16:15	**Keynote Lecture session** Chair Persons: Jacques Vanobbergen and Pekka Vallittu	
15:30 – 16:15	Paul Lambrechts	**"Maximal minimal caries intervention"**

Saturday, September 8, 2012 - Keynote Lectures & Symposium
Willem Burger Zaal (Main Room)

Programme

09:00 – 10:30	**Symposium session** Chair Persons: Claar van der Maarel-Wierink and Erdal Poyrazoglu	
09:00 – 10:30	Warner & Wouter Kalk Cees & Paul de Baat	**Symposium "Fathers & Sons; prosthetics in medicine and dentistry"**
11:00 – 12:30	**Keynote Lectures session** Chair Persons: Lieve van Zeghbroeck and Ejvind Budtz-Jørgensen	
11:00 – 11:45	Regina Mericske-Stern	**"Dental implants in (frail) older people"**
11:45 – 12:30	David Bartlett	**"Wearing away; the challenge of modern prosthodontics"**

Conference Programme

Oral Presentations

Conference Programme - EPA 2012 Rotterdam

Friday, September 7, 2012 - Oral Presentations – Parallel Sessions

10:30 – 12:00		**Parallel session I - Hudig Room**
Chair Persons		**Harry Reintsema and Leonardo Marchini**
OP01	10:30 – 10:45	**Effect of Inter-implant Distance on Retention & Stability of Overdenture** **Farhad Tabatabaian**, Abolfazl Sabouri, Zahra Sadat Sobhani *(Iran)*
OP02	10:45 – 11:00	**Bone quality effect on load-carrying ability of dental implants** **Igor Linetskiy**, **D.M.**, Vladyslav Demenko, Larysa Linetska, Vitalij Nesvit, Andrii Shevchenko *(Czech Republic)*
OP03	11:00 – 11:15	**Finite Element Stress Analysis of Overdentures Supported by Angled Implants** **Esma Basak Gül** *(Turkey)*
OP04	11:15 – 11:30	**Endosseous Implants for the Treatment of Congenital and Acquired Defects of the Head and Neck** **Harlan A Schufeldt** *(USA)*
OP05	11:30 – 11:45	**CAD/CAM-titanium and gold bars: implant survival and crestal bone measurements** **Hadi Gholami**, Simone Kobel, Julia Walchli, Regina Mericske-Stern, Joannis Katsoulis *(Switzerland)*
OP06	11:45 – 12:00	**Treatment of children patiens affected anodontia case report** **Karel Chleborad**, Tatjana Dostalova *(Czech Republic)*
12:00 – 13:30		**LUNCH**

10:30 – 12:00		**Parallel session II - Schadee Room**
Chair Persons		**Ransom Altman and Suresh Nayar**
OP07	10:30 – 10:45	**Effect of Sodium Bicarbonate Air-Polishing on Surface Roughness of Composites and Porcelains** **Ali Riza Tuncdemir**, Mustafa Yavuz, Serdar Polat (presenter), Makbule Tuncdemir, Erhan Özcan *(Turkey)*
OP08	10:45 – 11:00	**Micro-shear bond strength of resin cements to dentin after application of desensitising toothpastes** **Andac Barkin Bavbek**, Baris Goktas (presenter), Isil Cekic-Nagas, Ferhan Egilmez, Gulfem Ergun, Gurcan Eskitascioglu *(Turkey)*
OP09	11:00 – 11:15	**Contact allergy to dental polymers in the Eastern Hungarian Region** **Csaba Hegedus**, Marta Szepesi, Sandor Marton *(Hungary)*
OP10	11:15 – 11:30	**Effect of Two Photoactivated Bleaching Systems on the Bond Strength of Laminate Veneer to Tooth** **Ozgun Yusuf Ozyilmaz**, Filiz Aykent, Ali Riza Tuncdemir *(Turkey)*
OP11	11:30 – 11:45	**Color stability of hyoallergenic and polyamide denture base materials** **Hatice Agan**, Etan Mijiritsky, Gulay Kansu, Unsun Cetin *(Turkey)*
OP12	11:45 – 12:00	**Comparison of the accuracy of stereophotogrammetry and moiré profilometry for 3D imaging of the face** **Andreas Artopoulos**, Jan A.N. Buytaert, Joris J.J. Dirckx, Trevor J. Coward *(UK)*
12:00 – 13:30		**LUNCH**

10:30 – 12:00		**Parallel session III - Van Beuningen Room**
Chair Persons		**Joke Duyck and Trevor Coward**
OP13	10:30 – 10:45	**Clinical Evaluation of All Ceramic FPDs Using Ce-TZP/Alumina Nanocomposite** **Hiroyuki Miura**, Reina Nemoto, Rie Fujita, Al Morinaga, Kyoji Matsukawa, Naosuke Kumagae *(Japan)*
OP14	10:45 – 11:00	**Evaluation of drugs use, health parameters and alcohol intake in an elderly sample** **Simone B. de Paula**, Patrícia F B Mendonça, Mateus B.F.dos Santos (presenter), Jarbas F.F. Santos, Leonardo Marchini *(Brazil)*
OP15	11:00 – 11:15	**Evaluation of The Cytotoxicity of Composite Resin Cements by xCELLigence System** **Sedef Topçuoglu**, Tülin Polat, Ahmet Altun *(Turkey)*
OP16	11:15 – 11:30	**Fracture incidence of acrylic resin mandibular overdentures reinforced with fibers** **Bahadir Ersu**, Duygu Karasan (Presenter), Güliz Aktas, Umut Güler, Arzu Tezvergil, Senay Canay *(Turkey)*
OP17	11:30 – 11:45	**Stress Distribution in Reduced Periodontal Supporting Tissues Surrounding Splinted Tooth** **Sivge Akgun**, Hakan Terzioglu, Hatice Agan *(Turkey)*
12:00 – 13:30		**LUNCH**

13:30 – 15:00		**Parallel session IV - Hudig Room**
Chair Persons		**Nelleke Bots-van 't Spijker and Ingrid Grünert**
OP18	13:30 – 13:45	**Enhancing treatment planning with CBCT by visualizing soft parts** **Dick Leenheer**, Thomas Maal *(The Netherlands)*
OP19	13:45 – 14:00	**New approaches for implant prosthetic rehabilitation in compex cases** **Norina Consuela Forna** *(Romania)*
OP20	14:00 – 14:15	**Retention characteristics of different attachment systems of 2-and 3-implant-retained mandibular ove** **Bulent Uludag**, Serdar Polat (presenter) *(Turkey)*
OP21	14:15 – 14:30	**CAD/CAM-titanium bars for mandibular implant-overdentures. Technical complications after 6 years** **Joannis Katsoulis**, Julia Wälchli, Simone Kobel, Hadi Gholami, Regina Mericske-Stern *(Switzerland)*
OP22	14:30 – 14:45	**Prosthodontic rehabilitation after traumatic tooth, bone and soft tissue loss: two clinical reports** **Gulsum Sayin**, Ozgur Inan, Dogan Dolanmaz *(Turkey)*

13:30 – 15:00 **Parallel session V - Schadee Room**
Chair Persons **Aad Zonnenberg and Frauke Müller**

OP23 13:30 – 13:45 **Optical properties of pulp-dentin complex using optical coherence tomography**
Rie Fujita, Wataru Komada, Kosuke Nozaki, Hiroyuki Miura *(Japan)*

OP24 13:45 – 14:00 **Depression and TMD among elderly: A pilot study**
Valéria C. Vilalta, Simone B. de Paula, Mateus BF dos Santos, Jarbas Santos (Presenter), Leonardo Marchini *(Brazil)*

OP25 14:00 – 14:15 **Tooth replacement for partially dentate elders: a randomised clinical trial**
Gerry McKenna, Finbarr Allen, DenisO'Mahony, Noel Woods, Michael Cronin, Charles Normand *(Ireland)*

OP26 14:15 – 14:30 **Alcohol consumption and the elderly in São José Campos, Brazil**
Gabriela Santos, Emily Barreto, Jarbas Santos, Leonardo Marchini (presenter) *(Brazil)*

OP27 14:30 – 14:45 **Are we prepared enough for our aging patients?**
Hana Hubalkova, Marie Bartonova, Jindrich Charvat, Igor Linetskiy *(Czech Republic)*

OP28 14:45 – 15:00 **Effect of surface treatment methods on bond strength of zirconia posts**
Cumhur Sipahi, Fulya Toksoy, Simel Ayyildiz, Mutlu Özcan *(Turkey)*

13:30 – 15:00 **Parallel session VI - Van Beuningen Room**
Chair Persons **Dennis de Vries and Çetin Sevük**

OP29 13:30 – 13:45 **Social Cases-therapeutic approaches of edentation**
Magda-Ecaterina Antohe, Doriana Forna, Vasluianu Roxana Ionela, Forna Norina Consuela *(Hungary)*

OP30 13:45 – 14:00 **The correlation of the color in maxillary central incisors**
Teuta Pustina-Krasniqi, Marjan Petkov, Enis Shabanov, Gloria Staka, Teuta Bicaj, Belinda Pustina *(Kosova)*

OP31 14:00 – 14:15 **Selection of maxillary anterior teeth size using interalar width**
Nasr Elsheikh, Latifa Mendilawi, Nadia Khalifa *(Sudan)*

OP32 14:15 – 14:30 **Use of Complex Therapy in the Treatment of the Temporomandibular Joint Function Disorders**
Tatjana Dostalova, Petra Hlinakova, Tomas Chlubna *(Czech Republic)*

OP33 14:30 – 14:45 **Rapid manifacture of prosthetic reconstruction to the facial allograft donor**
Mustafa Kocacikli, Huseyin Yazicioglu, Selahattin Ozmen, Suhan Ayhan *(Turkey)*

OP34 14:45 – 15:00 **Esthetic Complications of Implant Prosthodontics and Treatment Alternatives**
Nazmiye Sönmez *(Turkey)*

Conference Programme

Poster Presentations

Conference Programme - EPA 2012 Rotterdam

Friday, September 7, 2012 - Poster Presentations
16:15 – 17:30 Willem Burger Foyer

PP01 **Bone adaptation induced by non-passively fitting implant superstructures – A Finite Element Analysis**
Matthias Karl, Thomas Taylor, Werner Winter *(Germany)*

PP02 **Evaluation of All-on-Four Concept and Alternative Designs with FEA**
Derya Özdemir Dogan, Nilufer Tulin Polat, Serkan Polat, Esma Basak Gül *(Turkey)*

PP03 **Comparison of the wettability and adhesion properties of different silicones Maksillofacial**
Arzu Atay, M. Ali Saracli *(Turkey)*

PP04 **The Study of Oral Discomfort Risk Factors in the Elderly**
Yuka Kubota, Mami Endoh, Yasuaki Kakinoki *(Japan)*

PP05 **Final prosthetic restoration after treatment of combined endodontic - periodontal lesion - Case pres**
Metush Disha, Fatmir Dragidella, Kastriot Mega, Zana Sllamniku-Dalipi, Teresa Disha, Saranda Disha *(Kosova)*

PP06 **Frequency of symptoms of Temporomandibular Disorders among Prishtina dental students**
Teuta Bicaj, Gloria Staka, Teuta Pustina, Linda Dula, Zana Lila *(Kosova)*

PP07 **The effect of ND/YAG laser etching on titanium-porcelain bond strength**
Tolga Külünk, Safak Külünk, Murat Kurt, Cagri Ural, Ozgur Ozturk *(Turkey)*

PP08 **Esthetic approach for maxillary lateral incisor with dental implant: case report**
Özgür Öztürk, Oguz Süleyman Özdemir, Mahmut Sümer *(Turkey)*

PP09 **Prosthetic and anatomical width of the edentulous maxilla**
Marianna Avrampou, Regina Mericske-Stern, Joannis Katsoulis *(Switzerland)*

PP10 **Peri-implant soft tissue color around titanium and zirconia abutments**
Cristina Gáspárik, Bettina Dannewitz, Kathrin Stucke, Diana Dudea, Bogdan Culic, Raluca Cosgarea *(Romania)*

PP11 **Influence of chewing condition on mental stress release**
Ryohei Soeda, Akinori Tasaka, Kai Takeuchi, Hiromitsu Sasaki, Takayuki Yoshii, Kaoru Sakurai *(Japan)*

PP12 **UVC dose-dependent alteration in osteobiological and physicochemical properties of titanium**
Hiroshi Uchiyama, Masahiro Yamada, Ken Ishizaki, Kaoru Sakurai *(Japan)*

PP13 **Staphylococcal attachment reduces on UVC-irradiated titanium by changing surface properties**
Yusuke Yamada, Masahiro Yamada, Takahiro Ueda, Kaoru Sakurai *(Japan)*

PP14 **Adjustment of pink esthetic score (PES) of central incisor**
Lenka Vavrickova, Ivo Drizhal, Tatjana Dostalova, Jana Krnoulova *(Czech Republic)*

PP15 **Influence of Preprocessing of Artificial Teeth by TiO2-coating on Staining**
Kazunori Mori, Masashi Tsuji, Takayuki Ueda, Kaoru Sakurai *(Japan)*

PP16 **Effect of Cleaning Tongue with Moisturizer on Removing Tongue Coat**
Takayuki Ueda, Sayaka Tajima, Ruri Sudo, Hideko Watanabe, Masahiro Ryu, Kaoru Sakurai *(Japan)*

PP17 **Effect of Oral Cleaning with ConCool Mouth Rinse and Mouth Gel for Inpatients**
Masahiro Ryu, Takayuki Ueda, Sachi Izumi, Seiko Oda, Kenichiro Kobayashi, Kaoru Sakurai *(Japan)*

PP18 **Antimicrobial Effect of Anti-bacterial Functional Water (Bioshot®) on Streptococcus pneumoniae**
Kenichiro Kobayashi, Masahiro Ryu, Takayuki Ueda, Masahiro Yamada, Seiko Oda, Kaoru Sakurai *(Japan)*

PP19 **Safety evaluation of TiO2-coated acrylic resin for clinical applications**
Masashi Tsuji, Kazunari Mori, Takayuki Ueda, Kaoru Sakurai, Kohei Sawaki, Mitsuru Kawaguchi *(Japan)*

PP20 **Maxillary anterior teeth dimensions in Kosovo-Albanian Population**
Gloria Staka, Teuta Bicaj *(Kosova)*

PP21 **An Alternative Implant-Transfer Technique: A Case Report**
Emre Tokar, Serdar Polat, Bulent Uludag, Ozgul Karacaer *(Turkey)*

PP22 **Effect of Primers on the repair strength**
Duygu Saraç, Yakup Sinasi Saraç, Safak Külünk, Ahmet Umut Güler *(Turkey)*

PP23 **Relationship between Repetitive Saliva Swallowing Test and Dry Mouth in the Elderly**
Yasuaki Kakinoki, Yoko Sakakibara, Takayuki Kimura, Yuka Kubota, Mami Endoh *(Japan)*

PP24 **Esthetic Restorations of Maxiller Anterior Teeth Involve Premolars With Porcelain Laminate Veneers**
Umut Güler, Sait Ege Eryürük, Senay Canay *(Turkey)*

PP25 **Are the years of training and clinical experience helpful in assessment of a tooth shape**
Nikola Petricevic, Renata Poljak Guberina, Marko Guberina, Anita Kranjcevic Bubica, Marijana Molnar, Asja Celebic *(Croatia)*

PP26 **Occlusal Rehabilitation By Full-Mouth Zirconia Fixed Restoration And Opposing Implant-Retained Overd**
Zeynep Irkec , Ayben Senturk *(Turkey)*

PP27 **Candida albicans adherence on chair-side silicone denture soft lining materials**
Theodoros Tasopoulos, Georgia Vrioni, Theodora Diamantatou, Robert Jagger, Dimitra Karaiskou, Maria Panagiotopoulou *(Greece)*

PP28 **Effect of bleaching agents on surface texture of feldspathic ceramic**
Çagri Ural , yücel Gencer, Mehmet TarakÇi, Muhammed Ali Aslan, Selim Arici *(Turkey)*

PP29 **Prosthodontic Treatment of a Patient With Severely Worn Dentition**
Berkcan Tuncer, Senay Canay *(Turkey)*

PP30 **Nylon 6 nanofiber reinforced BIS-GMA tegdma dental composite resins**
Nihal Pehlivan, Özgül Karacaer, Emre Tokar *(Turkey)*

PP31 **Repair bond strength of repair acrylic resin to co-cr alloy**
Safak Külünk, Tolga Külünk, Seniha Baba, Duygu Saraç *(Turkey)*

PP32 **Influence of bone quality on implant mobility under masticatory loading**
Vladyslav Demenko, Igor Linetskiy, Larysa Linetska, Vitalij Nesvit, Andrii Shevchenko *(Ukraine)*

PP33 **Margin design effect on fracture resistance of alumina core materials**
Pinar Gultekin, Burcin Karatasli, Cetin Sevuk *(Turkey)*

PP34 **Effect of abutment and luting cements color on all ceramics: Part I**
Dogu Omur Dede, Arzu Armaganci, Gozlem Ceylan, Soner Cankaya, Ersan Celik *(Turkey)*

PP35 **Effect of abutment and luting cements color on all ceramics: Part II**
Arzu Armaganci, Dogu Omur Dede, Gozlem Ceylan, Soner Cankaya, Ersan Celik *(Turkey)*

PP36 **Practical considerations derived from facial standards variations in edentulous patients**
Elena Preoteasa, Raluca Draghici, Cristina Teodora Preoteasa *(Romania)*

PP37 **Condition of teeth and periodontal tissue in elderly home residents in Zagreb**
Adnan Catovic, Mladen Klemencic, Boris Klajic, Dragutin Komar *(Croatia)*

PP38 **Narrow dental implant supported overdenture – implant and prosthetic considerations**
Elena Preoteasa, Laurentiu Florica, Cristina Teodora Preoteasa *(Romania)*

PP39 **Side effects of dental treatments addressed according to Risk Management methodology**
Cristina Teodora Preoteasa, Ecaterina Ionescu, Elena Preoteasa, Irina Georgiana Grigore *(Romania)*

PP40 **Evaluation of (Ti,AL)N and TiN Coating on metal-porcelain bond strength**
Seniha Baba, Safak Külünk, Sengül Danisman *(Turkey)*

PP41 **Effects of laser treatments on surface roughness of zirconium-oxide ceramics**
Göknil Ergün Kunt, Gözlem Ceylan, Bahar Esin Küçük, Pelin Özkan, Senay Canay *(Turkey)*

PP42 **Bifid Mandibular condyle: a case report**
Pinar Kursoglu, Zeynep Kilinc *(Turkey)*

PP43 **Prosthodontic Rehabilitation of a Patient with Neurasthenia: A Clinical Case Report**
Ganimete Deda, Merita Kuçi, Flurije Aslani, Agim Islami *(Turkey)*

PP44 **Longitudinal study of removable partial dentures**
Zana Lila-Krasniqi, Linda Dula, Kujtim Shala, Teuta Bicaj *(Kosova)*

PP45 **Multidisciplinary management of Oligodontia in a adult patient: Case Report**
Linda Dula, Ganimete Deda, Genc Qilerxhiu (Kosova)

PP46 **Effect of repeated firings on shear bond strength of veneering ceramic to alumina**
Burçin Karatasli, Pinar Gültekin, Çetin Sevük *(Turkey)*

PP47 **Sinus floor elevation and penetration depth**
Urs Kremer Hovinga, Stina van Enckevoort, Norbert Enkling, Joannis Katsoulis, Regina Mericske-Stern *(Switzerland)*

PP48 **Dysphagia in care home residents, assessed by speech therapists, and it's feasible risk factors**
Van der Maarel-Wierink CD, van der Putten GJ, De Visschere LMJ, Bronkhorst EM, de Baat C, Schols JMGA *(The Netherlands)*

PP49 **Full arch screwed prosthesis with NobelDirect™ implants for immediate loading**
Rafael Martínez-de Fuentes, Pedro Infante-Cossio, Bruno Pereira-da Silva, Emilio Jiménez-Castellanos *(Spain)*

PP50 **Micro leakage , posterior composite resin restoration, Ariston PHc composite**
Kais R. Abdul Majeed *(Malaysia)*

PP51 **The evaluation of microleakage in posterior composite restoration**
Kais R. Abdul Majeed, Ammar A. Mustafa, Jukka Pekka Matinlinna *(Malaysia)*

PP52 **Guidelines for the development of e-modules for continuing professional development in Gerodontology**
Anastassia Kossioni, Argyro Kavadella, Kostas Tsiklakis, Angelos Bakas *(Greece)*

PP53 **Implant-retained nasal prosthesis**
Ozlem Kara, Necla Demir, Nilgun Ozturk, Mustafa Keskin *(Turkey)*

PP54 **Multidisciplinary rehabilitation of a patient with unilateral posterior reduced interocclusal height**
Simel Ayyildiz, Sila Gokce, Umit Karacayli, Serkan Gorgulu *(Turkey)*

PP55 **Effect of Novel Omega3-Based Implant Coating on Bone Healing**
Ammar A. Mustafa, Nazih Mustafa, Muhannad Kashmoola, Jukka Matinlinna *(Malaysia)*

PP56 **Diagnosis and Esthetic Functional Rehabilitation of Two Patients with Dental Fluorosis: Two Case Repo**
Kader Tatar, Ali ihsan Zengingül, Neslihan Cokuk *(Turkey)*

PP57 **Rehabilitation of the oblique fractured tooth by polyethylene fiber strip**
Baris Goktas, Mert Gokay Eroglu, Gulnur Isil Turk, Andac Barkin Bavbek *(Turkey)*

PP58 **Multidisciplinary approach of Cleidocranial Dysplasia - case report**
Merita Kuci, Ferijale Perjuci, Krenare Agani, Flurije Hoxha, Ganimete Deda *(Kosova)*

PP59 **A hygienic prosthetic design for a unilateral cleft-palate patient**
Abdurrahman Sahinbas, Rahmi Eken, Abdullah Seckin, Ertugrul, Andac Barkin Bavbek *(Turkey)*

PP60 **A systematic review of the use of different implant abutments for single-tooth implant restorations**
Esra Çakir, Burçin Karatasli, Güliz Kilinçoglu, Çetin Sevük *(Turkey)*

PP61 **Effect of fiber mesh and acrylic resin thickness on fracture load of implant- supported overdentures**
Pinar Gultekin, Umut Cakan, B. Alper Gultekin *(Turkey)*

PP62 **Full mouth rehabilitation of a patient with attrited dentition: A case report**
Sertac Bayrak, Mustafa Kocacikli *(Turkey)*

PP63 **Therapeutic options for internal derangements of the TMJ**
Eva Piehslinger, Martina Schmid-Schwap, Margit Bristela, Astrid Skolka *(Austria)*

PP64 **Electronic health record system for the temporomandibular joint disorders**
Radek Hippmann, Tatjana Dostalova, Michaela Seydlova *(Czech Republic)*

PP65 **An Alternative Material for Gingival Prosthesis in Periodontally Compromised Patients**
Umut Cakan, Nur Akboyun Balci, Becen Demir *(Turkey)*

PP66 **Re-establishing esthetics and function using existing implants; A clinical report**
Umut Cakan, Pinar Gültekin, B. Alper Gültekin *(Turkey)*

PP67 **Management of microstomia in a trauma patient with dynamic commissural splint**
Umut Cakan, Halil Ibrahim Canter *(Turkey)*

PP68 **Effect of oxidation temperature and firing procedure on bond strenghth of titanium ceramic restoration**
Alper Tukay, Emir Yuzbasioglu, Umut Cakan *(Turkey)*

PP69 **Application of attachment-retained partial denture and mandibular tooth supported overdenture**
Merve Çakirbay, N. Volkan Asar, MelekKavasoglu *(Turkey)*

PP70 **Prosthetic Rehabilitation of Amelogenesis Imperfecta-Restoring Function and Esthetics-A Case Report**
Hakan Terzioglu, Berkin Ozturk, Hakan Kurt, Ilkim Karadag *(Turkey)*

PP71 **Prosthodontic Rehabilitation in Young Adult: Two Cases Report**
Dashnor Dula, Linda Dula, ZanaLila-Krasniqi, Kujtim Shala *(Kosova)*

PP72 **Treatment of the Edentulous Maxilla with an Immediate Occlusal Loading Protocol a case report**
Melahat Çelik, Melih Yildiz, Gizemnur Bagrivatan, Tonguç Sülün, Gülsen Bayraktar *(Turkey)*

PP73 **Reconstruction of occlusal vertical dimension and uneven occlusal plane: A clinical report**
Banu Çukurluöz, Canan Akay *(Turkey)*

PP74 **Nanotenology in dentistry**
Banu Çukurluöz, Canan Akay *(Turkey)*

PP75 **Esthetics provision of anterior single tooth restorations: Case Series**
Banu Çukurluöz, Canan Akay *(Turkey)*

PP76 **Oral rehabilitation of amelogenesis imperfecta by complete overdentures: Case Report**
Burcu Batak, Funda Akaltan *(Turkey)*

PP77 **Construction of a prosthetic appliance in displaced unilateral condylar fracture**
Cem Çetinsahin, Alper Uyar *(Turkey)*

PP78 **Immediate Postextraction Implant Placement in the Maxillary Anterior Region**
Sule Tugba Ozak *(Turkey)*

PP79 **Implant retained overdenture prothesis after hemiglossectomy operation**
Canan Akay, Banu Çukurluöz *(Turkey)*

PP80 **Full Mouth Rehabilitation of the Partially Edentulous Patient with Worn Dentition: Two Case Reports**
Ozgun Yusuf Ozyilmaz, Filiz Aykent *(Turkey)*

PP81 **Determining the most suitable microleakage measurement method for post-and-core restorations**
Simel Ayyildiz, Fulya Toksoy Topçu, Elif Aybala Oktay, H. Alper Uyar, Arzu Atay, Akin Alper *(Turkey)*

PP82 **Esthetic rehabilitation of missing lateral tooth of a young patient**
Elif Aybala Oktay, Simel Ayyildiz, Fulya Toksoy Topçu, Arzu Atay, H. Alper Uyar, Akin Alper *(Turkey)*

PP83 **Advantage of splint design on severely damaged traumatized permanent incisors**
Rahmi Eken, Cihan Aydogan, Betul Ozcopur *(Turkey)*

PP84 **Esthetic enhancement of ceramic crowns with zirconia dowels and cores: a clinical report**
Defne Burduroglu, Özge Çelik, Umut Güler, Senay Canay

PP85 **Efficacy of two Different Materials in the Repair of Urethandimethacrylate**
Gokcen Ates, Altug Cilingir, Hakan Bilhan, Tonguc Sulun, Onur Geckli *(Turkey)*

PP86 **Rehabilitation of a Post-Traumatic Tooth Neglected for 13 Years**
Erhan Demir, Ozgur Genc Sen, Andac Barkin Bavbek *(Turkey)*

PP87 **Interdisciplinary Approach for Restoring in a Patient with anterior crowding**
Ayse Tuba Ogreten, Hilal Siriner, Meral Arslan Malkoc *(Turkey)*

PP88 **Prosthetic rehabilitation of a patient with severe attrition: Clinical Report**
Hilal Siriner, Meral Arslan Malkoc, Emre Yaprak *(Turkey)*

PP89 **An alternative method for the fabrication of immediate provisional restoration after tooth extraction**
Özgür Öztürk, Ozlem Filiz, Cumhur Sipahi, Bulent Piskin, Simel Ayyildiz *(Turkey)*

PP90 **Surface-retained, indirect fiber-reinforced fixed dental prosthesis: Preliminary clinical findings**
Guliz Aktas, Defne Burduroglu, Filiz Keyf, Mutlu Özcan *(Turkey)*

PP91 **Evaluation of Microleakage of Teeth Restored with Zirconium Oxide Post**
Meryem Ates, Bengul Yurdukoru *(Turkey)*

PP92 **The Turkish prosthodontic version of the oral health impact profile**
Lale Karaagaclioglu, Esat Basol , Deniz Yilmaz *(Turkey)*

PP93 **Influence of Thermocycling on Bond Strength of Self Cure Adhesive Resin Cement to Ni-Cr Alloy**
Lale Karaagaclioglu, Sadullah Uctasli, Esat Basol, Deniz Yilmaz *(Turkey)*

PP94 **Preliminary clinical results of early loaded, implant-supported fixed dental prostheses**
Jong-Hwa Kim, In-Sung Yeo, Young-Kyun Kim, Yang-Jin Yi, Pil-Young Yun, Hyo-Jung Lee *(South Korea)*

PP95 **Fiber- reinforced composite fixed partial dentures for young patients**
Hatice Agan, Gulay Kansu *(Turkey)*

PP96 **Level of posterior occlusion satisfying the daily living needs of partially dentate patients**
Saadika Khan, R. Omar, Ume Chikte *(South Africa)*

PP97 **Rehabilitation of the oblique fractured tooth by polyethylene fiber strip**
Baris Goktas, Mert Gokay Eroglu, Gulnur Isil Turk, Andac Barkin Bavbek *(Turkey)*

PP98 **Bone reduction of an edentulous jaw - unexspected but sometimes necessary**
Anna Knaus, Astrid Skolka, Eva Piehslinger *(Austria)*

PP99 **Analysis of changes after 6 and 10 years using computerized cephalometry**
Ljiljana Strajnic *(Serbia)*

PP100 **Clinical and radiographic evaluation of one-piece zirconia implants after 18 months function.**
Merve Bankoglu, Cemal Aydın, Handan Yılmaz, Esma Basak Gül *(Turkey)*

PP101 **Barriers in delivering oral health care to older people experienced by dentists**
Pieternella C. Bots-VantSpijker, Jacques N.O. Vanobbergen, Jos M.G.A. Schols, Rob M.H. Schaub, Casper P. Bots, Cees de Baat *(the Netherlands)*

PP102 **Efficacy of A Mandibular Advancement Splint Therapy After Unsufficient Pharengeal Surgery**
Bülent Piskin, Ömer Karakoç, Hakan Genç *(Turkey)*

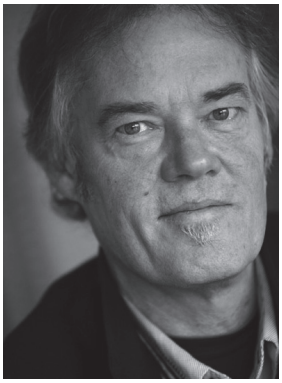
PP103 **Tooth loss in geriatric patients: a risk for cognitive impairment?**
Matthias Karl, Thomas F. Elsig, M. Schimmel, E. Duvernay, S. Giannelli, Ch. Graf, S. Carlier, F.R. Herrmann, J.P. Michel, G. Gold, D. Zekry, F. Müller *(Switzerland)*

PP104 **Clinical steps for conventional loading for maxillry fixed rehabilitations**
Elli Kotina, Eustathia Besiri, Theodwra Diamantatou, Athanasios Karagiannis, Nikitas Sykaras

Abstracts

Oxford Lecture and Keynote Lectures

Oxford Lecture



Professor Nico Creugers
Professor and chair of the Department of Oral Function and Prosthetic Dentistry at the Radboud University Medical Centre in Nijmegen, the Netherlands
Director of the dental educational programs of the Nijmegen Dental School, the Netherlands
Member of the board of the International College of Prosthodontics

"On dental status and oral function"
Dentists are good in assessing dental status, however, for them it is difficult to assess oral function. In contrast, patients have clear ideas about their oral function, but cannot judge the impact of ('improvements' of) their dental status on oral function.
In Professor Creuger's lecture an attempt is made to synthesize the existing knowledge (on the relation between dental status and oral function) in a way that might ease the decision making process (in the treatment of reduced dentitions).

Keynote Lectures

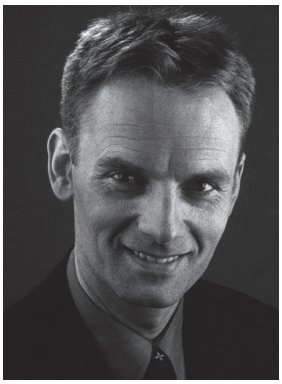
Professor Daniel Wismeijer
Professorship at the Academic Center for Dentistry Amsterdam, the Netherlands
Chair of the department of Oral Function and Restorative Dentistry
Head of the section of Oral Impantology and Prosthetic Dentistry

"Digital dentistry; where is this taking us?"
Digitalization of the dental workflow is becoming more and more mature. Although we are still confronted with digital Islands in an analogue sea, the quality aspects of the digitalized treatment approach are becoming more and more apparent. Dental laboratories are already up and running with CA designing of crown and bridge work and frame works for removable dentures as well as CA milling and printing of these appliances. Analogue impressions are scanned and in this way placed in the digital environment.

Digital implant treatment planning has already been taken up by many working in oral implantology as well as the incorporation of Cone Beam CT scanning. Intraoral scanning is being embraced by more and more dentists giving them the possibility to get away from analogue impression taking. The dental implant industry is providing restorative dentists with scanning abutments so they can take IO scans of the implants as well. The Cerec workflow already gave dentists the opportunity to design their own crowns.

More and more software is becoming available for dentists using open scanning systems to do the same. Industry has seen that open software systems provide quality improvement in the whole digital workflow (chain). With the digital approach digital dentistry is becoming an everyday tool for the dental professional and his team leading to efficiency, a higher treatment quality and providing more tools for quality control.

In Professor Wismeijer's presentation the various digital tools that are available in the dental practice will be described and their contribution to the everyday dental workflow will be explained.
Results from research in the precision and application of these tools will be presented as well as the results of digital dental workflow mining.



Joerd van der Meer
Medical Centre and University Hospital of Groningen, the Netherlands
Honorary Research Associate at the University College of London Eastman Dental Institute, Great Britain
Will finish his PhD on "3D digital workflows" in 2012

"A digital impression of digital workflows"

Digital workflows are a portent of radical changes in the dental profession. The first stage of such a workflow consists of 3D data acquisition using for instance an X-ray machine and a 3D scanner. The different 3D datasets are then combined in software to simulate a treatment or design a crown, bridge, frame or other dental solution which is then produced by a 3D printer or computer controlled milling machine.

This technological shift should lead to highly reliable treatment results with an unsurpassed quality. In this workflow the essential phase is the data acquisition which has to be highly accurate and detailed. For digital impression machines like the Lava COS, the iTero and the CEREC this is an enormous challenge.

In this lecture an overview of the different digital impression technologies is presented in the respect to their strengths and limitations. The research results of different applications of these impression machines are shown as well as the applications that go beyond the dental scope.

At the end of the lecture a glimpse of future developments and technology is shown to demonstrate where this technology can take us.

Professor Finbarr Allen
Professor/ Consultant in Oral Rehabilitation and Prosthodontics
Dean of Dentistry at University Dental School and Hospital, Cork, Ireland
Co-ordinator of Prosthodontics teaching at undergraduate and postgraduate level in Cork Dental School, Ireland

"Hypodontia and Quality of Life"

Hypodontia is manifested as congenital absence of teeth, and varies is prevalence from 2-6% of the population. In addition to absence of teeth, permanent teeth tend to be characterised by small size and spacing. Management of hypodontia is complex and requires multidisciplinary care. Little is known about the functional and psychosocial impact of hypodontia, or, the impact of treatment on oral health related quality of life. A variety of instruments and approaches have been validated for measuring quality of life, but the context specificity of these measures has not been well tested in patients with hypodontia.

The focus of Professor Allen's presentation is to present the results of a clinical trial which investigated the impact of treatment on quality of life of young adults with hypodontia. Treatment was provided to 83 patients with hypodontia of varying severity at Cork Dental School and Hospital, Ireland. In the first instance, a qualitative approach was used to interview patients with treated and untreated hypodontia.

A number of themes emerged which subsequently influenced the use of quantitative measures on a bigger patient sample. The Oral Health Impact Profile (OHIP) was used to determine the impact of hypodontia, and its measurement properties were tested to identify a suitable subset of the 49 items for use in the longitudinal aspect of the study. Finally, the impact of resin bonded bridgework (RBBs) was evaluated by comparing the patients whose toothspaces had been restored with those not yet restored.

The results of the study indicate that appearance is a major concern for patients with hypodontia. There was an association between age and concern about function, suggesting this becomes more important as patients age. Quality of life tends to get worse during treatment, and this has management implications. RBBs contributed significantly to quality of life improvement, and seem to offer a good solution in the medium term.

Professor Gert Meijer
Professor in Oral Implantology and Head at the Department of Implantology & Periodontology of the Radboud University Nijmegen Medical Centre, the Netherlands
Performed one of the first human studies, in which intra-oral defects were reconstructed with tissue-engineered bone.

"The extensive atrophic edentulous maxilla; how to reconstruct?"
Although the percentage of edentulous adults has decreased in the past 20 years, the demand for removable complete dentures will increase over the next 10 years. For example in the USA, not only the number of adults aged 55 to 74 years will increase by 86%, also the number of adults aged 75 years and older will enhance by 61%.

Patients are more likely to wear and accommodate to a removable maxillary denture compared to its mandibular counterpart and therefore wear a maxillary denture for longer periods of time. Unfortunately, when complications arise, in most cases the residual alveolar ridge is atrophic, forcing the patient to either accept the poor retention of their maxillary denture or to undergo an extensive reconstruction (bone augmentation and subsequently implant placement).

Since the introduction of the cone beam CT, virtual implant planning came into view. The impact of this technique on the treatment of extensive atrophic maxillary alveolar ridges will be enlightened in Professor Meijer's lecture.

Professor Marco Cune
Center for Prosthodontics and Special Dental Care of the St Antonius Hospital Nieuwegein, the Netherlands
The University Medical Center Groningen, Center for Dentistry and Oral Hygiene, the Netherlands
Co-chairs the department of Fixed and Removable Prosthodontics

"Clinical, microbiological, histological and esthetic aspects of zirconia in permucosal applications"
Zirconia has been widely used in dentistry during the last decade, both as coping material for indirect restorations, as full contour crowns, as abutments in implant dentistry or as implants.

Surprisingly little information is available regarding its long term clinical performance for all of these applications. This presentation will address the biological and esthetic performance of Zirconia implant abutments as they compare to the 'gold' standard, namely Titanium. Focus will be on the soft tissue response. The little information from the literature that is available on the subject predominantly concerns in vitro tests or animal experiments.

These data and their implications will be reviewed and discussed. Two recent studies in man are presented as well. We performed an in vivo experiment in man (n=20 edentulous subjects, split mouth design) and compared Titanium and Zirconia implant abutments with respect to clinical, microbiological and histological parameters after 3 months of function. We found no noteworthy differences between soft tissues adjacent to Zirconia and Titanium implant abutments for any of the parameters studied. In another study (n=15 implants) we investigated the influence of soft tissue thickness as it relates to abutment type (Zirconia and Titanium). We switched abutments and made a hyperspectral image of both situations within the same patient.

Differences in reflection of the mucosa ('color') are only visible to the human eye when soft tissue thickness exceeds 2 mm. The implications of these findings will be discussed in light of clinical decision making when choosing for a Zirconia or a Titanium implant abutment.

Dr. Hans van Pelt
University of Groningen, D.D.S. 1978, Ph.D. University of Groningen, "Bacterial adhesion on solid surfaces" 1985, the Netherlands
2010; Recognized as Specialist in Prosthodontics (EPA)
Current position; Member and shareholder in a Prosthodontic Practice in Rotterdam, the Netherlands

"Differentiation and specialization in restorative dentistry in the Netherlands"
An overview will be presented of the ideas, plans and possibilities worked out recently by the NVGPT and NVVRT. This includes a program for students as well as for dentists who have the intention to improve their skills (differentiation) or specialization in restorative dentistry.

The program starts with an undergraduate program (Individual Profile in the Masterfase). After graduation modules are being developed. For the examination and recognition as specialist in restorative dentistry the NVGPT and NVVRT and the Royal College of Surgeons in Edinburg are presently active to work this out together. In dr. Van Pelt's lecture many clinical cases will be presented to illustrate the different levels in the educational program.

Professor Albert Feilzer
PhD-degree on the thesis entitled 'Polymerization Shrinkage Stress in Dental Composite Resin Restorations, an in-vitro investigation', Master degree in Health Care Management
Current position; Dean of Academic Center of Dentistry Amsterdam (ACTA), the Netherlands

"Allergy to dental materials an issue?"
Although it has been assumed for many years that dental restorative and orthodontic materials are safe, it is now becoming increasingly clear that this might not be the case for some materials. In particular, the use of metal alloys applied in dental fillings, crowns, implants and orthodontic wirings has raised safety concerns.

Professor Feilzer's lecture aims to discuss the potential relation between exposure to metals released from dental materials and systemic disease.

Professor Paul Lambrechts
Full professor at the Department of Dentistry of the Catholic University of Leuven in Belgium
Head of the Department of Conservative Dentistry
Involved in the specialisation educations of Endodontology and Restorative Dentistry and in the BIOMAT Research cluster

"Maximal minimal caries intervention"
The combination of microscopy with cone beam computertomography and additional diagnostics makes the treatment of caries an euphoric experience. Until today, invasive dentistry is more a slogan than reality. Adhesive dentistry and sustainable composite resins will reach their optimal value when they can be related to real time caries diagnostics.

In this respect, cone beam computertomography a well as the fluorescence microscopy camera are innovative applications. Using clinical case reports, their usability will be demonstrated for treatment of occlusal as well as proximal carious lesions. Furthermore, data of a 5-years follow-up study into the bio-tribo corrosion and wear resistance of nanocomposites will be presented.

Professor Regina Mericske-Stern
Chair of the Department of Prosthodontics, University of Bern, Switzerland
Director of the Master Program in Prosthodontics and Implant dentistry
President of the Swiss Society of Reconstructive Dentistry (SSRD)

"Dental implants in (frail) older people"

Dental implants are a considered a treatment of choice and may be highly beneficial for older people, exhibiting a great variety of oral conditions.

Current demographic trends indicate an increasing segment of old people in western countries. Some studies express the opinion that edentulousness and providing complete dentures will not disappear, but both are postponed to older age. This may not be a real benefit if patients have to adapt to dentures in the last period of their life. Thus, implant overdentures will be a meaningful treatment option for an increasingly old population, also in the next future.

Geriatric dentists are often involved in specialized care for dependent patients in nursing homes. Gerodontology sometimes disregards that the majority of old patients is living in their private homes. Due to better healthcare and homecare, more aged - alert and frail older people - tend to maintain some natural teeth and equally benefit from implants. Implants may offer simple solution alone or in combination with remaining teeth: support of simple RPD can be facilitated, single broken teeth can easily be replaced and the need for large new reconstructions is avoided. However, dental implants require careful indication considerations and caregivers must be able to master problems associated with frailty and general health problems. The focus lays on comprehensive planning and care, well-organized surgical procedures and predictable outcome.

It is pertinent to olook into the near future. Currently, many patients who are now in their late fifties or sixties, receive complex prosthetic rehabilitation, often combined with implants. They will be soon our oldest segment of patients who are in need of treatment and regular maintenance.

Conclusions:
1. One question to be answered is whether and how dentists will have access to this growing older population of patients in order to provide adequate care.
2. Within the next 20 years, the perspectives in geriatric dentistry will significantly change and we have to be prepared for this. The entire field of prosthodontics and implant dentistry must become an object of geriatric dentistry, in teaching and practicing.

Professor David Bartlett
Head of Prosthodontics at Kings College London Dental Institute, Great Britain
Treasurer for the British Division of IADR and Chair of the SAC in Restorative Dentistry which co-ordinates specialist training in the UK, Chair of the ethics committee of Guy's Hospital
Consultant in Restorative Dentistry and a specialist in Prosthodontics after completing specialist training in 1999 at Guy's Hospital and is now a senior clinician at the Dental School

"Wearing away; the challenge of modern prosthodontics"
Tooth wear and specifically erosion can create complex management problems for clinicians and clinical researchers. Over the past 20 years interest in tooth wear has grown and now provokes wide interest around the world. Much of the current knowledge and understanding has developed in Europe which has led most of the innovations in research field and clinical management.

Prof. Bartlett's lecture will briefly review the mechanisms of tooth wear and the outcome of the processes on the oral tissues and explain current views on the prevalence and how this might impact on management. The final component of his lecture will overview current management philosophies and discuss how these impact on treatment strategies.

Fathers & Sons symposium

Professor Warner Kalk
Distinguished scientific award of the IADR "Research in Prosthodontics & Implants Award" and honoured with the Diploma Fellow Dental Surgery of the Royal College of Surgeons Edinburgh
2008; Became a honorary life member of the European Prosthodontic Association
2010; Honoured with the Royal Dutch Award 'Officer in the Order of Oranje Nassau'
Current position: the Center for Advanced Implantology (CBI), Tjongerschans Hospital, Heerenveen, The Netherlands

Dr. Wouter Kalk
Registered as an Oral and Maxillofacial Surgeon since 2005
Has been assigned as medical advisor for the Dutch association of Sjögren patients, regarding oral issues. Current position;
Oral implantologist in his private practice (CBI) in Heerenveen with his prosthodontist and father, Warner Kalk

Professor Cees de Baat
Co-founder of the Dutch Society of Gerodontology and the European College of Gerodontology
Editor-in-chief of the Dutch Journal of Dentistry
Current position; President of the European Prosthodontic Association and the President of the European College of Gerodontology.

Paul de Baat
Studied Medicine at the Erasmus University in Rotterdam, graduated in 2005. His residency in Orthopaedic Surgery started in 2007, gained experience at Erasmus Medical Centre in Rotterdam, at Saint Elisabeth Hospital in Tilburg, and at Haga Hospital in The Hague, all in the Netherlands. In 2013 he will finish his specialization in Rotterdam to become an orthopaedic surgeon

"Prosthetics in medicine and dentistry"
In medicine, prostheses and implants can be defined as artificial devices which replace biological structures, lost by injury or missing from birth, or which enhance existing biological structures. Prostheses and implants are applied in several medical disciplines and each discipline has its own particular indications, surgical and prosthetic methods, risks, survival rates, and patients' experiences and satisfaction.
It is rather astonishing that the medical disciplines involved in treating patients with prostheses and implants do not exchange their scientific and practical experiences extensively. Interdisciplinary boundaries may be reduced or even eliminated easily when fathers and sons are representatives of diverse medical disciplines.

Abstracts
Oral Presentations

OP01

Effect of Inter-implant Distance on Retention & Stability of Overdenture

Farhad Tabatabaian, Abolfazl Sabouri, Zahra Sadat Sobhani
Dental School of Shahid Beheshti University of Medical Sciences, Tehran, Iran

Objectives: The purpose of this invitro study was to survey the effect of inter-implant distance on retention and stability of overdenture retained by two ball attachments.
Methods: A model of edentulous mandible without undercuts was fabricated. Three pairs of implants (PGR4012, Biohorizons, USA) were symmetrically placed at both sides of midline (three implants each side).Inter-implant distance of these implant pairs were 10(A), 25(B), and 35(C) millimeters. A metallic framework of overdenture was precisely made and placed on the model. Four hooks were designed to connect the framework to testing machine. Then an acrylic overdenture housing, that covered the implants, was fabricated and joined to the framework. Six attachment housings (BCAHT, Biohorizons, USA) were placed within the overdenture housing.For each sample, two ball abutments (PGBA1, Biohorizons, USA) were screwed on the implant pair (A or B or C) and two nylon inserts (BCIP, Biohorizons, USA) were located inside the relevant attachment housings.Through engagement of ball abutments and nylon inserts, the overdenture was retained.15 samples were tested in each group (A, B,and C). Zwick testing machine loaded and measured tensile forces for each sample in three directions: vertical, oblique, and anterior-posterior.Maximum dislodging force was recorded at the moment of complete detachment of overdenture from the model. A 1-way ANOVA followed by the Tukey's test was used to analyze the data.
Results: There was no statistically significant difference between A, B, and C in retention and oblique stability ($P>0.05$). The anterior-posterior stability was statistically the highest in C ($P<0.05$), with mean values and standard deviations of 21.25±3.05 N, while there was no significant difference between A (14.46±2.11 N) and B (14.94±3.83 N) ($P>0.05$). Conclusion: Inter-implant distance does not affect retention and oblique stability of overdenture, however it affects anterior-posterior stability.

OP02

Bone quality effect on load-carrying ability of dental implants

Igor Linetskiy, D.M., Vladyslav Demenko, Larysa Linetska, Vitalij Nesvit, Andrii Shevchenko
Department of Dentistry, 1st Faculty of Medicine, Charles University in Prague, Czech Republic

Objectives: Bone quality is a variable that is considered essential for achieving predictable osseointegration and long-term survival of implants. The goal of this study was to evaluate the biomechanical response of mandibular tissues belonging to four bone quality types (Lekholm & Zarb classification) to cylindrical implants of various sizes by calculating their ultimate masticatory load and using this parameter to study the correlation between implant size, bone quality and its ability to withstand masticatory loading.
Methods: Finite element simulations were used to evaluate the influence of implant dimensions and bone quality on stress concentration and the value of an implant's ultimate masticatory load. Geometric models of mandible segments with osseointegrated cylindrical implants of various sizes were generated from computed tomography images and analyzed. Four bone segments represented different mandible bone quality. All materials were assumed to be linearly elastic and isotropic. Implants of 3.0 … 5.0 mm in diameter and 8.0 … 14.0 mm in length were analyzed. Masticatory forces were applied in their

natural (oblique) direction.
Results: For every implant, maximum von Mises stresses at the critical point of periimplant area were calculated and assumed to be linear functions of loading. The ultimate value of masticatory load was calculated for each implant. The implants inserted into Type I bone had the largest load-carrying ability and were able to withstand load from 223 N for the shortest and narrowest implant to 525.3 N for the widest and longest implant. For implants inserted into Type IV bone the load-carrying ability was considerably lower than in Type I bone and varied between 56.6% and 74.9%.
Conclusion: By comparing the values of ultimate masticatory force for various implant sizes and bone quality types, a clinician can evaluate risk factors associated with each parameter and optimize implant selection from a biomechanical perspective.

OP03

Finite Element Stress Analysis of Overdentures Supported by Angled Implants

Esma Basak Gül
Inonu University Facullty of Dentistry, Malatya, Turkey

Objectives: The aim of this study was to evaluate the stress distribution and values in the supporting bone of inclined implants splinted with bar attachments by 3D finite element stress analysis.
Methods: In the present study, a three dimensional edentulous mandibula was constructed. Four dental implants were placed in the inter-foraminal area and 4 different models were created by inclining the mesial 2 implants with 0, 5, 10, and 15 degrees. Implants were connected to each other by a bar superstructure and an overdenture. 90 N vertical and 180 N oblique loads were applied unilaterally to right canine. Also, 150 N oblique load was applied to the incisors to simulate biting force. Maximum and minimum principle stresses in the cortical bone around implants were evaluated.
Results: For first and second loading conditions, the highest maximum principle stress was observed in the fourth model with the highest inclination and the lowest stresses were observed in the control models. For the 3rd loading condition which is oblique loading from the lower incisors as biting, the highest maximum principle stress values were observed in the first model which all the implants were placed vertically, whereas the fourth model with the maximum inclined implants had shown the lowest maximum principle stress values. For all 4 models the lowest stress values were observed in the first loading condition.
Conclusion: In all loading conditions, the highest maximum stress values were observed at the cortical bone around the neck of the implant. The principle stress values were higher in oblique loadings than in vertical loading conditions. The principle stress in the supporting bone, were affected by loading conditions and the direction of the loading. The ultimate attention should be paid in order to orient the chewing forces along the long axis of the implant.

OP04

Endosseous Implants for the Treatment of Congenital and Acquired Defects of the Head and Neck

Harlan A Schufeldt

Medical College of Virginia/Virginia Commonwealth University, USA

This presentation will review the use of endosseous implants for the rehabilitation of patients with defects both intraoral and extra oral. The dental implant has become a significant adjunct to our armentarium to restore these patients to better form and function. The presentation will review multiple cases of rehabilitation using endosseous implants to restore single and multiple teeth, and also to stabilize and retain various intraoral and extraoral maxillofacial prosthesis. The use of CAD-CAM technology will also be presented in this context. Utilized in patients over the past 30 years in our practice, treatment options will be presented for both child and adult patients.

OP05

CAD/CAM-titanium and gold bars: implant survival and crestal bone measurements

Hadi Gholami, Simone Kobel, Julia Walchli, Regina Mericske-Stern, Joannis Katsoulis

Department of Prosthodontics-dental school, Bern University, Switzerland

Objectives: The implant-supported bar overdenture is an appropriate treatment choice for edentulous patients with inadequate bone volume. Computer-aided design/computer-aided manufacturing (CAD/CAM) technology offers a new option for bar fabrication, enabling a n individual design. The aim of this study was to compare implant survival and bone level changes of mandibular implant-overdentures connected to CAD/CAM titanium bar (Ti-IOD group) and soldered gold bars (gold-IOD group). Methods: During a time-period of 4 years 213 edentulous patients (mean age 68±10 years) received 477 tapered implants with a medium-rough surface in the interforaminal mandibular area. Ti-IOD and gold-IOD comprised 101 and 112 patients with 231 and 246 implants, respectively. Both bar types had a rigid (parallel wall) design and frequently exhibited distal extensions. All patients were followed clinically and radiographically at implant placement, loading and during annual recall sessions. The cumulative survival rate of the implants was calculated (Cutler & ederer 1954) Crestal bone level changes (?BIC) were recorded and analyzed with non-parametric testing. Results: The cumulative survival of the implants after 4 years was 100% (Ti-IOD) and 97.6% (gold-IOD). The six implant failures occurred before loading. BIC was not statistically different between Ti-IOD (-0.3mm) and gold-IOD (0.0mm) after for years. Conclusion: Bone level changes of implants supporting CAD/CAM-titanium and gold bars exhibited a low resorption rate in the present short-term observation. Other factors than the superstructure-material may be more important for bone stability and long-term success.

OP06

Treatment of children patiens affected anodontia case report

Karel Chleborad, Tatjana Dostalova

MD,Charles University, 2nd Medical Faculty, Department of Paediatric Dentistry, Prague, Czech Republic

Objectives: anodontia, also called anodontia vera, is a rare genetic disorder characterized by the congennital absence of all primary or permanent teeth. It is associated with the group of skin and nerve syndromes called the ectodermal dysplasias. Anodontia is the congenital absence of teeth and can

occur in some or all teeth (partial anodontia or hypodontia), involve two dentitions or only teeth of the permanent dentition. Frequency of disability is relatively small – in deciduous teeth from 0.1 to 0.9 %, in permanent teeth the frequency of 2 – 9 %. The Anodontia of at least one permanent tooth is the most common dental anomaly and may contribute to masticator dysfunction, speech impairment, aesthetic problems, and malocclusion.
Materials and methods:The first patient in our care ten-year -old boy affected anodontia. In the upper jaw are present teeth 55, 53, 11, 21,63, 65 and in the lower jaw are teeth 73,83. The second patient seventeen year-old girl affected anodontia teeth missing 23, 35, 34, 44, 45.
Results: The first patient was treated by making the upper and the lower dentures. Impressions were made of both jaws, reconstruction intermaxillary relationships, examination of wax models of dentures and subsequently delivery of dentures. For the second patient was performed 44-45 splitting bone, joints were inserted into the bone graft, then was applied BioOss and Bio-Gide. Then was introduced the implant in site 35. After five months were introduced implants in 44, 45, then was performed splitting in 23 and the implant inserted. Subsequently was performed prosthetic reconstruction of teeth.
Conclusion: Genetic engineering may allow us in future to eliminate a number of congenital defects in the oral cavity. At present, however, essential clinical perspective, when we try to keep up a healthy tooth tissue.

OP07

Effect of Sodium Bicarbonate Air-Polishing on Surface Roughness of Composites and Porcelains

Ali Riza Tuncdemir, Mustafa Yavuz, Serdar Polat (presenter), Makbule Tuncdemir, Erhan Özcan
University of Selcuk, Faculty of Dentistry, Department of Prosthodontics, Konya, Turkey

Objectives: Air-flow polishing is routinely used in dental clinics but there is no more study about its affect on surface roughnes of newly developed composites and porcelains. The aim of this study was an evaluation to the affect of air-flow polishing on newly developed composite and porcelain specimens.
Materials and Methods: One hybrid and one nano-hybrid composite systems were selected in this study. Four experimental groups which were 2 mm thickness and 10 mm diameter were occured as; metal-supported and metal-free porcelain groups, microhybrid and nanofil composite groups. Totally 4 groups of 10 specimens each according to material type. Materials were prepared according to manufactures directions.
Results According to Two way analysis of variance there was no differences after air flow applying to specimens ($P>0.05$). There was statistically significant differences according to t test results among groups before and after air flow applying ($P<0.05$) and no differences between porcelain and composite groups in terms of surface roughness . SEM examination was confirmed the more rougher values after air flow application.
Conclusion Air polishing is an easy and time-saving instrumentation technique, but it induced rougher surfaces on restorative materials, therefore re-polishing may be applied on restorative materials after air-flow polishing.

OP08

Micro-shear bond strength of resin cements to dentin after application of desensitising toothpastes

Andac Barkin Bavbek, Baris Goktas (presenter), Isil Cekic-Nagas, Ferhan Egilmez, Gulfem Ergun, Gurcan Eskitascioglu

Yuzuncu Yil University, Faculty of Dentistry, Department of Prosthodontics, Van, Turkey

Aim: The aim of the study was to evaluate the effect of three desensitising toothpastes on bonding of resin cements to dentin.

Methods: The occlusal surfaces of 72 maxillary third molars were ground to obtain flat dentin surfaces and then divided into three groups according to three desensitising toothpastes used: Sensodyne Rapid Relief, Signal Sensitive Expert and Colgate Sensitive Pro-Relief. Following bonding the resin cement (Clearfil™ SA Cement) to dentin, the specimens were light cured for 40 s with a LED (Elipar S10, 3M Espe). The strength measurements were accomplished with a micro-shear testing machine (Bisco) at a crosshead speed of 0.5 mm/min until the failure occurs. Failure modes were examined using a stereomicroscope and scanning electron microscope. The data were analyzed with one-way analysis of variance (ANOVA) and Tukey HSD test (alpha=0.05).

Results: ANOVA revealed that the application of desensitising toothpastes had no significant effects on bond strength of the resin cement tested to dentin ($p = 0.001$). Mixed failures were observed in all of the groups.

Conclusion: The use of a desensitising toothpaste before cementation does not alter the bond strength of adhesively luted restorations.

OP09

Contact allergy to dental polymers in the Eastern Hungarian Region

Csaba Hegedus, Marta Szepesi, Sandor Marton

University of Debrecen, MHSC, Faculty of Dentistry, Hungary

Objective: The oral mucosa is constantly exposed to a large number of potentially irritating and sensitizing dental polymers and metals. Dental materials used for fillings and fixed or removable replacements can cause several kind of symptoms (gingivitis, discoloration of hard and soft parts, burning feeling of tongue and pain radiating to the jaws). The aim of this study was to evaluate the results of the epicutaneous reaction of the polymer tests.

Methods: 636 people with positive allergic reaction of dental materials, aged 15- 82 years were examined in a ten- year sample. Epicutaneus skin tests were performed by using the 'Hungarian' standard series of 28 (11 polymers and 17 metals) chemicals (BRIAL, Germany). The statistical analysis was performed using SPSS (USA) program.

Results: The common allergens detected included methylmetacrylat (19%), hydrochinon (16,4%), formaldehid (15,52%). One + reaction was the most frequently identified epicutan polymer reaction. The male/female ratio was 12.2% / 87.8%, and 69.8% were between 21-50 years.

Conclusion: The polymer allergy becomes of more and more importance, as the number of polymers is increasing continuously in the field of dentistry. At moment we are not able to carry out to test all polymer components, as the newly developed polymers can contain different monomers for which no test material is produced. It is complicated to detect the + / +- reactions indicated by the polymers and great practical knowledge is needed for it. In these cases it is difficult to give a responsible suggestion of the useful dental materials of the treatment plan.

OP10

Effect of Two Photoactivated Bleaching Systems on the Bond Strength of Laminate Veneer to Tooth

Ozgun Yusuf Ozyilmaz, Filiz Aykent, Ali Riza Tuncdemir
Selcuk University Faculty of Dentistry, Department of Prosthodontic, Konya, Turkey

Objectives: The objective of this in-vitro study was to examine the microtensile bond strength (MTBS) of a porcelain laminate veneer (PLV) to tooth surface bleached with photoactivation by blue light-emitting diode (LED) or diode laser.
Methods: Eigthteen extracted human central incisors were randomly divided into 3 groups according to treatment procedure. 2 sticks were obtained from each tooth (n=12). The teeth were sectioned 2mm below the cemento-enamel junction and embedded into a self-cure acrylic resin labial surface facing up. Before surface treatments; teeth were prepared to provide space for PLVs. The first group teeth were bleached with Whiteness HP which is contain 35% hydrogen peroxide (HP) and then photoactivated with a LED for 20s. The second group were bleached with Laserwhite 20 which is contain 46% HP and photoactivated with diode laser (EzlaseTM Laser, wavelength 980nm, average power 7watt, energy setting 200J, continous mode) for 30s. The third group received no surface treatment and served as the control group. IPS Esthetic ceramic veneers were luted with Variolink II veneer cement (Ivoclar, Schaan, Liechtenstein). The teeth were sectioned to obtain porcelain-resin-enamel/dentin sticks (1,2x1,2mm) and submitted to MTB testing device. The maximum load at fracture (N) was recorded and converted to MPa value . Data were analyzed using one-way ANOVA followed by the Tukey HSD post-hoc test at a preset a of 0.05.
Results: One-way ANOVA revealed that there was significant difference between LED unit group and control group ($p<0.05$) but no statistical differences were observed with diode laser group ($p>0.05$)
The LED unit group presented significantly lower bond strength value (7,83±4,2MPa) than diode laser (8,49±4,7MPa) and control groups (9,53±3,6MPa).
Conclusion: The results suggested that the bond strength of PLV to tooth surfaces bleached with LED activated WHP bleaching gel was reduced distinctly.

OP11

Color stability of hypoallergenic and polyamide denture base materials

Hatice Agan, Etan Mijiritsky, Gulay Kansu, Unsun Cetin
Ankara University, Faculty of Dentistry, Ankara, Turkey

Objectives: Released methylmethacrylate from acrylic dentures may cause mucosal irritations. Hypoallergenic and polyamide based denture materials can be used for patients susceptible to allergic reactions and requiring a removable dentures. The aim of this in vitro study was to evaluate the effect of mostly consumed beverages like coffee, tea and coke on the colour stability of acrylic, hypoallergenic and polyamide denture base materials.
Methods: The colour stability of hypoallergenic (Bre-crystal, Acryfree) and polyamide (Bre-flex, Flexinylon, T crystal) denture base materials were compared with commonly used heat-cured acrylic (Meliodent) denture base material. For each material 20 disc shaped (10mm in diameter, 2mm in height) samples was were prepared. Each sample has smooth and rough surfaces. Samples were immersed into three staining solutions (coffee, tea and coke) as test groups and into distilled water as a control. Before immersion, the initial colour value was recorded. Colour change values were also determined after 1, 12, 36 days of immersion. The colours of smooth and rough surfaces of all specimens were measured by a

colorimeter based on CIE Lab system. Repeated measure analyses of variance technique and Duncan test was were used for statistical evaluation. Results: Results of repeated measures ANOVA indicated that all factors (time, denture base material, surface characteristics and staining solution) and all their possible interactions were statistically significant ($p<0.05$). Bre-crystal demonstrated the lowest colour difference among the all the materials tested ($p<0.05$). Rough surfaces of Acryfree specimens exposed to coke and Meliodent specimens exposed to coffee showed statistically significant lower colour stability than all others irrespective of time. ($p<0.05$)
Conclusion: Within the limitations of this study, it can be concluded that clinicians should be aware of the staining susceptibility of the denture base materials and effects of the beverages but further investigations should be done to compare our results.

OP12

Comparison of the accuracy of stereophotogrammetry and moiré profilometry for 3D imaging of the face

Andreas Artopoulos, Jan A.N. Buytaert, Joris J.J. Dirckx, Trevor J. Coward
Department of Prosthodontics, King's College London Dental Institute, London, UK

Objectives: to compare the accuracy of a commercialized digital stereophotogrammetry device with an experimental projection moiré profilometry setup for 3D surface imaging in maxillofacial prosthodontics, by using anatomical models of the middle third of the face in conjunction with surface matching software.
Methods: 22 datasets of 3D reconstructed computed tomography (CT) scans were transformed to STL file format 3D models and were used to fabricate resin models of the middle third of the face using rapid prototyping technology (Eden®, Objet Geometries Ltd). These were digitized using two methods: digital stereophotogrammetry (Di3D®, Dimensional Imaging Ltd) and projection moiré profilometry (experimental setup). The experimental setup mainly comprised of a single CCD camera, an LCD projector and lenses. The 3D datasets acquired with these two techniques were also transformed to STL models and were compared for differences in shape with the original CT models by using surface matching software (Cloud®, Robin's 3D). Each set of acquired data was registered in the same coordinates in space with the original CT dataset using an iterative closest point algorithm. The observed mean differences in shape were used to calculate Lin's coefficient of concordance and Bland-Altman limits of agreement.
Results: preliminary results indicated that differences in shape between the two techniques were not clinically significant.
Conclusions: the experimental moiré profilometry setup employed in this study produced 3D models of facial anatomy of comparable accuracy with a commercialized digital stereophotogrammetry device, which is widely used clinically for this purpose. Projection moiré profilometry could be applied as a low cost system for 3D surface imaging of the face. This study was partly funded by the European Prosthodontic Association 2011 Rowland Fereday Scholarship and sponsored by Objet Geometries Ltd.

OP13

Clinical Evaluation of All Ceramic FPDs Using Ce-TZP/Alumina Nanocomposite

Hiroyuki Miura, Reina Nemoto, Rie Fujita, Ai Morinaga, Kyoji Matsukawa, Naosuke Kumagae
Department of Fixed Prosthodontics, Tokyo Medical and Dental University, Tokyo, Japan

Objectives: In recent years, the clinical applications of zirconium oxide frameworks have expanded the range of indications of all ceramic fixed partial dentures (FPDs) in the posterior region. Ceria-stabilized tetragonal zirconia polycrystal (Ce-TZP) shows a very high toughness and a complete resistance to low temperature aging degradation compared with Yttria-stabilized tetragonal zirconia polycrystal (Y-TZP). The aim of this study was to evaluate the clinical performance of all ceramic FPDs using Ce-TZP/Alumina nanocomposite at a 72 months follow-up.
Material and methods: We began a longitudinal study to evaluate the clinical performance of all ceramic FPDs using Ce-TZP/Alumina nanocomposite in August 2006. Fourteen all ceramic FPDs (three units FPDs and four units FPDs) were fabricated in the posterior region and clinically evaluated. All FPDs were cemented to the abutment teeth using adhesive resin cement. We checked periodontal condition of the abutment teeth (plaque index, gingival index and pocket depth), abrasion and tooth mobility of the antagonists, change of the occlusal contacts, chipping of the veneering porcelain and fracture of the framework. We also measured marginal fidelity of FPDs using silicone impression material. The longest period of observation was 72 months.
Result: The mean marginal discrepancies of the FPDs were 89.9 μm. No cases of fracture of the framework have been observed. Chipping of the veneering porcelain was not observed. There were no significant changes in the measurement value of tooth mobility of the antagonist, plaque index, gingival index or pocket depths. To date, all ceramic fixed partial dentures using Ce-TZP/Alumina nanocomposite have shown good clinical results.
Conclusion: The clinical application of Ce-TZP/Alumina nanocomposite expanded the range of indications of metal free restorations.

OP14

Evaluation of drugs use, health parameters and alcohol intake in an elderly sample

Simone B. de Paula, Patrícia F B Mendonça, Mateus B.F.dos Santos (presenter), Jarbas F.F. Santos, Leonardo Marchini
University of Vale do Paraíba, Sao Paulo, Brazil

Objective: The aim of this study was to evaluate the use of medicines, health parameters (blood pressure, heart rate and blood glucose) and alcohol use in elderly residents in the city of São José dos Campos, Brazil.
Materials and methods: A convenience sample of the city of São José dos Campos (n=500) was examined, where the inclusion criteria were to be +60 years old and to agree to participate in this study signing an agreement form. Personal data of the patients were recorded, general health aspects were and using the Alcohol Use Disturbs Identification Test (AUDIT) the alcohol consumption was verified.
Results: Regarding the educational level, 54.2% had only primary education and 13.6% had completed college, six patients (1.2%) had post-graduation and 12 (2.4%) were illiterate. Two hundred and four patients (40.8%) presented high blood pressure and 93 patients (18.6%) hyperglycemia. The most used pharmacological groups were antihypertensives, antilipidemics, drugs to control hypothyroidism and

hypoglycemic. Of the drugs used by the patients, 60.9% of them present positive pharmacological interactions with alcohol. The AUDIT results showed that 91% of the interviewed elders present a low-risk intake of alcohol and only 1% presented characteristic of alcohol addiction. It was found associations among AUDIT scores with age (p=0.037), where a higher number of alcohol addicts was found in younger patients; and use of drugs (p=0.046), where patients who consumed more daily medicines made less use of alcohol (low risk). No associations were found among blood pressure and glucose with educational level and AUDIT scores.
Conclusions: The studied sample presented a high prevalence of hypertension patients, a relatively low incidence of diabetes, lower use of drugs, where women make more use of daily medications than men. It was also observed low alcohol consumption, and women consumed less alcohol than men.

OP15

Evaluation of The Cytotoxicity of Composite Resin Cements by xCELLigence System

Sedef Topçuoglu, Tülin Polat, Ahmet Altun
University of Cumhuriyet, Gaziantep, Turkey

Objectives: The aim of this study is to evaluate the cytotoxic effects of six different resin cements with real-time cell analyzer.
Materials and Methods: The cytotoxicity of composite resin cements including Rely X Unicem 2; G-Cem; NX3; Maxcem elite; Smart Cem 2; BifixSE were analyzed with real-time cell analyzer (RT-CA, xCELLigence; Roche Applied Science, Germany). For each resin cement group, 24 cylinders (5 mm diameter and 2 mm height) were fabricated. Artificial saliva was used as an extracting solution. All specimens were stored in the artificial saliva for 1, 4, and 7 days. After seeding 100 mL of the L-929 fibroblast cell suspensions into the wells (20,000 cells/well) of the E-plate 48, the cells were exposed to 100 mL of extracting solution containing the components released by the resin cements (1/1 and 1/2 dilutions) and monitored every 1 hour. The statistical analyzes among the groups were evaluated using ANOVA and followed by post hoc Tukey test.
Results: All resin cements showed statistically significant cytotoxic effect ($p<0.05$). However, Bifix SE group and 1/2 dilutions of GCem group presented no cytotoxic effect at 1st day ($p>0.05$). Extracts of all groups at 7th day indicated higher cytotoxic effect than the extracts of those at 1st and 4th day. The most intense cytotoxic effects were caused by Max cem Elite at 7th day. Furthermore, no cell viability was dedicated in the well of Max cem Elite at 7th day.
Conclusion: Our data suggests that the xCELLigence live cell analysis system can be used as a rapid and easy assessment method to determine the cytotoxicity of resin cements in cell-based in vitro assays. Further studies about the cytotoxicity of resin cements would be helpful to better understand the biological risks and to improve the biocompatibility of the resin cements.

OP16

Fracture incidence of acrylic resin mandibular overdentures reinforced with fibers

Bahadir Ersu, Duygu Karasan (Presenter), Güliz Aktas, Umut Güler, Arzu Tezvergil, Senay Canay
Hacettepe University, Ankara, Turkey

Aim: To compare the fracture incidence of acrylic resin mandibular overdentures retained by 2 or 4 implants. Methods: Two acrylic resin mandibular test models including 2 and 4 implant analogues

were used to simulate the mandible. Analogues (Astra Tech 4.5mm in diameter and 13 mm in length) were placed in parallel position in the symphy seal region perpendicular to the occlusal plane. Locator attachments 3.0 mm high were used. After abutment components were screwed and hand tightened onto the implant replicas, metal caps were positioned on top of the abutments. 80 complete denture replicas were fabricated with a heat polymerized acrylic resin (Lucitone 199; Dentsply Intl Inc) on the edentulous mandibular models. Each group was including 10 (n=10) specimens. Two and four implant supported specimens were fabricated in four subgroups; Group 1, no reinforcement, Group 2, unidirectional E glass fiber reinforcement, Group 3, e-glass mesh reinforcement and Group 4, E-glass Mesh and Unidirectional E-glass fiber reinforcement. Specimens were submitted to loading until failure in a universal testing machine at a crosshead speed of 2 mm/min.
Results: Under static loading significant differences were detected among the groups. Group 4 specimens showed the highest fracture load values and Group 2 specimens gave the second highest values and group 3 specimens showed fracture load values higher than the control group. None of the specimens reinforced with unidirectional E-glass and E-glass mesh fiber fractured catastrophically during loading
Conclusion: In case of the thickness of acrylic resin over an implant overdenture abutment cannot be increased because of space limitations or the cast metal reinforcements cannot be used because of cost and time limitations the fiber reinforcement may prevent fracture of the thin acrylic resin layer.

OP17

Stress Distribution in Reduced Periodontal Supporting Tissues Surrounding Splinted Tooth

Sivge Akgun, Hakan Terzioglu, Hatice Agan
Ankara University, Faculty of Dentistry, Department of Periodontology, Turkey

Objectives: Tooth mobility is one of the most important clinical parameter in determining prognosis, so, for teeth stabilization splinting is significant. The aim of the present study is to analyze the distribution of occlusal stresses that occur in splinted or non-splinted mandibular anterior incisors and compare the different splint materials. Methods: In our study from a patient's computerized tomography, mandibular four incisors with reduced periodontal support and healthy mandibular two canines, a mandibular model was obtained with Rhinoceros 4.0 (Seattle, USA) 3-D software. Selected 3 different splint materials (composite resin, metal-reinforced composite resin and fiber-reinforced composite resin) located on models. In the 1st model, 6 teeth left without splinting In the 2nd model, 6 teeth were splinted with composite resin In the 3rd model, 6 teeth were splinted with metal-reinforced composite resin In the 4th model, 6 teeth were splinted with fiber-reinforced composite resin Axial and horizontal forces applied to these splinted and non-splinted models, then stresses and stress levels were analyzed with 3-dimension finite element method(FEA) (Direct Matrix Abstraction Program by MSC. Nastran). Stresses and severity of these different materials that occured by axially and horizontally directed forces was investigated with 3-D FEA. Occlusal forces in splints were compared with each other and also with the non-splinted model. Results: The vertical force reactions on the bone and the tooth occurs in the buccal section. Wire reinforcement has about %20 better performance in order to distribute the load on the #1 #2 towards #3 tooth in %100 bone level. The transverse force reactions on the jaw bone and the tooth occurs in the lingual section. Wire reinforcement has about %50 better performance compared to composite and fiber reinforced materials.
Conclusion: All stabilization materials worked well for splinting under vertical and axial loading conditions but metal-reinforcement has better performance than others.

OP18

Enhancing treatment planning with CBCT by visualizing soft parts

Dick Leenheer, Thomas Maal
Tandheelkundig Centrum Kastanjehoeve, Hendrik-Ido-Ambacht, The Netherlands

Background: The performance of CBCT in hard tissues is good. The visibility of soft structures such as soft tissue or a prosthesis is poor. Therefore most implant planning is based on a fusion of CBCT-data with data from analogue models. The need for combining data sets introduces extra errors like dislocation of a (scan) prosthesis and transition from analogue to digital.
Objectives: This abstract describes a method to visualize soft structures and plan and manufacture drill guides directly from CBCT data.
Materials and methods: The traditional way to visualize structures that don't absorb x-radiation is the use of contrast mediums. In 3D x-ray uncontrolled concentrations of radio-opaque materials will lower the image quality caused by beam-hardening and scatter. The key in the use of contrast mediums is controlling the quantity. A method to apply a thin, even radio-opaque layer on a soft surface is the use of a carrier which must be a well-fitting negative model of the structure. It is used to squeeze a thin layer of radio-opaque material on the soft structure. The carrier will often be patients' own prosthesis or a radiographic template.
Results: Rough results can be obtained by making an impression with silicone mixed with barium-sulphate in the carrier. However results are better when a metal powder is sprayed onto an impression made in a prosthesis, radiographic template or impression tray (this powder must be adhesive, making the carrier securely attached to the mucosa). Parts that represent the prosthetic outcome such as prosthesis teeth can be covered with a thin ductile metal foil.
Conclusions: When the mucosa and the desired prosthetic outcome are visible on the CBCT, the planning and the manufacturing of a drill guide can be done only with one CBCT dataset.

OP19

New approaches for implant prosthetic rehabilitation in compex cases

Norina Consuela Forna
"Gr.T.Popa"UMF Iasi, Faculty of Dental Medecine, Romania

The main objective of this study is to analyze the extent to which the therapeutic solutions within the oral rehabilitation get closer to the therapeutic ideal, as well as the modality in which the reality of the clinical cases reflected in the particular aspects of the prosthetic field, the general condition, the socio-economical criteria influence the clinic finality.
Methods: The lot of selected patients, with a complex pathology, in the field of partial edentation, particularizes the algorithm of rehabilitation, as a result of the factorial cumulus generated on the one hand by therapeutic possibilities corroborated with parameters which aim at the prosthetic field and on the other hand with the limits related to the general conditions of the patient, with the local biological and clinical factors, the biomechanical concept or socio-economical criteria.
Results: The choice of the therapeutic solution in agreement with the particularity of the clinical case is the result of a complex algorithm, synthesizing the clinical and paraclinical data, corroborated with the simulative aspects of 3D modelling The prognosis studies approached indicate the viability of the therapeutic solution in agreement with the particularity of the clinical case, the type of pre-implant

interventions and the therapeutic solution selected.
Conclusions The therapeutic solutions selected were dictated by the particularity of each clinical case, without overlooking the correct identification of the clinic-biological parameters on a local, loco-regional and general level, the therapeutic algorithm following the same general stages. The evaluative assessment led to the selection of fixed or mobile restorations, depending on the number of implants applied, the architecture of the prosthetic field and thee possibility of reconstructive techniques.

OP20

Retention characteristics of different attachment systems of 2-and 3-implant-retained mandibular ove

Bulent Uludag, Serdar Polat (presenter)
Ankara University faculty of dentistry, Department of Prostodontics, Turkey

Objectives: The purpose of this study was to quantify and compare retentive forces of five different prosthetic attachments designs on two and three implants-retained mandibular overdentures. Methods: Two resin models of an edentulous mandible were fabricated. In one model, three implants were aligned parallel to each other and perpendicularly oriented to the horizontal plane. In the other model, two implants were placed using the same approach. Five retention mechanisms were studied; Bar with yellow-colored clips, Milled bar galvano, bar with two distal locator attachments-clear , bar with two distal Ceka attachments and locator attachment-clear. Attachments were tested for peak load-to-dislodgement on the universal test machine. Each denture was subjected to 540 cycles of repeated insertion and removal to simulate 6 months of clinical function on the assumption of three removals/insertions per day for cleaning the denture. Repeated analysis of variance (ANOVA) was used to analyze the data, while Tukey B post-hoc test were used for pairwise comparisons (a=0.05).
Results: Mean baseline retention force ranged between 23.33 N to 54.32 N. 3-implant models required significantly higher dislodging forces than the 2-implant models. Decrease in peak dislodging force was observed between baseline and 6-month measurements regardless of the attachment design. Bar-ceka attachments exhibited the lowest percent reduction in retentive values after initial retentive values in comparison to the other attachments. Peak dislodging forces of the locator attachments were higher than other attachments on the 3-implant model (P=0.000). Conclusion: -For all attachment designs tested, 3-implants models required significantly higher dislodging forces than the 2-implants models. - All designs demonstrated a decrease in retentive force from the initial to final pull-out test. - The ideal property attachment should provide sufficient retention to improve patient satisfaction. In addition attachments should protect of retentive values a long time.

OP21

CAD/CAM-titanium bars for mandibular implant-overdentures. Technical complications after 6 years

Joannis Katsoulis, Julia Wälchli, Simone Kobel, Hadi Gholami, Regina Mericske-Stern
Department of Prosthodontics, University of Bern, Switzerland

Objectives: Implant-overdentures supported by rigid bars provide stability in the edentulous atrophic mandible. However, fractures of solder joints and matrices, loosening of screws and matrices and hyperplasia of the peri-implant mucosa were observed with soldered gold bars. Computer-aided design / computer-assisted manufacturing (CAD/CAM) allows for bar fabrication from titanium blocks. This

may enhance material quality and reduce fracture risks in comparison to gold bars. Thus, the aim of the study was to compare prosthetic-technical outcome of mandibular implant-overdentures supported by CAD/CAM titanium (Ti-bar) and soldered gold bars (gold-bar). Methods: During a time-period of 6 years 213 edentulous patients with a mean age of 68±10 years received 477 tapered implants with a medium-rough surface. Ti-bar and gold-bar comprised 101 and 112 patients with 231 and 246 implants, respectively. All patients were followed clinically by annual recall sessions. Bar design (distal extensions) and maintenance service (anchorage and screw fixation, repair and adaptation of prosthesis) was recorded up to 6 years (mean observation time 3 years) after implant placement. Descriptive and non-parametric methods were used for statistical analysis.
Results: Altogether, Ti-bar mostly exhibited distal bar extensions i.e. 96% vs. 34% of the gold-bar ($p<0.001$). A lower fracture rate of the bar (4.7% vs. 14.8%, $p<0.001$) and the matrices (1% vs. 13%, $p<0.001$) was observed in Ti-bar vs. gold-bar. Activation of matrices was required 2.4x less often in ti-bar. Peri-implant hyperplasia was diagnosed in 3 Ti-bar and 7 gold-bar patients. No difference was observed for denture repair (fracture of base or teeth) and need for relining. Conclusion: CAD/CAM technology allows for the fabrication of one-piece titanium bars with bilateral extensions resulting in less frequent fractures of the entire anchorage system (bars and matrices) compared to soldered gold bars. This short-term observation supports the hypothesis that CAD/CAM-titanium bars reduce technical complications.

OP22

Prosthodontic Rehabilitation after traumatic tooth, bone and soft tissue loss: Two clinical reports

Gulsum Sayin, Ozgur Inan, Dogan Dolanmaz
University of Selcuk, Faculty of Dentistry, Department of Prosthodontics, Konya, Turkey

Objectives An interdisciplinary approach is often indicated in the planning and treatment of patients who have several maxillofacial trauma. Traumatic injuries are generally caused by mechanical, electrical, and chemical agents, radiation, and heat. Motor vehicle accidents, ?rearms, and falls are the examples of trauma that are the results of mechanical types of injuries. Head trauma usually causes anterior tooth loss. The patient with maxillofacial defects resulting from motor vehicle accidents may have numerous soft- and hard-tissue injuries ranging from neurologic involvement to fractures and/or avulsions of the temporomandibular joint, maxilla, mandible, teeth, and supporting structures. These defects often result in the loss of attached mucosa and alveolar processes, reducing potential prosthesis support and requiring bone and skin grafting. The treatment of patients with prostheses supported by endosseous dental implants has become a more frequent restorative option. Removable implant-supported prostheses have numerous advantages, including increased retention, stability, patient satisfaction, and the preservation of existing hard and soft tissues.
Case reports This clinical report describes the treatment of 2 partially edentulous patients with a traumatic injury as a result of a motor vehicle accident. The prosthetic rehabilitation was completed by fabricating a maxillary implant-supported removable prosthesis for one the patient and a mandibular prosthesis with extracoronal bar attachment for the other. Discussion For the patients with traumatic defects that have mobile tissue and insuf?cient tooth and bone support can be said that, prosthesis retention is usually limited. A stable and retentive prosthesis contributes to the patient's psychological well-being. The loss of prosthetic support may result in the tendency to use a removable prosthesis supported by both teeth and soft tissues. The placement of osseointegrated implants offers an opportunity to enhance the prosthodontic support with different restorative designs.

OP23

Optical properties of pulp-dentin complex using optical coherence tomography

Rie Fujita, Wataru Komada, Kosuke Nozaki, Hiroyuki Miura
Department of Fixed Prosthodontics, Graduate School, Tokyo Medical and Dental University, Japan

Objectives: Optical coherence tomography (OCT) is a well known laser technique for providing noninvasive, high spatial resolution images of biological microstructure. It is possible that OCT can measure remaining dentin thickness during tooth preparation for preventing pulpal complication. To investigate optical properties of dentin is important for expanding clinical application of OCT. It has been known that peritubular dentin and dentinal sclerosis increased with aging. The aim of this study was to investigate the influence of dentin alteration on OCT by evaluating the differences of optical properties between intact human teeth extracted for periodontal disease (PT) and for orthodontic treatment (OT) using Swept-source OCT (SS-OCT, Dental SS-OCT Prototype2, Panasonic Healthcare Co., Ltd, Japan).
Methods: Six specimens were prepared each group. The occlusal dentin was removed perpendicularly to the long axis of teeth until images of pulp-dentin complex were obtained at 1330nm center wavelength. The images of pulp-dentin complex were taken by scanning the oclusal surface. The laser penetrated into the teeth structure and tomographic images of parallel to the axis of teeth were obtained. After the images were obtained by SS-OCT, the teeth were trimmed and analyzed actual measurement of thickness using confocal laser scanning microscope (CLSM, 1LM21H/W, Lasertec Co., Yokohama, Japan) and Inverted microscope (IX71, Olympus Co., Japan). Refractive index calculated from optical path length and actual measurement of thickness. T-test was used for statistical analysis of the data($a = 0.05$).
Results: Refractive index of dentin opposed to PT and OT were 1.57 ± 0.14, 1.59 ± 0.06. There was no significantly difference between refractive index of dentin from PT and OT ($p > 0.05$).
Conclusions: In this study, PT showed the similar refractive index of dentin to OT. This study suggest that refractive index of dentin is not influenced by dentin alteration.

OP24

Depression and TMD among elderly: A pilot study

Valéria C. Vilalta, Simone B. de Paula, Mateus BF dos Santos, Jarbas Santos (Presenter), Leonardo Marchini
University of Taubaté, Sao Paulo, Brazil

Aim: Temporomandibular dysfunction (TMD) is a painful syndrome that affects orofacial region, with deleterious effects in patients' quality of life. Several aspects of TMD among the elderly are still controversial in the literature. The aim of this paper is to verify the prevalence of TMD among the elderly in Taubaté – Brazil, and its possible association with other co-morbidities. Methods: Sixty-eight elderly individuals, presenting an average age of 69.5 years (SD 8.5), participated in this study, 37 of which were female. The Research Diagnostic Criteria for Temporomandibular Dysfunction (RDC/TMD) was used to verify TMD and its possible association with other co-morbidities.
Results: The studied sample presented a low prevalence of TMD according to RDC/TMD (10.3%). Women presented more non-specific physical symptoms than men (pain items included, $p=0.016$, $x2$ test). Depression and non-specific physical symptoms (pain items excluded) did not correlate with patients' gender. Associations were found among depression and characteristic pain intensity ($p=0.027$, ANOVA), non-specific physical symptoms (pain items included, $p<0.001$), non-specific

physical symptoms (pain items excluded, p=0.001) and chronic pain grade (p=0.004), whereas the more depressed the patients were, the higher were their pain scores.
Conclusions: One can conclude that psychological factors, such as depression, were associated with TMD prevalence, thus reinforcing the need for a multidisciplinary approach for TMD treatment.

OP25

Tooth replacement for partially dentate elders: a randomised clinical trial

Gerry McKenna, Finbarr Allen, DenisO'Mahony, Noel Woods, Michael Cronin, Charles Normand
University College Cork, Cork, Ireland

Objectives: This study compared two tooth replacement strategies for partially dentate older patients namely; removable partial dentures (RPDs) and functionally orientated treatment based on the shortened dental arch (SDA) concept.
Methods: 90 partially dentate older patients (mean age 69.4 years) completed a randomised clinical trial. 44 patients received RPDs and 46 received adhesive bridgework to provide them with a SDA of 10 pairs of occluding contacts. The impact of treatment on oral health-related quality of life (OHrQOL), survival of the prostheses and cost-effectiveness were used as outcome measures. Change in OHrQOL was measured using the short form of the Oral Health Impact Profile (OHIP-14) whilst all costs involved in providing and maintaining each intervention were recorded.
Results: Both the RPD (p=0.02) and the SDA (p<0.001) groups demonstrated statistically significant improvements in OHrQOL 1 year after treatment intervention. However, at 1 year follow-up, the SDA group recorded significantly better OHIP-14 scores by an average of 2.05 points compared to the RPD group (p=0.002). As 3 patients discontinued wearing their removable prostheses, the RPDs achieved a success rate of 95.9%. The adhesive bridgework provided for the SDA group achieved a success rate of 95.6%, 1 year after treatment. The difference in success rates between the two interventions was not statistically significant (p>0.05). The cost of achieving the Minimally Important Difference of 5 scale points in OHIP-14 score with RPDs was €458.82. For the SDA group the cost was €242.76. Therefore, treatment for the SDA group was almost twice as cost-effective compared to the RPD group (1:1.89).
Conclusions: • Treatment based on the SDA concept resulted in significant improvements in OHrQOL for partially dentate older patients. • The prostheses provided to both treatment groups achieved comparable success rates. • Provision of SDA treatment was almost twice as cost effective compared to conventional treatment using RPDs.

OP26

Alcohol consumption and the elderly in São José Campos, Brazil

Gabriela Santos, Emily Barreto, Jarbas Santos, Leonardo Marchini (presenter)
UNIVAP, Sao Paulo, Brazil

Objectives: Even though the population is aging worldwide, alcohol consumption within the elderly is a poorly studied subject. The aim of this study is to investigate alcohol consumption within the elderly in São José dos Campos-Brazil, to see if there is a correlation between alcohol consumption and general plus oral health related quality of life.
Methods: A sample of 500 elderly individuals (presenting an average age of 68.4 years, ranging from 60 to 101 years-old, with 63% being female) were interviewed by using the WHO Alcohol Use Disorders

Identification Test (AUDIT) to verify alcohol consumption; the Medical Outcomes Study 36 Item Short Form (SF-36), for evaluating quality of life; and the Oral Health Impact Profile short form (OHIP-14), for evaluating oral health-related quality of life.
Results: The average alcohol consumption was very low (1.48), being higher (ANOVA, $p<0.001$) in men (2.23) than women (1.09). The SF-36 average score for the domain of physical function was 70.5; for role-physical function 64.9; for bodily pain,68.3; for general health 73.8; for vitality,72.4; for social function 82.8; for role-emotional function 72.3 and for mental health 75.0. The OHIP-14 average score was 3.87. AUDIT did not correlate with SF-36 domains, or with OHIP-14. However, there was a negative correlation between OHIP 14 and all SF-36 domains.
Conclusion: The elderly of São José dos Campos have a very low consumption of alcohol, and no correlation was found between AUDIT and SF-36 domains, or between AUDIT and OHIP14. (This work was supported by FAPESP #2010/15554-3).

OP27

Are we prepared enough for our aging patients?

Hana Hubalkova, Marie Bartonova, Jindrich Charvat, Igor Linetskiy
Charles University in Prague, First Faculty of Medicine, Department of Stomatology, Czech Republic

Objectives: Aging of the European population is a challenging task from different points of view: general health status of old patients, social-economic limits and relation between the prognosis of the prosthetic treatment and the average length of life. Optimal treatment planning must respect the variability of individual functional and morphologic changing conditions of both maxillofacial and general health of each patient.
Methods: Presented case reports document basic categories of advantageous treatment methods and dentures which are easy handling, repairable and offering good conditions for oral hygiene: tooth and implant-born overdentures, telescope systems, all in contrast to hi tech ceramic technologies and non-flexible long-term solutions.
Results: The application of optimal method of the prosthetic treatment allows repairs and adjustments of dentures without a necessity of fundamental change of previous solutions. Conclusion: Correct treatment plan in the specific age is a guarantee of a satisfied patient, long service time of the prosthetic solution even in the cases of handicap or disability. Dentists must be prepared for very old patients with specific conditions which are associated with their age.

OP28

Effect of surface treatment methods on bond strength of zirconia posts

Cumhur Sipahi, Fulya Toksoy, Simel Ayyildiz, Mutlu Özcan
Gulhane Mil. Med. Academy, Center for Dental Sciences, Ankara, Turkey

Objectives: This study investigated the effect of physical and physicochemical surface treatment methods on tensile bond strength of CAD/CAM fabricated zirconia posts luted to prepared root canals.
Methods: Decoronated maxillary central incisors (n=40) were treated endodontically, obturated, and post spaces were prepared. 40 acrylic resin patterns were obtained from prepared post cavities. The acrylic patterns were optically scanned and 40 zirconia post and cores were fabricated via CAD/CAM technology. Obtained zirconia specimens were randomly assigned to 4 experimental groups (n=10);

control (CON), sandblasting (SB), tribochemical silica coating (TSC) and TSC+silanization (TSCS). Surface treated zirconia posts and cores were cemented adhesively into their post spaces and tensile force was applied.
Results: All surface treatment methods increased the tensile bond strength of zirconia posts and cores compared to control group (p<.034). While no significant difference was found between the 3 treatment methods, failure types varied according the treatment method applied.

OP29

Social cases-therapeutic approaches of edentation

Magda-Ecaterina Antohe, Doriana Forna, Vasluianu Roxana Ionela, Forna Norina Consuela
"Gr.T.Popa"UMF Iasi, Faculty of Dental Medecine, Romania

The main objective of this study was to determine the equation which includes the local, loco-regional and general status, an essential parameter that influences the selection of the treatment solution and its viability.
Material and method The study lot is formed of 320 patients, diagnosed with different forms of edentation and various types of affectation of the general condition who showed up at the "clinical basis of dental medical education", during 2008-2011. Within the statistic quantification of the parameters which influence edentation and its complications, as well as the type of therapeutic variant selected in agreement with the type and thee amplitude of the edentation and social condition.
Results and discussions The predominant type of edentation was that of class I Kennedy, with 36%, followed by class II Kennedy, with 31%, class III Kennedy with 19% and class IV Kennedy with 14%. The type of local and loco-regional complications influenced the specific therapy selected and the final therapeutic solution. The social fixed prostheses have concretized the desideratum of functionality over the esthetic one, while the skeletal prostheses using different types of special support and stability elements were represented by a smaller percentage, but equally combined thee esthetic and the functional aspect. The skeletal prostheses using sockets as support and stabilization devices were correlated with a slight affectation of the odonto-periodontal support in the context of a well represented mucous bony structure. Conclusions The oral rehabilitation of patients using techniques of fixed prosthesis represents the therapeutic solution of choice when the social condition of the patients is not suited for more complex rehabilitation therapies. The restoration of thee functionality affected by edentation is the essential criterion, accompanied by the correct mandible-cranial repositioning.

OP30

The correlation of the color in maxillary central incisors

Teuta Pustina-Krasniqi, Marjan Petkov, Enis Shabanov, Gloria Staka, Teuta Bicaj, Belinda Pustina
University Dental Clinical Center of Kosova, Prishtina, Kosova

The apparent color of the tooth is the result of the reflectance from the dentin modified by the apsorption, scattering and thickness of the enamel. The color of human teeth shows a gradation from the gingival to the incisal region.
Objective. This study was conducted to determine the correlation of the values CIE (Commission Internationale d' Eclaraige) L*a*b, C, H in three vestibular tooth segments (Cervical, Middle, Incisal), measured by a spectrophotometer Vita Easyshade.

Material and Methods. In this study were measured the L*a*b* values of 255 subjects, in maxillary central incisors. The color of the teeth was measured by spectrophotometer Vita Easyshade® (Vita Zahnfabrik, H Rauter GmbH & Co. KG, Bad Sackingen, Germany). It was used the program Tooth Areas, that measures the cervical, middle and incisal areas of a tooth. The datas L*a*b*, C and H values were collected. The results were analyzed by Pearson coefficient of the correlation.
Results. The most frequent shade registered in the central incisors was 2M2. There were statistically significant correlation in three vestibular tooth segments Cervical/Middle, Incisal/Middle, Cervical/Incisal ($p<0.05$). The values for L*a*b*C H of three tooth segments were as follows: Cervical/Middle~L*(r=0.74), a*(r=0.45), b*(r=0.36), H(r=0.38), C(r=0.36); Incisal/Middle, L*(r=0.86), a*(r=0.70), b*(r=0.66), H(r=0.68), C(r=0.67) and Cervical/Incisal, L*(r=0.90), a*(r=0.69), b*(r=0.75), H(r=0.58), C(r=0.77).
Conclusion. The distribution of color was identified for three regions of the tooth. A statistical analysis determined that there are statistically significant color differences between the regions, and these differences are also clinically significant. Key words: correlation, spectrophotometer, tooth segments.

OP31

Selection of maxillary anterior teeth size using interalar width

Nasr Elsheikh, Latifa Mendilawi, Nadia Khalifa
Faculty of Dentistry and Dental Technology, The National Ribat, Khartoum, Sudan

Objectives: To investigate the relationship between interalar width (I.A.W) and the anterior maxillary teeth size in Sudanese population as a guide for selection of artificial teeth size in edentulous patients.
Methods: This is a descriptive cross sectional study conducted in 114 subjects, (45 males – 69 females), from Khartoum and Juba Universities using random sampling technique. The age range was 18-46 years. Participants were selected following certain criteria: all maxillary teeth present; no distemas, Angles Class I Relationship, Skeletal Class I Jaw Relation, regular intact anterior teeth, teeth free from filling, no history of orthodontic treatment; severe attrition and caries cases were excluded. Subjects with a history of congenital anomaly, trauma or facial surgery were also excluded. Dental casts were prepared by taking impressions, with irreversible hydrocolloid impression material (Alginate Cavex Holland), using suitable perforated trays. Then impressions were casted immediately using stone (ZETA Muffle Italy). Measurement of Maxillary intercanine distance was obtained from casts by measuring a line from the tip of the canine on one side, to the canine on the other side. An electronic digital caliper (Narex –Czechoslovakia) was used for all measurements. The I.A.W was measured while patients were in a relaxed state, and by bringing the recording parts of the digital caliper just into contact with the outer surfaces of the alae. Virtually no pressure was applied. Data were analyzed using Person chi–square test.
Results: A significant correlation is found between interalar width and maxillary intercanine distance in all subjects (P-value 0.007), particularly in females (P-value 0.03).
Conclusion: These results could be used as a helpful guide for selection of artificial anterior teeth width for the Sudanese population. Maxillary intercanine distance may be estimated by dividing I.A.W by factor 1.1.

OP32

Use of Complex Therapy in the Treatment of the Temporomandibular Joint Function Disorders

Tatjana Dostalova, Petra Hlinakova, Tomas Chlubna
Department of Paediatric Stomatology Charles University 2nd Medical Faculty and Faculty Hospital Motol in Prague, Czech Republic

Objectives: Arthralgia of the temporomandibular joint (TMJ) is defined as a pain and a tenderness in the joint capsule and/or the synovial lining of TMJ. A multifactor etiology for temporomandibular joint disorders (TMD) is proposed. Estimated 20% of the population is affected and 10 % is seeking treatment. The basis of successful treatment is to receive the ideal biomechanics of TMJ. Physical and following prosthetic therapy is being used in the treatment of TMD because of its analgesic myorelaxing, anti-inflammatory, stimulating and rehabilitation effects. The aim of study was to remodeling of TMJ paths and after then to decrease the pain in the area of TMJ.
Materials and methods: The group of 103 patients was treated; TMJ function was evaluated by cephalometric tracing analysis, orthopantomogram, TMJ tomogram, and computer face-bow record. Interalveolar space between central incisors before and after therapy was measured. Patients evaluated pain on the Visual Analog Scale. Conservative treatment, stabilization splint, physical therapy including biostimulation laser and prosthodontic therapy using Prettau Zircon CAD CAM system was used to stabilize occlusion and treated TMJ function. Results: Baseline comparisons between the healthy patients and patients with TMD show that TMJ pain during function is based on anatomical and function changes in TMJ areas. Significant differences were seen in the posterior and anterior face height. The results comparing healthy and impaired TMJ sagital condyle paths showed that patients with TMJ pain during function had significantly flatter non anatomical movement during function. After therapy, the unpleasant feeling was reduced from 27.5 to 4.16 on the pain Visual Analog Scale. The pain had reduced the ability to open the mouth from 34 to 42?mm. Conclusions: Multidisciplinary therapy was effective in the improvement of the range of temporomandibular disorders and promoted a significant reduction of pain symptoms.

OP33

Rapid manifacture of prosthetic reconstruction to the facial allograft donor.

Mustafa Kocacikli, Huseyin Yazicioglu, Selahattin Ozmen, Suhan Ayhan
Gazi U. F. of Dentistry, Ankara, Turkey

Objective: A lot of technique from conventional to modern can be create to manifacture a maxillofacial prosthesis. Some of these techniques are sculpturing, 3D rapid prototyping. Presurgical models can help us to make modelating of a prosthesis in original dimension.The facial allograft donor must have a maxillofacial prosthesis after remove the facial tisues with surgical operation immediately. Because of the legal conditions in Turkey. In this case the maxillofacial prosthesis can be made in two hours to the donor.
Technique: In this technique the conventional impression is taken from donor. The wax model is prepared on this impression surface. After the casting and preparing muffle, colored silicone prosthesis is finished. The finished silicone prosthesis is sutured to the facial allograft donor.
Results:A maxillofacial prosthesis can be made in original dimensions to the facial allograft donor immediately and in a very short time.

OP34

Esthetic Complications of Implant Prosthodontics and Treatment Alternatives

Nazmiye Sönmez

School of Dentistry, Istanbul University, Istanbul, Turkey

Objectives: Clinical success of an endosseous implant to replace a missing tooth is not only be defined by its survival. Esthetic parameters have become more complementary aspects in defining success and failure of adjacent implants in recent years. The purpose of this study is to identify esthetic complications of implant prosthodontics and to provide a comprehensive treatment alternatives knowledge including surgical, periodontal, ortodontic and prosthetic treatment considerations.
Material and Methods: In this study, an extensive literature review was carried out related to esthetic complications of implant prosthodontics and their treatment alternatives.
Results: An icreasing patient and clinician awareness of the importance of esthetics has resulted in the devolopment of both surgical and prosthetic techniques aimed at improving or maintaining esthetics of implant prosthodontics. Esthetic complications can be avoided or reduced by proper patient selection and evaluation. A careful radyografic evaluation of anatomical landmarks before the implant placement and optimal implant positioning can decrease esthetic complications of implant prosthodontics.
Conclusion: Although the implant dentistry is restoratively driven, the surgical component has a more critical effect on the esthetic result. Therefore, both the surgeon and the prosthodontist must closely work together in order to achieve maximum esthetics in implant prosthodontics. If acceptable soft tissue contours are not achievable, various techniques including periodontal, surgical, ortodontic and prosthetic treatment procedures are currently available alternatives to provide a more esthetic result.

Abstracts

Poster Presentations

Poster Presentations (abstracts)

PP01

Bone adaptation induced by non-passively fitting implant superstructures – A Finite Element Analysis

Matthias Karl, Thomas Taylor, Werner Winter
University of Erlangen-Nuremberg, Erlangen, Germany

Purpose: It has been argued that misfit stress resulting from non-passively fitting implant superstructures induce bone adaptation thereby reducing the magnitude of static implant loading.
Materials and Methods: As part of a previous investigation, repeated in vivo strain measurements, were conducted on an implant-supported overdenture bar in order to evaluate possible changes in misfit magnitude resulting from adaptational processes. Both maximum (445µm/m) and minimum (383µm/m) in vivo measured strain values were simulated using a 3D finite element model. The horizontal misfit magnitudes needed for the simulation of experimentally determined strain values and the resulting stress occurring in the restoration and the bone surrounding the supporting implants were quantified as von Mises equivalent stress.
Results: In order to simulate the maximum strain value, a horizontal misfit of 83.3µm had to be introduced whereas the minimum strain value could be simulated by the introduction of a horizontal misfit of 71.5µm. Maximum misfit caused stress magnitudes of 105MPa in cortical bone and 5.3MPa in trabecular bone whereas minimum misfit caused stress magnitudes in the range of 90MPa in cortical bone and 4.6MPa in trabecular bone. The difference between maximum and minimum horizontal misfit magnitudes was 12µm in terms of horizontal misfit magnitude leading to a reduction in maximum stress levels of 15MPa in cortical bone and 0.7MPa in trabecular bone (15% difference in stress levels between maximum and minimum misfit).
Conclusions: Within the limitations of this investigation it can be concluded that bone adaptation may lead to implant site displacement in the range of several µm.

PP02

Evaluation of All-on-Four Concept and Alternative Designs with FEA

Derya Özdemir Dogan, Nilufer Tulin Polat, Serkan Polat, Esma Basak Gül
Inonu University Facullty of Dentistry, Malatya, Turkey

Objectives: The aim of the present study was to evaluate the effect of the dynamic forces on the implant and supporting alveolar ridge in "all on four" concept and alternative designs using finite element analysis.
Methods: Different treatment alternatives with different implant designs were performed in an edentulous mandible. In Design 1; implants were placed according to 'all-on-four' concept, in Design 2; 2 long, 2 short implants, in Design 3; 4 long, 2 short implants and for Design 4; 2 long, 4 short implants were placed vertically between the mental foramens. All the implants were 4 mm in diameter; short implants were 7 mm and long implants were 13 mm in length. Superstructures were planned as acrylic dentures ending in the first molar teeth. 100 N for each tooth, totally 300 N load was applied at a 75 degree angle with the occlusal plane, on the buccal cusps of the first and the second premolar and the first molar teeth from the lingual side. Results were evaluated by finite element analysis.
Results: Most of the stresses were located on the implant which is closer to the loading point. The stress

concentration within the cortical bone is much higher than the trabecular bone around the neck of the implants. The maximum stress values were located around the cortical bone of the distal implant for all designs. The reduction in the implant number did not decrease the success of the design. Besides, short implants instead of long but inclined implants with the same diameter, in the severely resorbed posterior mandibula had decreased the load transferred to the supporting tissues, but the load on the implant had been increased by 2.5 times.
Conclusion: Within the limits of the study, 'all-on-four' concept is a feasible treatment method when compared to alternative treatment designs.

PP03

Comparison of the wettability and adhesion properties of different silicones Maksillofacial

Arzu Atay, M. Ali Saracli
GMMA Haydarpasa Training Hospital Dental Service, Istanbul, Turkey

Aim: Maxillofacial silicone is an important material in maxillofacial prostheses clinics. However there is probability of yeast colonization on maxillofacial silicones. This situation increases the risk of a second infection of patients with general health status usually poor. This study was to investigate quantitively adhesion of Candida albicans to three different maxillofacial silicone materials (VST 50F, A-2006, A-2186) by use of a colorimetric method (XTT).
Materials and Methods: Three different instance of silicon material was measured using the droplet method and contact-angle measuring device. The Kruskal-Wallis and one-way analysis of variance tests were used to analyze for significant differences among test groups at the level of significance.
Results: Wetting angles A-2186 in descending order were ranked as A-2006 and VST-50 F The most adhesion was measured on the VST 50F, followed by A-2006 and then A-2186.
Conclusion: A-2186 silicone should be considered preferable to the other silicons in risk of adhesion.

PP04

The Study of Oral Discomfort Risk Factors in the Elderly

Yuka Kubota, Mami Endoh, Yasuaki Kakinoki
Kyushu Dental College, Kitakyushu, Japan

Objectives: Many elderly people suffer from oral discomfort, such as glossodynia and dry mouth, in addition to dental caries, periodontal disease and tooth loss. The aim of this study was to assess the present situation and to identify risk factors.
Subjects and Methods: The Subjects were 109 elderly people who visited our dental office from July 1st to December 28th, 2011. They were new patients and agreed to participate in our research. The data were collected by distributing questionnaires. The questionnaire was composed of 43 items and covered of sex, main complaint, oral /general condition and lifestyle.
Results: The Subjects' average age was 74.3±4.9 year-old, 75% of the total were female patients. In answer to the main complaint (multiple choice answer), 56 people (51% of the total) answered glossodynia and 48 people (44% of the total) responded dry mouth. Ninety two percent of the whole had taken medicine. We focused on 3 categories: "glossodynia", "dry mouth" and "thirst", then analyzed the relationship between them and oral/general condition. There was a significant relationship between the following 3

groups; "glossodynia" possibly caused by "forward-bent posture" and "feeling of wide and thick tongue", "dry mouth" possibly resulting from "feeling stressed" and "taking psychoactive drugs", "thirst" likely relativing to "frequent discharge of urine" and "vertigo" ($p<0.05$).
Conclusion: We found some relationships between oral discomfort and risk factors such as constitution, lifestyle and medication. The results of this study suggest that this questionnaire is useful to discern risk factors of oral discomfort.

PP05

Final prosthetic restoration after treatment of combined endodontic - periodontal lesion - Case pres

Metush Disha, Fatmir Dragidella, Kastriot Mega, Zana Sllamniku-Dalipi, Teresa Disha, Saranda Disha
Dentistry School, Medical Faculty, University of Prishtina, Prishtina, Kosova

Endo-periodontal lesion can be treated by endodontic and periodontal care and sometimes complemented by surgery. Patient BS, male aged 16, had complaints of esthetic nature of gingival enlargement in the maxillary region of frontal teeth, destructed cariotic teeth and gingival bleeding. Clinically it was diagnosed as cariotic lesion and gingival enlargement which partly covers teeth 11, 21. The treatment consisted of endodontic treatment of frontal teeth maxillary region and surgical intervention with flap Widman – modified of the mentioned region. After three years, final prosthetic rehabilitation was carried out with metal-ceramic crown of the region 12-22. Postoperative check-ups showed the maintenance of the results of the treatment

PP06

Frequency of symptoms of Temporomandibular Disorders among Prishtina dental Students

Teuta Bicaj, Gloria Staka, Teuta Pustina, Linda Dula, Zana Lila
Prosthetic dentistry, University of Prishtina, Medical Faculty, Prishtina, Kosova

Objectives: to assess the frequency of symptoms of TMD among dental students
Methods: The research was carried out in Department of Prosthetic Dentistry, University of Prishtina. The group of volunteers consisted of 166 undergraduate dental students (84 female, 82 male), mean age 22. For the study, the questionnaire of Fonseca, was used. There were 10 questions to answer with: no, sometimes and yes. Fonseca-Clinical index classification is: 0-15 points, no TMD; 20-40 points, mild TMD; 45-65 points, moderate TMD and 70-100 points, severe TMD.
Results: Of the students, 46.4 % have no symptoms of TMD, 44.6 % have mild TMD, 7.8% moderate TMD and only 1.2 % have severe TMD.
Conclusion: Fonseca questionnaire has its importance in early diagnosis of TMD that can occur in young population.

PP07

The effect of ND/YAG laser etching on titanium-porcelain bond strength

Tolga Külünk, Safak Külünk, Murat Kurt, Cagri Ural, Ozgur Ozturk
Ondokuz Mayis University, Faculty of Dentistry, Department of Prosthodontics, Samsun, Turkey

Objectives: The purpose of this study was to compare the effect of different power outputs of Nd/YAG laser etching on titanium-porcelain bond strength.
Methods: Titanium bars of commercially pure titanium were sectioned with a lathe into 44 specimens, 2 mm in thickness and 10 mm in diameter. The 44 titanium specimens were divided into 4 groups (n=11). Air particle abrasion with 50 μm aluminum oxide particles served as the control group and Nd:YAG laser etching groups include; 7 W power setting and 50-Hz frequency, 5 W and 50-Hz, 3 W and 50-Hz. After surface treatment procedures the specimens received ceramic veneering. Shear bond strength was determined at a crosshead speed of 0.5 mm/min. Data were statistically analyzed with one-way ANOVA test (a=0.05). The effects of different surface treatment procedures on specimens were examined with SEM.
Results: There was a significant difference in shear bond strength values with respect to surface treatment (P<0.05). The highest bond strength (26.60 MPa) was found in air particle abrasion group, the lowest bond strength (6.53 MPa) was found in 3W laser etched group.
Conclusion: Nd:YAG laser etching of titanium surfaces with tested power outputs provided lower bond strength values when compared with 50 μm aluminum oxide particles

PP08

Esthetic approach for maxillary lateral incisor with dental implant: case report

Özgür Öztürk, Oguz Süleyman Özdemir, Mahmut Sümer
Mayıs unıversity, Ankara, Turkey

Objectives: Dental implants have become increasingly common for the management of tooth loss. Despite their placement in a contaminated surgical field, success rates are relatively high. This case report presents an esthetic approach for maxillary lateral incisor with dental implant instead of maryland adhesive bridge. Methods : Thirty year male patient was examined and diagnosed mainly with clinical and radiographic information. The patient was displeased with his adhesive bridge at the area of tooth number 22, because of unesthetic apperance. Adhesive bridge was removed by atraumatically technique and periodontal treatment was applied. Bone level Roxolid implant (Straumann, Basel, Switzerland) was placed into the area of lateral incisor. Temporary restoration was performed after 45 days from the surgical procedure. Temporary restoration was used to acquire adequate papilla formation for one month. A zirconium oxide ceramic restoration was performed as a final restoration onto zirconium dioxide abutment. Vita Easyshade spectrophotometer and dental photography was used to determine the color of final restoration to achieve perfect esthetic result. Result: Six months after the treatment the patient was evaluated clinically and radiographically. Patient had no complaints.

PP09

Prosthetic and anatomical width of the edentulous maxilla

Marianna Avrampou, Regina Mericske-Stern, Joannis Katsoulis
University of Bern, School of Dental Medicine, Bern, Switzerland

Objectives: Tooth extraction results in immediate destruction and loss of alveolar bone and surrounding soft tissues. When tissue is moderately to severely compromised, site preservation in conjunction with site development procedures is commonly necessary to create a physiologic architecture and to allow

a regular prosthetic reconstruction. A cantilever effect in buccal-lingual direction between crown and implant can be created as a result of ridge resorption when additional augmentation procedures are not performed. The aim of this study was to analyze the prosthetic and anatomical maxillary arch width of patients undergoing implant surgery.
Methods: CT-scan data from 56 patients (mean age 62±9 years) with an edentulous maxilla were analyzed using an implant-planning software. All were consecutive patients of the Department of Prosthodontics (School of Dental Medicine, University of Bern, Switzerland) and asked for implant prosthodontic treatment. Computed-tomography with a radiographic guide that was based on a well-fitting and clinically checked set-up was obtained from all patients. Radiographic analysis was performed using the NobelGuide™ software (Nobel Biocare Services AG). The following measurements were performed in the coronal plane for each posterior tooth position: 1. Prosthetic arch width (PW): Horizontal distance between the central occlusal fossa of the prospective prosthetic crowns between left and right side. 2. Anatomical arch width (AW): Horizontal distance between the center of the residual bone ridge between left and right side. 3. Difference of prosthetic and anatomical arch width (D).
Results: Mean values for PW were 41.6mm (95%CI, 40.9-42.2mm), for AW were 38.1 (95%CI, 37.4-38.9mm) and for D were 3.3mm (95%CI, 3.0-3.8mm). Males had tendency for higher values of D in every posterior tooth position ($p>0.05$). Conclusions: A discrepancy in bucco-lingual direction between prosthetic crown position and residual ridge creates an unfavorable cantilever with eccentric load of prospective implants.

PP10

Peri-implant soft tissue color around titanium and zirconia abutments

Cristina Gáspárik, Bettina Dannewitz, Kathrin Stucke, Diana Dudea, Bogdan Culic, Raluca Cosgarea
University of Medicine and Pharmacy, Department of Prosthetic Dentistry and Dental Materials, Cluj-Napoca, Romania

Objectives: To objectively determine the color difference of peri-implant mucosa around titanium (Ti) and zirconia (Zr) abutments, restored with porcelain fused to metal (PFM) and all-ceramic crowns respectively.
Methods: Eleven partially edentulous patients, with at least two osteointegrated dental implants in different mouth quadrants (molars and premolars) were enrolled in this study. In each patient, one implant was prosthetically restored with a Ti abutment and a PFM crown and one implant with a Zr abutment and an all-ceramic crown. Two images for each restoration were recorded with a colorimeter: one of the abutment before crown cementation and one of the cemented crown one week after cementation. For each image, color parameters (CIE L*, a*, b*, C*) of the peri-implant mucosa (test site) and of the neighboring tooth (control site) were determined at 1mm, 2mm and 3mm from the mucosal / gingival margin. The corresponding color differences ΔE^* were statistically analyzed with a paired t-test.
Results: 22 implants (11 restored with Ti abutments and PFM crowns) were included in the study. At the time of crown cementation, statistical significant differences ($p=0.0143$) were obtained for the peri-implant soft-tissue color at Ti abutments (11.98±3.54) as compared to Zr (8.25±2.97) at 1mm. Furthermore, a significant difference ($p< 0.05$) existed between the test and the control site for the mean C*-values in all incremental areas (1mm, 2mm, 3mm) for Ti abutments and at 1mm and 2mm for Zr abutments. A statistical significant difference ($p=0.0373$) was also recorded for the mean C*-values of the Ti abutments at 3 mm before (23.35±3.49) and one week after (26.36±3.51) the PFM crown cementation.

Conclusion: The color of the soft-tissue around implants was significantly different when compared to the natural tooth for both Ti and Zr abutment materials, differences followed only in the proximity of the gingival margin (1 mm).

PP11

Influence of chewing condition on mental stress release

Ryohei Soeda, Akinori Tasaka, Kai Takeuchi, Hiromitsu Sasaki, Takayuki Yoshii, Kaoru Sakurai
Tokyo Dental College, Chiba, Japan

Objective: The purpose of study was to clarify the effect of chewing condition (rate, time, force) on stress release using salivary cortisol levels.
Method: Participants comprised healthy dentulous young males. The first set of saliva specimens (S1) was collected at immediately after rest to evaluate salivary cortisol levels. As stress loading, the participants were required to perform arithmetic calculations, after which the second set of saliva specimens (S2) was collected. Each participant was then required to chew a piece of tasteless gum, after which the third set of saliva specimens (S3) was collected. After rest, the fourth set of saliva specimen (S4) was collected. Salivary cortisol levels were analyzed by radioimmunoassay. Changes in salivary cortisol levels comparing S2 with S3, and S2 with S4 were determined. These were compared in each chewing condition (rate, time, force). Chewing rate was divided fast, habitual and slow group. Chewing time was divided 15 min, 10 min and 5 min group. Chewing force was divided strong, habitual and weak group. Chewing condition was analyzed by electromyogram (EMG) of masseter muscle.
Results: As chewing rate, the effect on stress release with fast chewing was greater than that with slow chewing. As chewing time, the effect on stress release with 15 min chewing was greater than that with 5 min chewing. As chewing force, the effect on stress release with strong chewing was greater than that with weak chewing. As chewing time and force, differences in the mean integrated EMG of masseter muscle affect stress release. As chewing rate and time, difference in the chewing number affected stress release.
Conclusion: This study showed that the fast, strong and long chewing not to cause discomfort or fatigue of the masticatory muscle was effective in releasing the mental stress.

PP12

UVC dose-dependent alteration in osteobiological and physicochemical properties of titanium

Hiroshi Uchiyama, Masahiro Yamada, Ken Ishizaki, Kaoru Sakurai
Tokyo Dental College, Chiba, Japan

Objectives: Photofunctionalization with UVC-irradiation enhances osteoblastic affinities of titanium implant and upgraded osseointegration. However, requirements for the establishment of UVC-mediated photofunctionalization remain unknown. The objective was to investigate a requirement for establishment of UVC-mediated photofunctionalization in the UVC-irradiation energy with the physicochemical consideration.
Methods: Femoral bone marrow-derived osteoblasts from 8 weeks-old SD rats were incubated on acid-etched titanium disk pre-irradiated with 1 or 3 mW/cm2 of UVC to 0, 10, 100, 250, 400, 500, 600, 750 or 1000J/cm2. Cellular settlement onto titanium at day 1 was evaluated by WST-1-based quantification of cell number and fluorescent microscopic analysis for cellular morphometry with cytoskeletal staining.

Physicochemical change on titanium surface by UVC-irradiation was evaluated by water wettability measurement and XPS analysis. Data was treated with post-hoc Bonferroni correction after one-way ANOVA (a=0.05).
Results: Number of attached cells was 1.7 times greater on the pre-irradiated surface with 750J/cm2 of 3mW/cm2 UVC than on the non-irradiated surface. Larger and more expanded cells were observed on the pre-irradiated surface with 750J/cm2 of 3mW/cm2 UVC than on the non-irradiated surface. However, farther pre-irradiation energy resulted in the reduction in the attached cellular number and extensibility to the level equivalent to that on the non-irradiated surface. Even with 1mW/cm2 intensity, 750J/cm2 of UVC pre-irradiation resulted in the same degree of enhancement in cellular attachment. Low wettability on the non-irradiated surface changed superhydrophilic status after pre-irradiation with more than 10J/cm2 of UVC. The amount of carbon atoms reduced gradually with UVC-irradiation energy from 40% on the non-irradiated surface to 9% on the surface pre-irradiated with 1000J/cm2 of 3mW/cm2 UVC.
Conclusion: Enhancement of osteoblastic settlement on titanium by UVC-irradiation required a specific quantity of irradiation energy, which was cancelled by over-irradiation. The mechanism may involve other physicochemical phenomenon in addition to superhydrophilicity and carbon elimination on titanium.

PP13

Staphylococcal attachment reduces on UVC-irradiated titanium by changing surface properties

Yusuke Yamada, Masahiro Yamada, Takahiro Ueda, Kaoru Sakurai
Tokyo Dental College,Chiba, Japan

Objective: Contamination by wound pathogen such as Staphylococcus aureus causes implant failure. UVC irradiation to titanium enhances the osseointegration capability by various physicochemical changes on the surface including an induction of superhydrophilicity which is representative phenomenon in UVA-mediated photocatalytic decontamination on titanium oxide. The objective of this study was to investigate the influence of UVC pre-irradiation to various topographical titanium surfaces on Staphylococcus aureus attachment with consideration for relationship to physicochemical changes on titanium surface.
Methods: Pure titanium disks with mirror-polished, turned, acid-etched or shotblasted surface pre-irradiated with or without 500 J/cm2 of UVC or UVA were incubated in BHI broth containing 1x107 Staphylococcus aureus. After 0, 4 and 8 hours incubation, bacterial attachment on titanium surface was evaluated by fluorescence microscopic quantification with CTC staining for viable bacteria. Surface roughness, wettability, atomic composition and electrical charge on the surface were evaluated before and after UVA or UVC irradiation. Data was treated with two-way ANOVA with Bonferroni correction (a=0.05).
Results: Regardless of surface topography, the percentage of CTC positive area showed significant differences between the non-irradiated and UVC-irradiated surfaces and was consistently lower on UVC pre-irradiated surfaces at any incubation time. UVA pre-irradiation reduced bacterial attachment on the surfaces except for mirror-polished surface at 8 hours incubation. The reduction of bacterial attachment on micro-roughened surfaces (acid-etched or shotblasted surface) by UVA was inferior to that by UVC. Both UVA and UVC irradiations changed wettability from hydrophobic status to superhydrophilicity but never affected surface topography. Both irradiations induced carbon elimination and positive charging on titanium surface. However, those degrees were greater on the UVC-irradiated surfaces.

Conclusion: UVC irradiation reduced Staphylococcus aureus attachment on various topographical titanium surfaces, rivaling or surpassing UVA irradiation in degree. The mechanism might involve superhydrophilicity, carbon elimination and positive charge on the surface.

PP14

Adjustment of pink esthetic score (PES) of central incisor

Lenka Vavrickova, Ivo Drizhal, Tatjana Dostalova, Jana Krnoulova
Department of Dentistry, Faculty of Medicine in Hradec Kralove, Charles University in Prague, Czech Republic

Objectives: The pink esthetic score (PES) is significantly involved in the esthetic outcome of anterior visible zone. Soft tissue around single crowns in the zone is awarded by seven points for the mesial and distal papilla, soft-tissue level, contour, color, texture and alveolar process deficiency. The case report presented surgical and prosthetic procedures of adjustment of central incisor PES.
Methods: Thirty-years old man requested a dental implant insertion in position of the left central incisor, because of altered PES in frontal region. Radiographic and clinical examination demonstrated single unit crown covering vital left central incisor with inaccurate finishing line and altered soft-tissue level and soft-tissue contour. The examination proved the presence of central incisor treatable surgically and prosthetically.
Results: Gingivectomy was done as the first step of the treatment plan. The temporary crown with improved finishing line was following periodontal surgery. After four weeks the temporary crown was replaced by enhanced temporary crown to provide correct soft-tissue level and soft-tissue contour. Temporary crown was replaced by permanent all-ceramic CAD/CAM crown within three months.
Conclusion: Altered PES can cause patient´s decision for implant insertion to obtain excellent esthetic outcome of anterior visible zone. Paper illustrated clinical situations in which conventional treatment plan can outclass implant treatment plan.

PP15

Influence of Preprocessing of Artificial Teeth by TiO2-coating on Staining

Kazunori Mori, Masashi Tsuji, Takayuki Ueda, Kaoru Sakurai
Tokyo Dental College, Chiba, Japan

Purpose: We have investigated the spray coating method with titanium dioxide (TiO_2) on removable denture to prevent adhesion of microbes and staining. The purpose of this study was to clarify the effect of preprocessing of artificial teeth surface by TiO_2 coating on preventing direct staining.
Methods: Composite resin artificial teeth (Endura Anterio, Shofu, Japan or Surpass, GC) were divided into untreated (UT), TiO_2-coated (TC) and TiO_2 coated after rough lapping (LC) groups. The TiO_2 (Paltitan, Nihon Parkerizing) coating was applied with an air spray. Artificial teeth were soaked for 1 week at 37°C in 0.2% fuchsin basic or 2% coffee solution. The teeth were then washed with water in an ultrasonic cleaner for 30 sec. Color was measured before and after staining using a colorimeter (Shade Eye NCC, Shofu). The color difference value (?E*ab) was calculated and compared with Bonferroni test (a=0.05). Results: For Endura with fuchsin, the ?E*ab in UT, TC and LC groups were 19.74 ± 2.27, 7.46 ± 1.28 and 28.76 ± 1.68, respectively. There were significant difference between UT and TC, TC and LC. For Endura with coffee, the ?E*ab in UT, TC and LC groups were 2.05 ± 0.78, 3.99 ± 2.03 and 7.66 ± 1.09,

respectively. There were significant difference between UT and LC, TC and LC. For Surpass with fuchsin, ?E*ab in UT, TC and LC groups were 9.30 ± 1.50, 5.67 ± 0.80 and 17.71 ± 4.47, respectively. There was a significant difference between TC and LC. For Surpass with coffee, the ?E*ab in UT, TC and LC groups were 1.50 ± 0.47, 2.77 ± 0.79 and 1.53 ± 0.32, respectively. There were significant difference between UT and TC, TC and LC.
Conclusion: The preprocessing of artificial teeth surface by TiO2 coating effects change in color due to direct staining.

PP16

Effect of Cleaning Tongue with Moisturizer on Removing Tongue Coat

Takayuki Ueda, Sayaka Tajima, Ruri Sudo, Hideko Watanabe, Masahiro Ryu, Kaoru Sakurai
Tokyo Dental College, Chiba, Japan

Purpose: Removing tongue coat is important to prevent aspiration pneumonia. The aim of this study was to clarify the effect of cleaning tongue surface with tongue brush and oral moisturizer gel on removing tongue coat.
Methods: From elderly patients in a rehabilitation Hospital who need help in keeping oral health by nursing staffs, 21 patients (mean age, 88±9 year-old) were selected. The patients were divided into 2 groups randomly. Patients in the control group were given cleaning tongue with tongue brush. The other and moisturizer group were given the antibacterial material "Hinokitiol" contained-oral moisturizer gel "Refrecare H" (EN Otsuka Pharmaceutical Co.) on tongue surface for 30 seconds and then cleaning tongue with tongue brush. The intervention period was 2 weeks and the number of total anaerobic bacteria, the number of Candida species, moisture degree and Shimizu's tongue coating index (TCI) on tongue surface were measured before and after intervention. The paired t-test was applied to compare moisture degree and TCI. The Wilcoxon signed-rank test was applied to compare the number of total anaerobic bacteria and Candida species. The significant level was set at 0.05. This protocol was approved by the Ethics Committee of Tokyo Dental College.
Results: Before the intervention, there was no significant difference in all 4 factors between 2 groups. For control group, there was no significance different in all 4 factors between before and after the intervention. For moisturizer group, there was no significant difference in the number of total anaerobic bacteria, however, there were significant difference in the number of Candida species, moisture degree wet and TCI.
Conclusion: The Cleaning tongue surface with the Hinokitiol contained-oral moisturizer gel "Refrecare H" for 2 weeks decreases tongue coat.

PP17

Effect of Oral Cleaning with ConCool Mouth Rinse and Mouth Gel for Inpatients

Masahiro Ryu, Takayuki Ueda, Sachi Izumi, Seiko Oda, Kenichiro Kobayashi, Kaoru Sakurai
Tokyo Dental College, Chiba, Japan

Objectives: The purpose of this study was to clarify effect of oral cleaning with ConCool Mouth Rinse (CR, Weltec, Osaka, Japan) and ConCool Mouth gel (CG, Weltec, Osaka, Japan) for inpatients.
Methods: Subjects were 20 inpatients with cerebrovascular disorders undergoing oral cleaning by nurse

on a daily basis (8 men, 12 women; mean age 80.2±5.9 years). Nobody had mechanical tongue cleaning. Subjects were categorized randomly into two groups and cleaned as follow at daily oral cleaning; Group CR: Mechanical mouth and tongue cleaning with CR and applying CG on tongue surface, Group PC: Mechanical mouth and tongue cleaning without use of mouthwash and moisturizer. Number of anaerobic bacteria on tongue surface, tongue coating status and moistness status of tongue surface were measured at the beginning and after two weeks. Decrease rates were calculated about number of anaerobic bacteria on tongue surface and tongue coating status. Increase rates were calculated about moistness status of tongue surface. Mann-Whitney U test was performed with comparison of two groups (?=0.05).
Results: Decrease rates of CR and CG about number of anaerobic bacteria on tongue surface were 62.8±15.2% and 43.2±16.6%. Decrease rates of CR and CG about tongue coating status were 49.6±13.4% and 40.7±11.9%. Increase rates of CR and CG about moistness status of tongue surface were 120.1±68.5% and 27.7±33.7%. There were significant differences between CR and CG on every measurement item.
Conclusion: We conclude that mechanical oral cleaning with CR and CG is more effective than without use of mouthwash and moisturizer for inpatients.

PP18

Antimicrobial Effect of Anti-bacterial Functional Water (Bioshot®) on Streptococcus pneumoniae

Kenichiro Kobayashi, Masahiro Ryu, Takayuki Ueda, Masahiro Yamada, Seiko Oda, Kaoru Sakurai
Tokyo Dental College, Chiba, Japan

Objectives: The purpose of this study was to clarify antimicrobial and growth inhibitory effect of anti-bacterial functional water (Bioshot®) on Streptococcus pneumoniae.
Methods: We cultured Streptococcus pneumoniae in the brain heart infusion broth and diluted to a final concentration of 1.0x107cells ml-1. 5 tubes were prepared and 1 ml of culture solution was injected to each tube. Tubes were divided into 5 groups in accordance with applied solution (BS0.1: Bioshot10µl/ml, BS0.5: Bioshot50µl/ml, BS1.0: Bioshot100µl/ml, AB: 100units/ml penicillin G sodium, 100 µl/ml streptomycin sulfate, PC: Phosphate buffered saline, NC: Control). After each solution was applied, culture solutions were incubated at 30?. Then bioactivity of each culture solution was evaluated at 1h, 6h, 12h, 1day and 7days. Adenosine triphosphate (ATP) content of the microorganisms was evaluated using a reagent containing benzalkonium, which extracts intra-cellular ATP. Sheffe test was used to evaluate the results of the microbial ATP analysis after Kruskal-Wallis test (a=0.05).
Results: There were significant differences between BS groups (BS0.1, BS0.5, BS1.0) and control groups (PC and NC) at 6h, 12h, 1day and 7days. At 7 days, there were also significant differences between BS groups and AB group. BS group inhibited bioactivities of Streptococcus pneumoniae strongly for 7 days. The results revealed that BS had strong antimicrobial and growth inhibitory effect on Streptococcus pneumoniae for long periods.
Conclusion: We conclude that anti-bacterial functional water (Bioshot®) has an antimicrobial effect and growth inhibition on Streptococcus pneumoniae.

PP19

Safety evaluation of TiO2-coated acrylic resin for clinical applications

Masashi Tsuji, Kazunari Mori, Takayuki Ueda, Kaoru Sakurai, Kohei Sawaki, Mitsuru Kawaguchi
Tokyo Dental College, Chiba, Japan

Objectives: We have previously reported that TiO2 coating on acrylic resin protects the denture from adhesion of food residue and microprobes. However, to use it for patients, it is essential to establish the high safety. This study was to investigate whether or not TiO2-coated acrylic resin induces any irritation to the skin of guinea pig.
Methods: We conducted the skin sensitization test according to the Adjuvant and Patch Test using male Hartley guinea pigs, 6 weeks old. In the test, the animals were divided into 5 groups; negative control group, positive control group, polymethylmethacrylate (PMMA) group, primer-coated PMMA group and TiO2-coated PMMA group. The challenge sites were scored at 0 to 8 points for erythema and swelling based on the Draize scores given.
Results: In the negative control group, the score in each animal was 0 point. In the positive control group using 2,4-dinitrochlorobenzene, the marked erythema and swelling were found in all animals. The mean scores at 24 and 48 hrs after application were 5.8 and 6.2, respectively. In the primer-coated PMMA group, apparent erythema or swelling was not found. In the PMMA and TiO2-coated PMMA groups, positive skin responses were also not observed. The minor erythema with 1 point was observed in one animal at 24 hr after application, but it disappeared at 48 hr. The mean score of each group was 0.2.
Conclusion: These results indicate that TiO2-coated acrylic resin does not produce the marked skin response such as erythema and swelling to the guinea pigs, and that TiO2 coating does not induce the skin sensitization and is relatively safety for the skin.

PP20

Maxillary anterior teeth dimensions in Kosovo-Albanian Population

Gloria Staka, Teuta Bicaj
Prosthetic Dentistry, University of Prishtina, Medical Faculty, Prishtina, Kosova

Objectives: This study was undertaken to determine the width of the six maxillary anterior teeth in Kosovo-Albanian population and to investigate the sexual dental dimorphism.
Methods: Mesiodistal diameters of six maxillary anterior teeth were measured from dental casts of 204 Kosovo-Albanian students (101 males and 103 females, aged 18-25 years), from Dental School, Medical Faculty at University of Prishtina. The mesiodistal diameter of each anterior tooth were measured using a digital caliper (Boss, Hamburg- Germany) with accuracy of 0.01 mm. Descriptive statistics and t-test were calculated.
Results: The sum of mesiodistal widths of the six maxillary anterior teeth in males were 45.54 mm, while in females were 44.48 mm. There were statistical significant differences in teeth width between males and females ($t=3.25$. $p<0.01$).
Conclusion: The width of the maxillary anterior teeth were determined for study population. Males had significantly larger teeth than females.The results of the current study are of the great value for the prosthodontist in the selection of the correct size of artificial teeth for complete dentures

PP21

An Alternative Implant-Transfer Technique: A Case Report

Emre Tokar, Serdar Polat, Bulent Uludag, Ozgul Karacaer
Gazi University, Faculty of Dentistry, Department of Prosthodontics, Ankara, Turkey

Aim: Different impression techniques have been suggested in order to obtain a master cast for implant-supported prostheses. This case report describes clinical and laboratory procedures to transfer implant positions with splinted abutments because of lack of implant transfer analogs. A preliminary cast was modified to a master cast to place the analogs according to a corrected position of implants and peri-implant soft tissues.
Case Report: A female patient who two implants were placed to unilateral free end mandible was presented for prosthetic solution. Preliminary impression was made with irreversible hydrocolloid impression material. In order to make the master cast, suitable abutments were chosen and a modified acrylic resin occlusal splint was prepared. Position of implants was recorded with aid of the occlusal splint using acrylic resin. Preliminary cast was trimmed for implant analogs and assembly of occlusal splint, abutments and analogs was placed into the cast. Type IV dental stone and silicone were poured the space around the implant analogs guidance of vacuum shell template.
Conclusion: An accurate master cast illustrates intraoral position of implants precisely in all dimensions. Rigid connection between abutments or transfer copings leads to preservation of implant spatial relationships regardless of impression material. This simple and time-saving method was recorded and transferred the accurate three-dimensional relationship of the implants and was guided a corrected cast procedure.

PP22

Effect of Primers on the repair strength

Duygu Saraç, Yakup Sinasi Saraç, Safak Külünk, Ahmet Umut Güler
Ondokuz Mayis University, Faculty of Dendistry, Department of Prosthodontics, Samsun, Turkey

Objectives. Fracture is the most common failure mode for zirconia-based ceramic restorations. The purpose of this study was to evaluate the effect of different primers on the bond strength of composite resin repair material to zirconium-oxide ceramic.
Methods. Seventy two zirconium-oxide discs (15 mm × 2 mm) were produced and were divided into 3 groups of 24 specimens. The first group had no treatment and served as control (C). In Group A, zirconia core surfaces were air abraded with 50 µm Al_2O_3 particles and In Group S, zirconia core surfaces were treated with 30 µm silica-coated aluminum oxide particles (SiOx) After surface treatments, the groups were divided into two subgroups, in the first(Z) and second (P) subgroups a zirconia-alumina- metal primer and a pre-hydrolyzed silane primer was applied, respectively. Then, a nanohybride composite resin was placed on to treated surface of the specimens. Shear bond strength test was recorded using a universal testing machine. Data were statistically analyzed ($a=0.05$).
Results. Surface treatments increased the bond strength values of the repair material ($P<0.001$). Silica-coating showed the highest strength values. No significant difference was found among the subgroups.
Conclusions. Silica-coating was found to be more effective surface treatment for increasing the bond strength of repair material to zirconium-oxide ceramic. In all groups, both of the primers showed similar bond strength values. According to this result, the use of zirconia-alumina- metal primer is simpler for its one step application procedure.

PP23

Relationship between Repetitive Saliva Swallowing Test and Dry Mouth in the Elderly

Yasuaki Kakinoki, Yoko Sakakibara, Takayuki Kimura, Yuka Kubota, Mami Endoh
Department of oral care and rehabilitation, Kyushu Dental college, Kitakyushu, Japan

Objectives: This study aimed to investigate the relationship between repetitive saliva swallowing test (RSST) and dry mouth condition in the elderly persons. RSST is intended to check the patient's ability to voluntarily swallow repeatedly, which is highly correlated with aspiration. Usually, examiners performed RSST after wetting the inside of the patient's mouth with cold water and instruct him/her to repeatedly swallow air, and monitor the number of swallows achieved. The number of swallows is counted by the movement of laryngeal elevation, either visually or by palpating, three or more dry swallows within 30 seconds is considered normal.
Method: In this study, the subjects consisted of 185 Japanese independent elderly persons (65-99 years old). We performed RSST in the subjects without wetting their mouths. After then, we performed RSST again after wetting their mouth with water spray.
Results: The results showed that the value of RSST was 3.69±2.0 (Mean +/- S.D.) before water spray and 58 subjects (30.1 %) showed two or less swallows. After water spray, the value of RSST was 4.02±1.9 and 45 subjects (24.2%) showed two or less swallows. The values of RSST after water spray were significantly higher than before spray ($p<0.001$) and the values of 13 subjects (5.9%) were improved to normal after water spray.
Conclusions: This study suggested that RSST without wetting their mouth was considered useful to evaluate swallowing disorder caused by oral dryness in the elderly.

PP24

Esthetic Restorations of Maxiller Anterior Teeth Involve Premolars With Porcelain Laminate Veneers –

Umut Güler, Sait Ege Eryürük, Senay Canay
Hacettepe University, Ankara, Turkey

The aim of this case presentation is to describe the treatment plan of a patient who has improper clincal crown length and wide buccal coridors with laminate veneers. Extraoral examination revealed a decreased visibilty of maxiller anterior teeth, improper clinical crown lengths and increased comissural negatif spaces.The patient's esthetic demands were met through an interdisciplinary treatment plan of periodontal surgery and porcelain laminate veneers.There were no missing tooth in the mouth. There were no caries, filling or mobility in any tooth which need to be restored with laminate veneers. Radiographic examination revealed healty bone around roots and no bone loss or periapical radiolucencies. Periodontal examination revealed good oral hygiene. On the first visit extraoral and intraoral photographs were taken for treatment plan.impressions of upper and lower jaw were taken with alginate impression material. Diagnostic casts were used for periodontal surgery plan of crown lengthining procedure and wax up. After the healing time of periodontal surgery which was performed for crown lengthining porcelain laminate preparation was performed with the essix index attained from the diagnostic wax-up cast. 10 Porcelain lamiante restorations for maxiller anterior teeth involve four premolars were fabricated with feldspathic porcelain material according to the manufacturer's instructions and cemented with a dual-cured resin cement. In this clinical report, visibility of maxiller anterior teeth was increased and comissural negatif spaces were decreased with feldspathic porcelain laminate veneers.

PP25

Are the years of training and clinical experience helpful in assessment of a tooth shape

Nikola Petricevic, Renata Poljak Guberina, Marko Guberina, Anita Kranjcevic Bubica, Marijana Molnar, Asja Celebic

School of dental medicine university of Zagreb, Zagreb, Croatia

Objectives: To evaluate the efficiency of upper central incisor tooth shape assessment of well trained general dentists and specialist of prosthodontic and to compare the results to those of dental students and general population.
Methods: Dental digital images of 300 subjects (145 female; 18 to 69 years old) with intact anterior teeth and no visible pathology in surrounding soft tissues were cropped so only the teeth and vermillion borders remained. The shape of the upper central incisor was determined by the relation between interdental papilla width (IP), interdental contact point width (ID) and incisal edge width (IE). Square shape [IP=ID=IE (±0.1 mm)] was found in 46,59%, oval [IPIE (±0.1 mm)] in 26,69% and triangular in 26,69% [IP<ID< make. we errors the demonstrates also data The education. dental through improved be could selection teeth artificial how see to necessary is research further However, helpful. not theory William's following shape tooth of choice that show study this results.
Conclusion: NS). P="0.81" (F="0.32," differences significant without evaluators groups four all in similar was (errors) answers false percentage
Results: shape. on information correct containing spreadsheet a compared were evaluator each collected photograph. for incisor central upper subjects' define people) lay 9 students, 10 practitioners, general 6 prosthodontists, specialists (10 theories different familiarity their based selected Evaluators mm)]. (±0.1>

PP26

Occlusal Rehabilitation By Full-Mouth Zirconia Fixed Restoration And Opposing Implant-Retained Overd

Zeynep Irkec , Ayben Senturk

Ankara University Faculty of Dentistry, Ankara, Turkey

Objectives: Achieving proper occlusal rehabilitation of the lacking esthetic properties and functional activity of a patient, by the application of metal-free fixed restoration with more adventageous esthetic appearance, and implant-retained overdenture placement bringing solution to retention/stability problems experienced in conventional mandibular complete dentures.
Methods: 65 year-old female patient, with partial edentulous maxiller arch classified as Kennedy 2 mod 2, and totally edentulous mandibular arch, was treated in the Faculty of Dentistry, Ankara University. Prosthetic evaluation yielded the existance of a number of sectional fillings, diastema between the anterior teeth, a crown restoration showing unadaptability with the gingiva, and a tooth that needs extraction, all in the maxiller arch. Two implants for the free ending left posterior maxiller region and full-mouth fixed restoration was planned. Zirconia fixed restoration was prefered due to high fractural resistance and esthetic concern. Taking into account deficiency of bone in the posterior mandibular region, fixed restoration could not be applied, however, 2 implants were placed in the canine regions providing implant-retained overdenture. In this way, the disadvantages of the conventional complete denture were eliminated. Because of high abrasive effect of zirconia material on the artificial denture teeth, reinforced acrilic resin teeth were particularly used.
Results: Following all these prosthetic treatment; phonation, functionality and esthetic appearance,

convenient facial profile, and proper occlusal vertical dimension and occlusal relationship were obtained. Conclusion: Owing to high fractural resistance, convenient esthetic appearance, color stability and biological compliance with the peripheral tissues, zirconia restorations show successful clinical prognosis. Restoration of the edentulous regions with implant-retained fixed or removable dentures, helps in providing patient's comfort and functionality, contributing greatly to clinical success.

PP27

Candida albicans adherence on chair-side silicone denture soft lining materials

Theodoros Tasopoulos, Georgia Vrioni, Theodora Diamantatou, Robert Jagger, Dimitra Karaiskou, Maria Panagiotopoulou

Department of Microbiology, Faculty of Medicine, National and Kapodistrian University of Athens, Greece

Objective: Chair-side silicone liners are susceptible to microbial adhesion. The aim of this study was to investigate the in vitro adherence of C. albicans to 5 commercial silicone denture liners.
Methods and Materials: Ten specimens (10 x 10 x 3 mm) each of five long term resilient liners (Molloplast B, GC Reline Soft, Elite Soft Relining, Tokuyama Sofreliner S, Ufigel Sc) were processed according to manufacturers' instructions using a standard dental flasking technique. Specimens were incubated for 1 hour at 370C with a suspension of C. albicans. They were then stained with acridine orange and viewed using fluorescence microscopy (x1000 magnification). The number of adherent cells was counted in 10 random fields in the frontal and lateral part of each specimen. Differences in degree of colonization between materials were assessed by Poisson regression analysis.
Results: The number of yeast cells adhered to Molloplast B was statistically significantly greater than to all the other silicone denture liners (mean= 4.21, (95% CI: [3.65, 4.84]), p<0,0001. There was no statistically significantly difference of fungal growth of C. Albicans between Elite Soft Relining (mean=1.01, (95% CI: [0.81, 1.25]) and GC Reline Soft (mean=1.21, (95% CI: [1.07, 1.37]), p=0.6054. There was no statistically significantly difference between the numbers of cells attached to Tokuyama Sofreliner S (mean=0.43, (95%CI: [0.25, 0.73]) and Ufigel Sc (mean=0.31, (95%CI: [0.21, 0.45]), p=0.8521.
Conclusion: The results of the in vitro experiment showed that Molloplast B demonstrated a significant earlier adherence of fungal growth of C. albicans than all the other chair-side silicone denture liners.

PP28

Effect of bleaching agents on surface texture of feldspathic ceramic

Çagri Ural , yücel Gencer, Mehmet TarakÇi, Muhammed Ali Aslan, Selim Arici

Department of Prosthodontics, Faculty of Dentistry, Ondokuz Mayis University, Samsun, Turkey

Objective: The aims of this study were to evaluate the effects of different carbamide peroxide concentrations on surface structure changes of porcelain restorative materials.
Methods: A total of 50 discs were made and divided into five groups each include 10 specimens. One group served as control and no bleaching agent was applied. Other groups were immersed in the bleaching gels with different concentration(%10-%15-%20-%35) for an average of 8 hours per day. The bleaching procedure was performed over a period of 21 days. The surface roughness values were measured by surface profilometry. Treated ceramic surfaces were examined by SEM and AFM. The data were analyzed by SPSS programme.

Results: The results showed that higher concentration of carbamide peroxide gel effect the surface roughness of test specimens significantly.
Conclusion: Ceramic restoration should be protected before any bleaching for preventing negative effects of agent on surface properties. Keywords. Bleaching agents, Carbamide peroxide, Ceramic, Surface roughness

PP29

Prosthodontic Treatment of a Patient With Severely Worn Dentition

Berkcan Tuncer, Senay Canay
Hacettepe University Faculty of Dentistry, Ankara, Turkey

Full-mouth rehabilitation of a patient with severely worn dentition is a challenging and time consuming procedure because of loss of anterior guidance, reduced occlusal vertical dimension and uneven occlusal plane caused by severe wear of teeth. The aim of this case presentation is to describe the full-mouth fixed partial rehabilitation of a patient with reduced occlusal vertical dimension. A 67-year-old male patient with reduced occlusal vertical dimension because of severely worn dentition, and tooth loss referred to our department for prosthodontic treatment of his worn and missing teeth. Radiographic and periodontal examinations showed no pathologies and a good oral hygiene. After endodontic treatment of worn teeth, prefabricated posts and cores were applied. Provisional fixed partial restorations were fabricated in correct vertical dimension after diagnostic wax-up. The patient was carefully visualized for muscular or temporomandibuler joint discomfort at each call. Once the compliance of the new vertical dimension was confirmed (after 3 months of using the provisional fixed partial restorations), porcelain fused to metal fixed partial restorations were fabricated and cemented using zinc polycarboxilate cement.

PP30

Nylon 6 nanofiber reinforced BIS-GMA tegdma dental composite resins

Nihal Pehlivan, Özgül Karacaer, Emre Tokar
Gazi University, Faculty of Dentistry, Department of Prosthodontics, Ankara, Turkey

Objectives: Dental composite resins have been reinforced with inorganic fillers such as silanized glass/ceramic particles for years, the relatively low strength and durability of the composites have limited their uses. The aim of the study was to investigate the reinforcement of Bis-GMA/TEGDMA dental resins with various mass fractions of nanofiber.
Method: Electrospun nanofibers was cut into small pieces and then soaked in the dental resin mixture (%49,5 Bis-GMA, %49,5 TEGDMA, %0,2 CQ and %0,8 4EDMAB). The soaked felt pieces were taken out of the dental resin mixture and photo-cured. Polymerized pieces was milled into powder with osciliating mill. Finally, the powders were mixed at different mass fractions (1%, 2%, %3, %4) with the dental resin mixture (composition as described above). The specimens (2 mm x 2 mm x 25 mm) was prepared using teflon mold and photo-cured for three-point-bending test.
Results: The mechanical properties of the nanofiber reinforced Bis-GMA/TEGDMA dental composites were tested using a standart three-point bending method. Flexural strength, elastic modulus and work-of-fracture of the specimens were evaluated.

Conclusion: Restorative dental composites have been reinforced glass or ceramic fillers. Also nanofibers can be used to reinforce composite resins. The small diameter of nanofibers provide a high ratio of surface area to volume which could enhance the intermoleculer hydrogen bonding between the filler of nylon 6 nanofiber and the matrix of Bis-GMA/TEGDMA resin.

PP31

Repair bond strength of repair acrylic resin to co-cr alloy

Safak Külünk, Tolga Külünk, Seniha Baba, Duygu Saraç
University of Ondokuz Mayis, Faculty of Dentistry, Samsun, Turkey

Objective: The purpose of this study is to evaluate the effect of different surface treatment methods and thermal ageing on the repair bond strength of auto polymerized acrylic resin to metal framework.
Methods: Seventy cast discs (10 mm ×2 mm) were prepared from Co-Cr alloy. To achieve smooth surface, each alloy surface was ground with silicone carbide papers. Specimens were embedded in auto polymerizing acrylic resin blocks then divided into 5 groups (n=14). One of group was untreated and served as control (C). The specimens in other groups were flamed with the Silano-Pen device (Bredent) (S), air abraded with 50 µm aluminum oxide (Al_2O_3) (Korox 50) particles (K); air abraded with 30 µm silica-coated aluminum oxide particles (SiOx) (CoJet) (Co), and air abraded with 50 µm Al_2O_3 particles and flamed with the Silano-Pen device (KS). After surface treatments, auto polymerized acrylic resin (6 mm × 2 mm) was applied to specimen surfaces with a Teflon mold. All specimens were stored in distilled water at 37°C for 24 hours. The specimens were divided into two subgroups to evaluate durability of the bond strength. Thermo cycling was classified as thermo cycle 0 (TC0) and 6000 cycles (TC1) in between 5±2 °C and 55±2 °C. A universal test machine was used for shear bond strength test. Data were statistically analyzed with 2-way analysis of variance (ANOVA) and post hoc Tukey test (a=0.05).
Results: Surface treatment and thermal ageing affected repair bond strength ($P<0.001$). ($P<0.001$). Significant differences were found between TC0 and TC1 groups except Group C and KS. Silano-Pen treated groups showed higher repair bond strength values in each thermal aged condition and significant difference was found between other groups ($P<0.001$).
Conclusion: Application of Silano-Pen improved shear bond strength. The repair bond strength reduced significantly after thermo cycling.

PP32

Influence of bone quality on implant mobility under masticatory loading

Vladyslav Demenko, Igor Linetskiy, Larysa Linetska, Vitalij Nesvit, Andrii Shevchenko
National Aerospace University, Kharkov, Ukraine

Objectives: Excessive relative motion of implant-bone interface generated by abutment movement indicates formation of soft connective tissue rather than bony interface. To achieve bone tissue remodeling, abutment mobility may be limited within preliminary determined boundaries by selecting a viable implant. The goal of this study was to evaluate biomechanical response of four bone quality types of mandible segment (Lekholm & Zarb classification) to cylindrical implants of various sizes by calculating their abutment displacements.
Methods: Finite element simulations were used to evaluate the influence of implant dimensions and bone quality on abutment displacement under oblique masticatory load of 118.2 N. Geometric models

of mandible segments with osseointegrated implants were generated from computed tomography images. All materials were assumed to be linearly elastic and isotropic. Implants of 3.0 … 5.0 mm in diameter and 8.0 … 14.0 mm in length were analyzed.
Results: For every implant, displacements of abutment upper surface were calculated. The implants inserted into Type I bone had the smallest abutment displacements varying from 2.65x10-3 mm for the widest and longest implant to 6.83x10-3 mm for the shortest and narrowest one. Relative to Type II bone, a two-fold decrease in the thickness of cortical shell in simulation of Type III bone led to an increase in abutment displacement from 6.7% to 26.6% depending on the implant dimensions. Finally, in Type IV bone mobility was increased relative to Type I bone from 119.6% to 263.6%. A five-fold decrease in the modulus of trabecular bone elasticity (Type IV relative to Type III) led to an increase in implant mobility from 68.2% to 98.0%.
Conclusion: Results of the study allow selection of implants which generate less than 3.000 microstrain according to the bone remodeling thresholds suggested by Frost's mechanostat hypothesis and taking into account actual bone quality.

PP33

Margin design effect on fracture resistance of alumina core materials

Pinar Gultekin, Burcin Karatasli, Cetin Sevuk
Istanbul University Faculty of Dentistry Department of Prosthodontics, Istanbul, Turkey

Objectives: The aim of this in vitro study was to investigate the effect of chamfer-edged and shoulder-edged margin designs on the fracture resistance of In-Ceram Alumina and Turkom-Cera Alumina copings.
Methods: On two realistic maxillary premolar teeth model (Frasaco, Germany) 50 degrees chamfer margin (0.7 mm) and 90 degrees shoulder margin (1 mm) was prepared using diamond burs. Prepared premolars were duplicated using vinyl polysiloxane impression material. The impressions were poured with flowable composite to fabricate fourty replica dies forming four groups of ten specimens. An epoxy wax-up with 0.5 mm thickness was prepared using a CAD/CAM system (Zirkonzahn, Italy) for both of the designs. Using the same epoxy wax-up, twenty In- Ceram Alumina cores were milled by the Celay copy-milling system (Mikrona, Switzerland) from VITA In-Ceram Alumina presintered aluminum oxide blocks. Twenty Turkom-Cera alumina cores were prepared on the composite dies using the conventional slip cast technique in a dental laboratory. The alumina cores were then cemented on the composite dies using a dual-cure resin cement (Duolink Bisco, IL) according to manufacturer's instructions. The copings were vertically loaded using a universal testing machine (Shimadzu, Japan) at a crosshead speed of 0.5 mm/min until fracture. The compressive load data required to cause the fracture was obtained in N. Student's t test was used to analyse the data between the groups.
Results: The results showed the following mean loads of fracture: Turkom-Cera chamfer (1294.28±102.84 N), Turkom-Cera shoulder (1177.56±105.83 N), In-Ceram chamfer (881.63±79 N), In-Ceram shoulder (633.72±89 N). The Student's t-test revealed a statistically significant difference between groups ($p<0.05$).
Conclusion: The results of this in vitro study revealed a relationship between the marginal design of the alumina cores and their fracture resistance. A chamfer margin design can be recommended to improve the mechanical performance of posterior alumina based single crowns.

PP34

Effect of abutment and luting cements color on all ceramics: Part I

Dogu Omur Dede, Arzu Armaganci, Gozlem Ceylan, Soner Cankaya, Ersan Celik
Department of Prosthodontics, Faculty of Dentistry, Bulent Ecevit University, Zonguldak, Turkey

Objectives: The purpose of this study is to evaluate the effects of different abutment materials and luting cements color on the final color of implant supported all ceramic restorations.
Methods: Ten A2 shade IPS e.max Press disc shape all ceramic specimens prepared at 1,5 mm thickness and 11 mm diameter. Three different shades (translucent, universal and white opaque) disc shape resin luting cement specimens prepared at 0,2 mm thickness and 11 mm diameter (10 samples for each shade). And three different (zirconium, gold-palladium and titanium) implant abutment and one composite resin disc shape background specimens prepared at 11 mm diameter and appropriate thicknesses. All ceramic specimens colors were measured with each backgrounds and luting cement samples on a teflon mold. A digital spectrophotometer used for measurements and data recorded as CIE L*a*b* color coordinates. An optical fluid applied on to the samples to provide a good optical connection. ΔE values were calculated from the ΔL, Δa and Δb values between control and test groups and data were analyzed with one way variance analysis (ANOVA) and mean values were compared by the Tukey HSD test (a=.05).
Results: One way ANOVA of ΔL, Δa, Δb and ΔE values of control and test groups revealed significant differences for backgrounds and seldom for cement colors. Highest color differences gained group was titanium background with universal shade cement group (ΔE=4,58) and the lowest was zirconium background with universal shade cement group (ΔE=1,81). Only zirconium implant abutment groups and gold palladium abutment with universal shade cement group were found clinically acceptable (ΔE≤3,0).
Conclusion: Using titanium or gold-palladium abutments for implant supported all ceramics will be esthetically questionable and white opaque cement will be helpful to mask the dark color of titanium abutment.

PP35

Effect of abutment and luting cements color on all ceramics: Part II

Arzu Armaganci, Dogu Omur Dede, Gozlem Ceylan, Soner Cankaya, Ersan Celik
Department of Prosthodontics, Faculty of Dentistry, Ondokuz Mayis University, Samsun, Turkey

Objectives: The purpose of this study is to evaluate the effects of different abutment materials on the final color of implant supported different all ceramic restorations.
Methods: IPS e.max with medium opacity and high translucency frameworks, In Ceram Alumina and zirconium all ceramic disc shaped (11x1,5mm) samples were prepared at A2 shade. Ten universal shade disc shape resin luting cement specimens prepared at 0,2 mm thickness and 11 mm diameter. And three different (zirconium, gold-palladium and titanium) implant abutment and one composite resin disc shape background specimens prepared at 11 mm diameter and appropriate thicknesses. All ceramic samples colors were measured with each backgrounds and luting cement samples on a teflon mold. Measurements were performed with the use of a digital spectrophotometer and data recorded as CIE L*a*b* color coordinates. An optical fluid applied on to the samples to provide a good optical connection. Measurements which performed on the composite resin background saved as the control

groups. ΔE values were calculated from the ΔL, Δa and Δb values between control and test groups and data were analyzed with one way variance analysis (ANOVA) and mean values were compared by the Tukey HSD test (a=.05).
Results: One way ANOVA of ΔL, Δa, Δb and ΔE values of control and test groups revealed significant differences for backgrounds and all ceramic groups (P=0.05). Highest color differences gained group was IPS e.max (mo) all ceramic with titanium background group (ΔE=4,58) and the lowest was zirconium all ceramic with zirconium background group (ΔE=1,55). Only IPS e.max all ceramics with titanium implant abutment groups were found clinically not acceptable (ΔE>3,0).
Conclusion: Using titanium abutments for implant supported lithium disilicate all ceramics will be esthetically questionable. All ceramics with more opaque substructure will mask the underlying material and exhibit better appearance according to more translucent ones.

PP36

Practical considerations derived from facial standards variations in edentulous patients

Elena Preoteasa, Raluca Draghici, Cristina Teodora Preoteasa
Carol Davila University of Medicine and Pharmacy of Bucharest, Romania

Objectives: Edentulous patients present facial changes due to ageing, teeth loss, somatic features and dentures. This paper aims to derive practical guidelines for prosthetic design based on facial aesthetic measurements in edentulous patients.
Methods: The study was conducted on a group of 48 total edentulous patients - ages between 41 and 89 years old. The control group consisted of 90 young dentate patients - ages between 22 and 27 years. The same facial elements were measured and analyzed on front and profile images of patients.
Results: Lowered value of lower third of the face - middle third of the face ratio was observed for edentulous patients (ranks: edentulous=56.51, dentate=56,62; p=0,202) and also lowered value of ratio – lower third of the face / face height (ranks: edentulous=56.51, dentate=56,62; p=0,202). The ratio of upper lip to lower third increased in edentulous patients compared to dentate ones (ranks: edentulous=62,95, dentate=51,61; p=0,115). The facial profile of the edentulous patient tends to be straight or concave while dentate patients' profile is mostly convex.
Conclusion: Total edentulous patients exhibit variations in facial standards, in the ratio of facial elements and the ratio of soft to hard tissue. Specifically, there is a reduction of the lower third and a false skeletal class 3 that can have practical implications in evaluation and prosthetics procedures.

PP37

Condition of teeth and periodontal tissue in elderly home residents in Zagreb

Adnan Catovic, Mladen Klemencic, Boris Klajic, Dragutin Komar
School of dental medicine university of Zagreb, Zagreb, Croatia

Objectives: The aim of investigation was to obtain data on type and number of missing teeth as well as distribution of remaining teeth. Periodontal condition,caries and oral hygiene were examined also , to evaluate biomechanical potential of remaining teeth as crown or bridge abutments.
Methods: The group of 1826 elderly people in 10 nursing homes in the city of Zagreb.were examined in the period from 2005 to 2009 year.An oral examination was performed with a dental mirror and

graduated periodontal probe in a custom upright chair with mobile dental lamp.DMFT index and CPI index were recorded in specially designed questionairs.Oral hygiene was estimated with Simplified Oral Hygiene Index OHI-S, based upon the amount of debris and calculus occurring on six representative tooth surfaces.
Results: In the following study of total 1826 examinees, 72% were women and 28% men , classified by the age group. According to the CPI procedure of registration of periodontal status because of the lack of a large number of teeth a large number of sextants was excluded. The rarest excluded sextants were S2 , S5 and S6, then S4, and the most excluded sextants were S1 and S3.DMFT index was on average higher in women than in men in the same age group except in the youngest group /65 – 70 years/. Overall DMFT index was about 24 teeth (23.88), in women about 24 (24.39) and in males around 23 (22.58). Oral hygiene status evaluated by OHI-S index indicated that 62% of examines showed unsatisfactory, 23% good and 15% very good oral hygiene.
Conclusions: The study showed that most of the examinees lost their lateral teeth,expecially molars,with reduced chewing function.The oral hygiene was poor,62 % of examinees showed unsatisfactory results.It can be concluded that stomatognatic system of most examinees was deteriorated and a lot of preventive measurements are needed to be undertaken to improve the oral hygiene and state of the remaining teeth,befor prosthetic therapy.

PP38

Narrow dental implant supported overdenture – implant and prosthetic considerations

Elena Preoteasa, Laurentiu Florica, Cristina Teodora Preoteasa
Carol Davila University of Medicine and Pharmacy of Bucharest, Romania

Objective: Assessment of the specific coordinates of narrow dental implant supported overdenture. These elements are important to derive evidence based treatment principles for this treatment alternative.
Method: The sample included 13 mandibular edentulous patients, 4 men and 9 women, aged 54-85 years. They were treated by implant supported overdentures, using miniSky implants (Bredent), 2.8mm diameter, one-piece device with ball head. Implant loading was progressive. 7-10 days after implant placement the prostheses were adjusted and soft acrylic material applied. The matrixes were set after 3 months.
Results: There were made 13 implants supported overdentures, being applied 38 implants, most of them with a length of 14mm (n=19; 50%) or 12mm (n=13; 34%). 11 patients were previously treated by conventional dentures, but for 5 of them new dentures were fabricated due to the deficiencies noticed. Most of the individuals presented a poor general status (e.g., hypertension, diabetes). Alveolar ridge width was variable, with values between 2-8mm (mean=4.37mm). The average bone density was D3 (n=19) or D2 (n=16). Insertion torque varied between 25 and 40 Ncm (median=30). Regarding implant application, in 5 patients was necessary to make an incision and create a flap before insertion. In a subsequent 3 to 6 months follow up, patients exhibited a higher satisfaction rate over previous treatments, reporting improved mastication and positive feedback concerning overdenture equilibrium.
Conclusion: Narrow implant supported overdenture is a treatment alternative that usually fits the complete edentulous patient. There can be use 2 to 4 implants, inserted frequently without surgical flap, during a minimally invasive surgical phase. Despite patient's age, the associated systemic conditions and severe ridge resorption, implant supported overdentures generate high satisfaction results regarding device's equilibrium and denture's functionality. Even so, is important that the denture satisfy the quality criteria in order to obtain a quality outcome.

PP39

Side effects of dental treatments addressed according to the Risk Management methodology

Cristina Teodora Preoteasa, Ecaterina Ionescu, Elena Preoteasa, Irina Georgiana Grigore
Carol Davila University of Medicine and Pharmacy of Bucharest, Romania

Introduction: In order to ensure a high standard of medical care, analysis of possible side effects is mandatory.
Objective: This paper aimed to highlight the possibility to address the risks of medical act according to Risk Management principles.
Method: Risks are usually seen as unpredictable events, which may cause damage. The way risks are adressed in Risk Management was analysed.
Results: During treatment planning, side effects may be asseses according the phases described in Risk Management. At first, it is necessary to identify the risks that are associated with the medical intervention that is going to be applied. The next step is their assessment. The identified risks are analyzed by the probability of appearance and impact on the quality of healthcare intervention, in conjunction. The risk response is planned for those complications which, corresponding to the previous analysis, present the best chances to negatively influence the treatment outcome. In risk management there are described several techniques that can be applied individual or in conjunction (e.g., risk avoidance, risk mitigation, risk acceptance, risk transfer). For exemplification, side effect of orthodontic preprostethic treatment will be discussed.
Conclusions: The use of risk management in adressing the side effects of the medical act can't guarantee a health care intervention without side effects, but it may considerably decrease the associated complications.

PP40

Evaluation of (Ti,AL)N and TiN Coating on metal-porcelain bond strength

Seniha Baba, Safak Külünk, Sengül Danisman
Ondokuz mayıs university faculty of dentistry, Samsun, Turkey

Objectives: To evaluate the effects of different surface coating processes by reactive magnetron sputtering on bond strength of porcelain to metal.
Methods: 36 cast chromium-nickel alloy specimens were prepared following the protocol ISO 9693. The specimens were ground with silicon carbide paper to achieve smooth surfaces. After sandblasting with 50 µm aluminum oxide (Al_2O_3) particles, the chromium-nickel specimens were divided into two test and control groups (n=12). The first group was untreated and served as control (Group 1). Test groups were TiN (Group 2) and (Ti,Al)N (Group 3) coated by reactive magnetron sputtering technique. The surface changes and coating thicknesses were examined by ×500 magnification scanning electron microscope (SEM). Feldspathic porcelain was applied on the all specimen surfaces with the help of a plastic jig in a standardized way. All specimens were stored in distilled water at 37°C for 24 hours. The bond strength of specimens was tested using three point bending test with a universal testing machine. Data were statistically analyzed by one-way ANOVA with Tukey tests (a = 0.05).
Results: The mean bond strength of the groups were 117,67±23,48; 127,08±24,45 and 98,92±16,77 MPa; respectively. Coating procedure affected the bond strength ($P<0.05$). The highest bond strength values were obtained with TiN coating and the lowest bond strength values were obtained with (Ti,Al)N

coating. No significant differences were found between control and (Ti,Al)N coated group (P>0.05). Conclusion: Coating with TiN using reactive magnetron sputtering technique may be used as an alternative surface treatment method to improve metal-porcelain bonding strength. However, the results obtained from coating with (Ti,Al)N using the same method were disappointing.

PP41

Effects of laser treatments on surface roughness of zirconium-oxide ceramics

Göknil Ergün Kunt, Gözlem Ceylan, Bahar Esin Küçük, Pelin Özkan, Senay Canay
Mayıs unıversity, Ankara, Turkey

Objectives: The purpose of this study was to investigate the effect of different laser treatments (CO_2 and ER:YAG) on the surface roughness of yttrium stabilized tetragonal zirconia polycrystal (Y-TZP) ceramics. Forty eight specimens measuring 5x5x2 mm rectangular prism were produced from Y-TZP (Zirkonzahn) ceramic.
Methods: For the purpose of surface standardization, the specimens were gradually ground wet with 600 and 1200 grid silicon carbide papers for 10 seconds each on 300 rpm grinding machine. Specimens of each ceramic were randomly divided into eight groups (n=8) for control (Group-C), sandblasting with Al_2O_3 powder at 2.8 bar for 15 seconds through a nozzle distance of 10 mm (Group-S), two different CO_2 laser (Smart US-20D) treatments (Group-3W: 3W, 382 w/cal, Group-4W: 4W, 509w/cal) and four different Er:YAG laser (Fotona AT) treatments (Group-150SP: 150mJ,10-Hz; Group-150SSP: 150mJ,10-Hz; Group-300SP: 300mJ,10-Hz ; Group-300SSP: 300mJ,10-Hz) treatments. Surface roughness measurements (Ra) were performed using a profilometer. The data were analyzed with a one-way ANOVA, and mean values were compared by the Tukey HSD test (p=.05).
Results: According to the one-way ANOVA results, the highest Ra value was observed in Group-S and lowest Ra value was observed in Group-150SP (p<.01). Group-4W showed highest Ra value after sandblasting. There was no statistically significant differences among Group-C, Group-150SSP, Group-300SP, Group-300SSP and Group-3W.
Conclusion: Sandblasting is effective on surface treatment of zirconium-oxide ceramic. CO_2 laser treatment at 4W is an alternative method for surface roughening of zirconium oxide ceramic.

PP42

Bifid Mandibular condyle: a case report

Pinar Kursoglu, Zeynep Kilinc
Yeditepe University Faculty of Dentistry, Istanbul, Turkey

Bifid mandibular condyle is an uncommon condition, diagnosed radiographically. It may appear rather as a congenital or developmental anomaly. It is characterized by the duplicity of the head of the mandibular condyle. This presentation shows a case of bifid mandibular condyle in a 60-year-old woman who referred to our Orofacial pain clinic for gnatologic examination because of the unilateral pain on her face. The result of the clinical examination shows that the patient has a spasm on masseter muscle of the pain side. Examination revealed that the pain was not originated from temporomandibular joint, it was originated from muscle. A panaromic radiography revealed the bifid condyle anomaly on her left condyle head. To confirm this diagnosis cone beam radiography was taken. The aim of this case report is

to present a bifid condyle case and imply the difference between temporomandibular disorders and the bifid condyle anomaly based on treatment and diagnosis.

PP43

Prosthodontic Rehabilitation of a Patient with Neurasthenia: A Clinical Case Report

Ganimete Deda, Merita Kuçi, Flurije Aslani, Agim Islami
University Dental Clinical Center of Kosova, Prishtina, Kosova

Objectives: The aim of this study was to reduce symptoms of anxiety, neurasthenia, pain and problems associated with chewing and speech that are a consequence of poor quality of prosthodontic treatment. In this way we increase related quality of life through right prosthetic and psychiatric approach.
Materials and methods: A 62 years old female was referred to the University Dentistry Clinical Center, Prishtina, Kosova diagnosed with neurasthenia disease, psycho-pathological term to denote a condition with symptoms of fatigue, anxiety, and depressed mood. A patient had complete dentures that has been wearing for five years with very low vertical dimension of occlusion, bad retention and stability. During that period the patient's desire to wear dentures no matter of consequence confronted with fears, apprehensions, phobias, poor speech, and malposed musculature. Prosthodontic treatment with new complete dentures while respecting the following factors like muscular control, vertical dimension of occlusion, area of the impression surface of the denture, size or area of the occlusal table, morphology of the occlusal table and occlusal balance, following with psychiatrist treatment was our challenge.
Results: Six months follow-up showed that symptoms of neurasthenia was less pronounced after new prosthodontic treatment. Patient will be following in long term by psychiatrist. Discussion: Patient's desire for wearing complete dentures without considering of consequence of prosthodontic treatment caused symptoms of anxiety. The fact that denture with poor quality may be well tolerated in one patient, while a well-made one may be a failure in another one, has been a frequent source of confusion and frustration (Magnusson T.1986).The most frequently observed errors in denture construction related to retention and vertical and horizontal jaw relationships (Nafiseh A.A et al, 2007).
Conclusion: Working closely with a committed team where each member contributes their experience is the key to achieving an optimum out¬come for patients with poor quality of prosthodontic treatment.

PP44

Longitudinal study of removable partial dentures

Zana Lila-Krasniqi, Linda Dula, Kujtim Shala, Teuta Bicaj
Prosthetic dentistry, University of Prishtina, Medical Faculty, Prishtina, Kosova

Introduction: Removable Partial Dentures (RPD), although they serve as an excellent means of replacing missing teeth, may cause a serious threat to a patient's remaining teeth. RPD's design should be based for each individual patient on the state of the remaining teeth and the status of his oral health.
Objectives: The aim of our study was to evaluate and analyze the association between the wearing RPD and the differences that occur on the periodontal health of abutment teeth for a period between one to five or more years following denture placement.
Material and Methods: A total of 63 RPD's participated in this study, which 26 were RPDs from acrylic and 37 RPDs from framework construction. The examined patients had 29 maxilary and 34 mandibular

RPD wearers. During this longitudinal study, periodontal health was assessed in correlation with the design, dental support of the dentures and oral hygiene. The data was collected from survey questionnaires from patients with RPDs fitted in University Dentistry Clinical Center, Prishtina, Kosova. Abutment teeth were assessed for Plaque Index (PI) by Silness and Loe, Calculus Index (CI) by Greene-Vermilion. The statistical analysis was performed using X^2-test, Mann-Whitney Test and Kruskal-Wallis test.
Results: In our study statistical analysis indicated that wearing RPD's was found to be associated with considerable periodontal changes. Therefore the similar results were found in Brazillian community. Suzely Adas Saliba Moimaz, 2006). Plaque index, Calculus index were higher at quadrangular, triangular support dentures. Low dentures hygiene was present at all types of RPD's. (B.Wagner, M. Kern 2000).
Conclusion: Consequences are evident but a significant percentage of cases might have been prevented if plaque control interventions had been implemented. Considering the importance of RPD's in oral rehabilitation in Kosovo, we think that appropriate design, good motivation and regular recall appointments plays an important role of periodontal health of remaining teeth.

PP45

Multidisciplinary management of Oligodontia in a adult patient: Case Report

Linda Dula, Ganimete Deda, Genc Qilerxhiu
Prosthetic dentistry, University of Prishtina, Medical Faculty, Prishtina, Kosova

Objectives: Hipodontia of one or more teeth is one of the most common human developmental anomalies. The aim of this study was to show the functional and aesthetic moment gained with a use of movement of maxillary four incisors and the reconstruction of the deep and open distal bite with fix prosthetic metal-porcelain bridge.
Materials and methods: A 19 years old male patient was diagnosed with rare oligodontia (absence of 9 teeth) as maxillary four premolars, second maxillary molars, second premolars in mandible and right central mandibular incisor. Also due to the lack of premolars in maxilla was observed a huge gap between lateral incisor and canine in both sides. Deep frontal bite and open lateral bite as well were observed. Mobile orthodontic appliance was used to move mesially the lateral and central incisors in maxilla in order to close diastema and gain space distally from lateral incisors. Followed by a 8 months of orthodontic treatment the teeth were moved and than with immediately a prosthodontic treatment bridge from metal-porcelain in maxilla and mandible we set vertical dimension of occlusion and in this way we improved deep and open distal bite.
Results: Immediate aesthetic improvement was achieved with short orthodontic therapy and satisfactory prosthetic solution. This contributed to increased functional masticatory effect and aesthetic moment of the patient.
Discussion: Most of cases with oligodontia seek orthodontic treatment because of malocclusion. Prosthetic replacements, whether implants or bridges, are an essential part of the orthodontic retention and improve the functional and aesthetic appearance (Proffit WR, Fields Jr HW, 2000).
Conclusion: Working closely with a committed team where each member contributes their expertise is the key to achieving an optimum out¬come for oligodontia patients. A multidisciplinary approach is essential to achieve better function and aesthetics in such cases.

PP46

Effect of repeated firings on shear bond strength of veneering ceramic to alumina

Burçin Karatasli, Pinar Gültekin, Çetin Sevük
Istanbul Univ. Faculty of Dentistry, Department of Prosthodontics, Istanbul, Turkey

Objectives: Most cracks in multimaterial structures are initiated at the interface of the core and ceramic veneer. The aim of this study was to evaluate the bond strength of veneering ceramic to alumina and the core/veneer interface quality after different number of firings.
Methods: Thirty Turkom-Cera (Turkom-Ceramic (M), Malaysia) disc-shaped alumina specimens of 7 mm diameter and 5 mm height were fabricated forming three groups of ten specimens each with ceramic veneer layer (Vintage AL Shofu, Japan) of 4 mm diameter and 2 mm height. 1,3 and 5 times of firings were performed with porcelain furnace (Programat Ivoclar Vivadent AG, Liechtenstein) for the groups respectively during veneering process. The specimens were embedded in acrylic resin and subjected to shear bond test in a universal testing machine (Shimadzu, Japan) at a crosshead speed of 0.5 mm/min. Values for definitive failure were recorded in MPa. One-way ANOVA and Dunn's tests were used to analyse the data.
Results: The mean shear bond strength values were 27.93±2.54 MPa, 30.07±4.36 MPa and 18.54±5.69 MPa for the groups respectively. The difference between the first and second group was not statistically significant while the bond strength was found to decrease dramatically after 5 firings. SEM analysis showed apparent adhesion between the core and the veneering material for 1 and 3 times firing; however some defects and porosities were apparent in the veneering ceramic of 5 times fired group specimens supporting the shear bond testing results.
Conclusion: Statistical analysis revealed that, bond strength of veneering ceramic to alumina was significantly influenced by number of firings. Increasing number of firings more than 3 times can lead to debonding and failure at the core/veneer interface of alumina.

PP47

Sinus floor elevation and penetration depth

Urs Kremer Hovinga, Stina van Enckevoort, Norbert Enkling, Joannis Katsoulis, Regina Mericske-Stern
Department of Prosthodontics of the ZMK of the University of Berne, Bern, Switzerland

Background: Limited bone height for implant placement in the posterior maxilla is a frequent anatomical feature after tooth loss. A predictable treatment option nowadays is the Sinus Floor Elevation (SFE). Three different methods are applied: a one stage procedure with an internal, transcrestal SFE and simultaneous implant placement (A), a one stage procedure with a lateral fenestration for SFE and simultaneous implant placement (B) and the two stage procedure with a lateral SFE and staged implant placement (C).
Aim: The aim of this retrospective study was to measure the gain of height in relation to the chosen technique.
Material & Methods: From 51 well-maintained service patients who had received implant prosthetic treatment in the maxilla radiographs were available for clinical evaluation. The implants had been placed during a time-period of three years. The graft material was particulated xenogen material (Bio OSS), sometimes mixed with harvested bone chips from the surgical site. All implant sites were radiographically examined before and after SFE. The radiographs were digitized. Two calibrated examiners detected the sinus floor and the penetration depth of the implant into the sinus was

measured. Statistical analysis: ANOVA testing (Bonferoni correction) was used for comparison of the three methods.
Results: Altogether 83 implants could be analyzed. The number of implants according to the technique was: A=31 (37%), B=21 (26%), C=31 (37%). The overall penetration depth of the implants was: A= 4mm(range 3.1-4.7mm), B=6,5mm (range 5.0-7.8mm) and C=6.8mm (range 5.7-7.8mm) into the sinus. The difference between methods A & B/C was statistically significant, whereas the difference between B & C was not measurable.
Conclusion: The transcrestal approach for the SFE is a good method to gain 4mm of bone. The option of a one- or two-stage approach was dependent on remaining bone height and expected primary stability.

PP48

Dysphagia in care home residents, assessed by speech therapists, and it's feasible risk factors

Van der Maarel-Wierink CD, van der Putten GJ, De Visschere LMJ, Bronkhorst EM, de Baat C, Schols JMGA
Radboud University Nijmegen Medical Centre, The Netherlands

Objective: First, to determine the prevalence of dysphagia and, consequently, aspiration risk in physically-disabled and cognitively-impaired care home residents in the Netherlands, assessed by speech therapists. Second, to determine feasible associations of dysphagia with Parkinson's disease, cerebrovascular disease, dementia, and using antipsychotics, proton pump inhibitors, and ACE-inhibitors.
Design: Cross-sectional study
Subjects and setting: 115 Primarily physically-disabled and 88 primarily cognitively-impaired care home residents aged 60 years or older.
Measurements: Five experienced speech therapists assessed systematically all care home residents aged 60 years or older in the first week after admission to the care home. First, the speech therapists interviewed the residents. Second, a swallowing observation was performed. Several residents' data were also collected from the medical records, including age, gender, status of admission 'primarily physically disabled' or 'primarily cognitively impaired' and registered diagnoses.
Results: The speech therapists assessed in 43 (21.2%) residents the presence of dysphagia. The difference in prevalence of dysphagia between physically-disabled residents (26.1%) and cognitively-impaired residents (14.8%) was not statistically significant. The final prediction model for dysphagia, using multivariate logistic regression analysis, showed Parkinson's disease as a significant factor (OR = 5.11; CI 1.49 … 17.52). No significant associations of dysphagia with cerebrovascular disease, dementia, and using antipsychotics, proton pump inhibitors, and ACE-inhibitors were found.
Conclusion: It seems justified to conclude that dysphagia and, consequently, aspiration risk, assessed by speech therapists, is a relevant care problem in primarily physically-disabled and also in primarily cognitively-impaired care home residents in the Netherlands. Parkinson's disease was the only significant predicting factor for dysphagia.

PP49

Full arch screwed prosthesis with NobelDirect™ implants for immediate loading

Rafael Martínez-de Fuentes, Pedro Infante-Cossio,Bruno pereira-da Silva, Emilio Jiménez-Castellanos
University of Seville. Faculty of Dentistry, Seville, Spain

NobelDirectTM is a one-piece implant designed for single or multiple cement retained restorations with immediate loading, preferable aesthetic. However, no impression copings, or plastic components, or prosthetic abutments have been designed for this type of implant to fix a screw retained prosthesis over the implants. Purpose The purpose of this abstract was to present a prosthetic protocol for immediate loading over four NobelDirect TM implants retaining a fixed screwed prosthesis in completely edentulous mandible. Materials and methods A 47-year-old male patient, with a completely edentulous mandible, consulted for implant treatment. Firstly, a complete conventional denture was fabricated for the patient to wear during the 3 months prior to the insertion of the implants, which was later used as a surgical guide. Four implants NobelDirect TM RP 13mm were inserted for immediate loading (divergence between implants was below 10º and primary stability above 40Ncm). Immediately after the surgery, the patient's denture was modified to be used as a screw retained prosthesis over the 4 NobelDirect TM implants. The laboratory and clinical procedure were as follow. Placement of a screw on the internal connection on the apical end of the abutment, which is used for the manufacturing process and to accommodate the Implant Driver. Wax-up and posterior cast of four copings, which adjust over the fixed smooth abutment, relining the abutments with Duralay TM. The prosthetic procedure started after suturing. The patient existing prosthesis was fixed to the metal copings over NobelDirect´s abutments using a self-curing acrylic.
Results: The results 3 years after placement of implants and fixed prosthesis were very good. The construction of a fixed screwed prosthesis over the NobelDirect™ implants optimized the immediate loading process versus the cemented modality, as retrievability for further possible modifications, repairs and maintenance was possible, eliminating the problems that often occur with cements at a surgical site.

PP50

Micro leakage , posterior composite resin restoration, Ariston PHc composite

Kais R. Abdul Majeed
International Islamic University Malaysia, Kuantan, Malaysia

Microleakage contributes to post- operative sensitivity, recurrent decay and failure of restoration. This study is to evaluate the ability of composite resin to reduce microleakage by release of ions like Ariston PHc and Tetric ceram composite. Method 72 Cl V cavity were prepared in 36 teeth (extracted upper first premolar), one buccally and one palatally in each tooth, the cavities were located on the middle third of the crown. The teeth were randomly divided into three groups (24 cavities for each group); Group A: filled with Helio- molar radiopaque composite. Group B: filled with Tetric ceram composite. Group C: filled with Ariston PHc composite. After the teeth were filled, they were restored in normal physiological saline in an incubator at 37 Co . one third of each group (8 cavities) were thermocycled for one day (30 cycle) , 2nd third thermocycled for 10 days (300 cycle) , and the last third thermocycled for 100 days (3000 cycle) , each cycle mean immersion of teeth in cold water 5 Co for 30 second than immersed in hot water 55 Co for 30 second. The apices of the teeth were blocked with cold cute acrylic resin and the

crowns were coated with two layers of nail varnish except 1 mm around restoration. The teeth were than immersed in the 0.5 % basic fuchsin dye for 24 hours in 37 Coin incubators, and they were longitudinally buccolingually and the extent of the dye penetration was recorded. Results The results revealed that Tetric-ceram composite reduce the leakage at tooth-resin interface, and dye penetration was reducing with time of aging. Micro leakage , posterior composite resin restoration, Ariston PHc composite

PP51

The evaluation of microleakage in posterior composite restoration

Kais R. Abdul Majeed, Ammar A. Mustafa, Jukka Pekka Matinlinna
International Islamic University Malaysia, Kuantan, Malaysia

Microleakage contributes to post- operative sensitivity, recurrent decay and failure of restoration.
Objectives: The aim of this study is to evaluate the ability of composite resin to reduce microleakage by release of ions like Ariston pHc and Tetric ceram composite.
Method: 72 Cl V cavity were prepared in 36 teeth (extracted upper first premolar), one buccally and one palatally in each tooth, the cavities were located on the middle third of the crown. The teeth were randomly divided into three groups (24 cavities for each group); Group A: filled with Helio- molar radiopaque composite. Group B: filled with Tetric ceram composite. Group C: filled with Ariston PHc composite. After the teeth were filled, they were restored in normal physiological saline in an incubator at 37 Co . one third of each group (8 cavities) were thermocycled for one day (30 cycle) , 2nd third thermocycled for 10 days (300 cycle) , and the last third thermocycled for 100 days (3000 cycle) , each cycle mean immersion of teeth in cold water 5 Co for 30 second than immersed in hot water 55 Co for 30 second. The apices of the teeth were blocked with cold cute acrylic resin and the crowns were coated with two layers of nail varnish except 1 mm around restoration. The teeth were than immersed in the 0.5 % basic fuchsin dye for 24 hours in 37 Coin incubators, and they were longitudinally buccolingually and the extent of the dye penetration was recorded.
Results: The results revealed that Tetric-ceram composite reduce the leakage at tooth-resin interface, and dye penetration was reducing with time of aging.
Conclusions: None of the materials tested was able to eliminate completely the microleakage
Keywords: Micro leakage, posterior composite resin restoration, Ariston pHc composite Research grant 03 EDW B 11-139-0617

PP52

Guidelines for the development of e-modules for continuing professional development in Gerodontology

Anastassia Kossioni, Argyro Kavadella, Kostas Tsiklakis, Angelos Bakas
University of Athens Dental School, Athens, Greece

Objectives: Continuing Professional Development (CPD) is one of the major sources of Gerodontology training in Europe. The shortage of trained educators supports the use of e-learning to be able to educate large numbers of practicing dentists and to facilitate convergence in the care for the elderly in Europe. One of the aims of the DentCPD project, co- funded by the European Commission and the Association for Dental Education in Europe (ADEE) is to describe the guidelines for the development

of electronic teaching modules for dental CPD. This study describes suggestions for the application of these guidelines in Gerodontology
Method: An experts' group was created including dental academics, distance-learning professionals, adult education experts and a technical developer. The group performed a literature review and many discussions and finally suggested the guidelines for the development of electronic dental CPD teaching modules.
Results: The learning objectives for Gerodontology e-modules must be related to the agreed learning objectives by the ECG and other scientific organisations and to the needs of the local societies. They must present clear study instructions indicating from the beginning any difficulties the learner could meet and clear learning objectives. Referral to personal experiences when treating the elderly is important. Examples and case studies must be provided (eg. prosthetic management of a demented person) as well as links to other sources (eg. articles, guidelines). Summaries and self-assessment activities must be included to enhance interactivity. A page format, graphics, appropriate fonts and colours must be used.
Conclusion: CPD e-modules in Gerodontology must be developed by Dental Schools and Gerodontology Societies to support further training of dentists in the field. These modules should follow the suggested guidelines which are based on the principles of adult education and of designing distance learning and e-learning material (Project supported by the Erasmus-LLP project, DentCPD, ref: 509961-LLP-1-2010-1-UK-ERASMUS-EMHE).

PP53

Implant-retained nasal prosthesis

Ozlem Kara, Necla Demir, Nilgun Ozturk, Mustafa Keskin
Selcuk University Faculty of Dentistry, Department Of Prosthesis, Konya, Turkey

Malignant tumours of the nose occasionally require rhinectomy. Facial defects can cause not only functional problems but also some serious pyschological problems that could cause the individual to avoid social contact. In view of this, the first aim of maxillofacial rehabilitation should be solving esthetic problems. Implant retained prostheses can give good aesthetic results. Predictable biomechanical retention of nasal prostheses can be achieved using osseointegrated implants and intra-oral and craniofacial implants have been used previously. These prostheses are tissue compatible, simple in design and easy to place, can be worn independently of spectacles and can in the majority of cases be provided soon after surgical excision. In this case report, a nasal prosthesis was fabricated for a patient who lost his nose due to the basal cell carcinoma. Extraoral implants and magnets retention for the proper connection of the nasal prosthesis to implant were used. This prosthesis was acceptable to the patient because of excellent support, retentive abilities and the patient's appearance.

PP54

Multidisciplinary rehabilitation of a patient with unilateral posterior reduced interocclusal height

Simel Ayyildiz, Sila Gokce, Umit Karacayli, Serkan Gorgulu
Gulhane Mlitary Medical Academy Center of Dental Sciences, Department of Prosthodontics, Ankara, Turkey

Objectives: The objective of this study is the rehabilitation of a middle-aged patient who had unilateral

edentulisim with reduced posterior interocclusal height with a fixed partil denture.
Material and Methods: A 48- year-old female patient had referred to the clinic for prosthetic rehabilitation. In clinical examination there was a serious interocclusal distance loss unilaterally at right lower posterior sight. The upper right premolars and molars were extruded through the edentulous lower crest as the lower teeth were extracted 10-years ago. The rehabilitation of edentulous region was impossible with any kind of prosthetic restorations. For this reason the upper right premolar and molar teeth were intruded orthodontically by the help of mini implants which were placed to the buccal and palatinal bone of the maxilla. All right premolars and the first molar were bonded with brackets and the second molar was banded. Clear elastic bands were passed over the teeth and intrusion force was transmitted by hanging them over the mini implants. Three months later 3 dental implants were placed in lower right edentulous region. After another three months the brackets and band were debonded and 3-unit implant over metal-porcelain restorations were fabricated.
Results: Rehabilitation of the unilateral edentulous region was accomplished with a fixed partial denture. The functional and esthetic need of the patient was resolved in a most convenient way. Discussion: In literature there are few studies about the rehabilitation of the unilateral edentulisim with orthodontic intrusion and implant over fixed partial denture.
Conclusion: Multidisciplinary works in dentistry entails many different rehabilitation alternatives both for patient and clinicians.

PP55

Effect of Novel Omega3-Based Implant Coating on Bone Healing

Ammar A. Mustafa, Nazih Mustafa, Muhannad Kashmoola, Jukka Matinlinna
International Islamic University Malaysia, Kuantan, Malaysia

Objectives: this study was designed and conducted to evaluate the effect of a novel Eicosapentaenoic acid-based implant coating material on the healing process of rabbits' bone.
Methodology: An experimental novel coating material based on Omega-3 in form of Eicosapentaenoic acid was prepared to evaluate the healing process of the surrounding bone in 30 white New Zealand Male rabbits. Ethical committee approval was obtained from the University. Eicosapentaenoic acid has been reported to have positive effects on bone metabolism. The experimental (test) material was applied to a prepared hole in the zygomatic bone of the rabbits in one side whereas the zygomatic bone on the other side was prepared with no application of test-material to act as a control. Immediately after the surgical operation, the animals were given long acting Benzathin penicillin (400.000 I.U) i.m. as a single dose. The specimens were taken from the animals at 3, 7 and 14 days after surgery. The specimens were sectioned and examined under light microscopy for osteoblast activity and bone formation.
Results: The histopathology results showed an obvious bone formation at the test-area after 7 days of operation. Most of the specimens showed comprehensible healing at the test-area compared to control areas in day 14 after the application of the novel coating material.
Conclusion: The new material is a promising implant coating that can be used to increase the healing process of the bone surrounding implant fixtures and henceforth, it may have an impact on shortening the time needed to achieve osseointegration process. Acknowledgement: the research team would like to thank Research Management Center, International Islamic University Malaysia for funding this work through grant endowment B 12-370-0848.

PP56

Diagnosis and Esthetic Functional Rehabilitation of Two Patients with Dental Fluorosis:Two Case Repo

Kader Tatar, Ali ihsan Zengingül, Neslihan Cokuk
University of Yüzüncü Yil, Department of Prosthodontics, Van, Turkey

Objective: Dental fluorosis is a developmental disturbance of dental enamel caused by excessive exposure to high concentrations of fluoride during tooth development.The greatest concern in dental fluorosis is esthetic changes in the permanent dentition,requiring treatment due to esthetical,functional and related psychosocial problems.The aim was to properly diagnose the case and provide good function and esthetics to the patients.
Case Report: Laminate veneer restorations can be processed as an alternative treatment modality due to conservative design,harmless to teeth and excellent esthetic options for esthetic restorations of anterior teeth.Teeth of two young sisters with have complaints with their upper anterior teeth were restored with laminate veneers(direct and indirect techniques).
Conclusion: Treatment with laminate veneers satisfied the esthetic requirements without sacrificing the tooth structure.

PP57

Rehabilitation of the oblique fractured tooth by polyethylene fiber strip

Baris Goktas, Mert Gokay Eroglu, Gulnur Isil Turk, Andac Barkin Bavbek
University of Yüzüncü Yil, Department of Prosthodontics, Van, Turkey

Objectives: Rehabilitating the catastrophic root-crown fracture of a tooth whether by the extraction of the tooth or improving the survival rate with various restorative strategies is a hard decision to make for the clinician. The extraction is supposed to be an exact solution by eliminating the potential risks but causes aesthetic problems, alveolar resorptions and sophisticated rehabilitation approaches. The aim of this study is to expose a non-invasive technique to stabilize the fragments of the oblique fractured tooth by the Polyethylene Fiber Strip (PFS) which shows similar elastic modulus with the dentin structure.
Methods: A 30-year-old patient with a trauma of left maxillary central incisor was referred to Faculty of Dentistry, Yuzuncu Yil University. An oblique crown-root fracture localized from the middle of lingual surface to the buccal surface of root where the sound root surface was observed below 3-4 mm from the alveolar bone crest was detected after examinations. An endodontic treatment was immediately finished and a hard plastic sheet (Ultradent® Clear Treatment Splint Sheets) was constructed for the immobilization of the fragments of the tooth under occlusal forces. After healing period, post cavity was established and two horizontal slots at post-hole through aproximal surface were prepared at gingival third of the coronal part of the tooth. The post cavity was cleaned and self-adhesive resin cement (Clearfill SA Cement) was applied into root-canal and slots. A PFS (Ribbond) with 2mm thickness was inserted into the post cavity and excess parts were laid out onto the slots. After curing period, the reinforced surfaces were restorated with a resin composite (Filtek Supreme Plus).
Results: An endodontic anchorage sustained the structural integrity of the oblique fractured tooth by the support of the PFS.
Conclusion: The mobility of the fragments was kept down and a monoblock structure was reconstructed by dentin like structures.

PP58

Multidisciplinary approach of Cleidocranial Dysplasia - case report

Merita Kuci, Ferijale Perjuci, Krenare Agani, Flurije Hoxha, Ganimete Deda
University Dental Clinical Center of Kosova, Prishtina, Kosova

Introduction Cleidocranial Dysplasia is a disease of unknown etiology, characterized by hypoplasic or complete absence of clavicles, larger transversal skull diameter and delayed ossification of fontanels and other skull sutures, followed by disorder of the dental arch by the presence of supernumerary and impacted teeth. The aim of this report is presentation of surgical-orthodontic-prosthodontic multidisciplinary approach in the treatment of a patient with Cleidocranial Dysplasia syndrome.
Method: A 22 year old female patient was treated step by step. At the age of 12, the patient had in the upper jaw persistent primary central incisors and canine teeth. In the lower jaw almost all primary teeth were persistent and two permanent first molars were present. Panoramic X-ray showed a large number of supernumerary and impacted teeth, mainly in the lower jaw. In consultation with the orthodontist, the primary teeth were extracted; supernumerary impacted teeth with unfavorable position were successively surgically extracted, since they were considered as a barrier for eruption of other impacted teeth which had better morphology and position. In the upper jaw two impacted central incisors were surgically exposed and forced orthodontic eruption and alignment continued over several years. In the lower jaw five supernumerary teeth were surgically extracted, followed by surgical exposure of seven teeth and traction hooks were placed to stimulate their vertical eruption. Thus, we gained sufficient number of bars for fixed prosthodontic rehabilitation.
Results: Alignment of teeth in the upper jaw was achieved by surgical and orthodontic approaches. Because of the smaller number of erupted teeth in the lower jaw, the patient was treated with fixed prosthodontic rehabilitation.
Conclusion: Good collaboration of dental specialties is very important for good outcomes in the patient with Cleidocranial Dysplasia. Multidisciplinary approach in the proper time in the patients with Cleidocranial Dysplasia syndrome offers better function, aesthetic and better life quality for the patient.

PP59

A hygienic prosthetic design for a unilateral cleft-palate patient

Abdurrahman Sahinbas, Rahmi Eken, Abdullah Seckin, Ertugrul, Andac Barkin Bavbek
University of Yüzüncü Yil, Department of Prosthodontics, Van, Turkey

Objectives: The prosthetic approaches for the cleft and palate patient must improve occlusal function and dental aesthetics better and not worsen the oral care. The aim of this study is to introduce a prosthetic approach for a unilateral cleft and palate patient considering the cleansing efficiency of both prosthesis and soft tissues on the defect area.
Methods: A 27-year-old male patient was referred to the Department of Prosthodontics with an unaesthetic appearance of his present fixed partial denture (FPD). A mucosal fistula localized on the left pre-maxillary region in the maxillary dental arch through the nasal cavity was observed in the intra-oral examination. The patient had been operated for four times to repair the unilaterally cleft lift and palate deformity according to his anamnesis. In that period upper right second premolar, left central and lateral incisors, premolars and first molar had been extracted due to insufficient oral hygiene. The canine which was adjacent to the remaining fistula had no mobility according to Miller Index although the bone resorption was obvious.

Results: The rehabilitation strategy was taken into account in two stages. Left posterior edentulous space was rehabilitated with a three-unit implant supported FPD. The left canine was sustained with a multi-unit FPD due to the amount of bone support around the deformity. The metal framework of the lateral pontic, localized in the cleft area, was modified to facilitate the cleaning ability of both oral surfaces of the fistula and adjacent pontics. The multi-unit FPD framework was fused with porcelain except the lateral pontic. A second porcelain-fused-metal representing the lateral, was overlapped to the lateral pontic by an attachment system.
Conclusion: Aesthetic and functional outcomes were gained whereas manipulation of the dental hygiene products around the cleft area was facilitated.

PP60

A systematic review of the use of different implant abutments for single-tooth implant restorations

Esra Çakir, Burçin Karatasli, Güliz Kilinçoglu, Çetin Sevük
Istanbul University, Faculty of Dentistry, Department of Fixed Prosthodontics, Istanbul, Turkey

Single tooth replacement in the esthetic zone using implant-supported restorations can be challenging, especially when facing limited interdental-interocclusal space or suboptimal implant-crown angles. Traditionally, implant abutments were fabricated from commercially pure titanium due to its well-documented biocompatibility and mechanical properties. All- ceramic restorations have become popular for restoring teeth that require an esthetic result. Dental implants have been restored with all ceramic restorations in hope that a superior esthetic outcome will result, compared with a metal ceramic restoration. The optical properties of all-ceramic restorations offer a decisive advantage when compared to titanium abutments. This review includes past and present developments in esthetic abutments.

PP61

Effect of fiber mesh and acrylic resin thickness on fracture load of implant-supported overdentures

Pinar Gultekin, Umut Cakan, B. Alper Gultekin
Istanbul University, Faculty of Dentistry Department of Prosthodontics, Istanbul, Turkey

Objectives: Fractures of implant supported overdentures occur in the denture base through the abutments. The purpose of this study was to evaluate the influence of preimpregnated fiber mesh and acrylic resin thickness in resisting acrylic resin fracture around ball attachments.
Methods: A model was developed to simulate the clinical situation of an implant supported overdenture with varying acrylic resin thickness (1.5 or 3.0 mm) with or without preimpregnated fiber mesh reinforcement. Forty specimens with an underlying ball attachment were divided into 4 groups (n=10): 1.5 mm acrylic resin without fiber mesh identified as thin with no fiber mesh (TN-NF); 1.5 mm acrylic resin with fiber mesh identified as thin with fiber mesh (TN-WF); 3.0 mm acrylic resin without fiber mesh identified as thick with no fiber mesh (TK-NF); and 3.0 mm acrylic resin with fiber identified as thick with fiber mesh (TK-WF). All specimens were submitted to a 3-point bending test and fracture loads (N) were analyzed with a two-way ANOVA and Tukey's post hoc test (a=.05).
Results: The test results revealed significant differences in fracture load among the 4 groups, with significant effects from both thickness ($p<.001$) and inclusion of the fiber mesh ($p<.001$). No interaction between mesh and thickness was observed. The fracture load of the groups were all statistically different

in order as TK-WF, TK-NF, TN-WF, and TN-NF from highest to lowest test results ($p<.001$).
Conclusion: The fracture load of an acrylic resin implant-supported overdenture can be significantly increased by the addition of preimpregnated fiber mesh. Increasing acrylic thickness had similar effect with fiber reinforcement, thus as a clinical recommendation, reinforcement with fiber mesh could be preferred to strengthen the implant supported overdentures in case of limited space.

PP62

Full mouth rehabilitation of a patient with attrited dentition: A case report

Sertac Bayrak, Mustafa Kocacikli
Gazi University Faculty Of Dentistry, Ankara, Turkey

Objective: Tooth tissue loss from bruxism has been demonstrated to be associated with various dental problems such as tooth sensitivity, excessive reduction of clinical crown height, and possible changes of occlusal relationship. Rehabilitating a patient with bruxism-associated tooth tissue loss to an acceptable standard of oral health is clinically demanding and requires careful diagnosis and proper treatment planning. One of the most demanding aspects of such cases involves the development of sufficient restorative space, while simultaneously fulfilling aesthetic, occlusal, and functional parameters essential to long-term success. Success in maintaining severe wear cases depends on the development of proper anterior guidance to allow for posterior disclusion within the patient's envelope of function.
Method: In this case 42-year-old female, who had the loss of anterior guidance, the wear of dentition, and the reduction of the vertical dimension. Occlusal overlay splint was used after the decision of increasing vertical dimension by anatomical landmark, facial and physiologic measurement. Once the compatibility of the new vertical dimension had been confirmed, interim fixed restoration and the permanent reconstruction was initiated.
Results: This case reports that a satisfactory clinical result was achieved by restoring the vertical dimension with an improvement in esthetics and function.
Conclusion: Management of patients with a worn dentition is complex and difficult. Raising vertical dimension of occlusion using removable occlusal overlay splint and following fixed provisional based on accurate diagnosis showed successful full mouth rehabilitation for attrited dentition.

PP63

Therapeutic options for internal derangements of the TMJ

Eva Piehslinger, Martina Schmid-Schwap, Margit Bristela, Astrid Skolka
Bernhard Gottlieb Universitätszahnklinik, Vienna, Austria

In TMJ patients with disc dislocation, clinical and instrumental diagnosis are of utmost importance. Subjective anamnestic index, muscle palpation and differential diagnosis of clicking phenomena and digital tracing of TMJ movements are of significance for the clinician. The anamnestic investigation of patients with anterior disc displacement and grading with subjective anamnestic index will be demonstrated. The clinical procedure of muscle palpation of the temporalis muscles, the masseter muscles, the lateral and medial pterygoid muscles, the sternocleidoideus muscles, the supra- and infrahyoid muscles, the atlanto-occipital region and the TMJ will be discussed. Differential diagnosis of clicking can be either achieved by means of manual techniques or by instrumental diagnosis with

computerized tracings of TMJ movements. Another important means for Diagnosis of disc dislocations is MRI. Indication and therapy with anterior repositioning splints, physiotherapy and consecutive therapy after successful splint therapy will be presented. Making of an anterior repositioning splint as well as physiotherapeutic interventions and possibilities of consecutive therapy like orthodontic treatment and prosthetic rehabilitation will be discussed.

PP64

Electronic health record system for the temporomandibular joint disorders

Radek Hippmann, Tatjana Dostalova, Michaela Seydlova
Charles University, 2nd Medical Faculty, Department of Paediatric Stomatology, Prague, Czech Republic

Objectives: Temporomandibular joint is one of the most complex joints and temporomandibular joint disorders (TMD) represent wide group of symptoms. Their multifactorial ethiology and connection with psychosocial factors is proved. These facts make from TMD very complicated group for the electronic health record (EHR) system development. The main task of this EHR system creation is complexity. This complex information serve for the proper diagnosis statement and therapy plan assessment.
Materials and methods: The main goal of this work was to reach the higher entirety of the previous EHR system (DentCross). It has been completed with record medium for the temporomandibular joint disorders (TMD). As a basic classification schema has been used division by the American Academy of Orofacial Pain (AAOP). The knowledge database has been created in the MUDR KB Editor application. On this basis has been constructed relational database and user record application in programs MUDR EHR a MUDRLite. This user application has been completed by function of the determination of probable diagnosis (AAOP classification) („custom“ component). For the component creation has been used MS Visual Studio.NET 2003. The whole component is programmed in C# language and is interconnected with MUDRLite system.
Results: The TMD knowledge database includes all investigation and therapy modalities of TMD and leads to the relational database model. Based on this model was created graphical user interface (electronic form), where it is possible to record all TMD dates (anamnesis, investigation, therapy etc.). The determination of probable diagnosis by the system („custom“ component) is based on the characteristic dates and should help in the diagnosis statement.
Conclusions: The TMD therapy is difficult and it is highly necessary to have complete information about the patient. Our EHR system provides these complex dates and serves in the final diagnosing.

PP65

An Alternative Material for Gingival Prosthesis in Periodontally Compromised Patients

Umut Cakan, Nur Akboyun Balci, Becen Demir,
Medipol University, Faculty of Dentistry, Department of Prosthodontics, Istanbul, Turkey

Objectives: Compromised gingival health and advanced periodontal diseases generally cause esthetic and functional problems such as gingival recession, papilla loss, dark site formation in the interdental area and pathological tooth migration at the anterior area. Prosthetic restorations such as removable gingival masks can be used when surgical or regenerative procedures were considered unpredictable or impossible.

Methods: Two cases who had recently undergone gingival surgery to the maxillary and mandibular teeth were presented. The surgery improved their periodontal condition but left the patients with a significant loss of papillae. The patients were having phonetic problems and unhappy with the esthetic appearance of the "elongated teeth." The decision was made to fabricate removable gingival prosthesis to close the spaces between anterior teeth. Impressions were made using polyether impression material and custom trays. Poured in type IV die stone and gingival prostheses were waxed up and processed using single component permanent soft denture reliner (Molloplast-B®, Detax). Retention was achieved with minor interproximal undercuts where the prostheses had enough flexibility to engage. Prostheses were considered as thin, comfortable and highly compatible by the patients. Different materials can be used for fabrication of gingival prostheses whereas pink autocure and heat-cured acrylics, thermoplastic acrylics, as well as silicone-based soft materials. Selection of the method and proper material depends on the market availability, economical and clinical conditions.
Results: Esthetic demands of the patients were fulfilled and the clinical deficits were solved with the prostheses. This presentation hereby describes the fabrication steps of flexible gingival prostheses in two cases, using permanent soft denture reliner as an alternative material.
Conclusion: In case of having difficulties providing the materials specifically produced, permanent soft denture reliners can be a viable alternative for fabrication of flexible gingival prosthesis.

PP66

Re-establishing esthetics and function using existing implants; A clinical report

Umut Cakan, Pinar Gültekin, B. Alper Gültekin
Medipol University, Faculty of Dentistry, Department of Prosthodontics, Istanbul, Turkey

Objectives:, Endosseus dental implants have been increasingly used over the past few decades with predictable results. Successful outcomes can be expected when implants are placed in bone of good quality and when proper surgical protocol is followed. On the other hand, problems associated with the suprastructural components such as abutment-screw fractures and loosening, negatively affect patient satisfaction and overall success.
Methods: A 63-year-old female patient presented to the dental clinic with a chief complaint of non functioning mandibular fixed partial denture supported by dental implants which have been placed by a different dentist . Clinical and radiographic examination revealed severe bone loss around implants, abutment screw fracture at implants no: 34 and 43 and paresthesia on left lower quadrant. and the maxillary denture was no longer serviceable. A treatment option was presented to the patient including fabrication of an implant-retained mandibular overdenture and a new maxillary denture. This plan would include fabricating a custom titanium abutment for implant no:43, leaving implant no:34 as "sleeping" and connecting existing implants no:43, 41 and 32 with bar and precision attachments. Maxillary and mandibular impressions were made and prostheses were fabricated in conventional protocol.
Results: The patient was satisfied with the retention and stability of the mandibular overdenture. She was pleased with the functional and esthetic result of the treatment. The patient was placed on a six-month hygiene recall.
Conclusion: This case report emphasizes the importance of proper surgical protocol and treatment planning while describing custom made prosthetic solutions and the fabrication of implant supported bar overdenture. This conservative treatment option should be considered when removal of existing implants, followed by bone grafting and placement of endosteal implants is not accepted by the patient.

PP67

Management of microstomia in a trauma patient with dynamic commissural splint

Umut Cakan, Halil Ibrahim Canter
Medipol University, Faculty of Dentistry, Department of Prosthodontics, Istanbul, Turkey

Objectives: Microstomia, which is described as an abnormally small oral orifice, may result from either congenital defects, trauma, or surgical resection. Regardless of the etiology, scar contraction occurs and results in hypotonicity of the circumoral musculatures and decrease in vertical and horizontal opening of the mouth.
Methods: Depending on the extent of trauma, surgical repair of the oral commissure and lips usually requires multiple procedures. In many instances, prosthetic treatment provides valuable assistance to surgical reconstruction. Several designs of commissural splints have been described in literature. A 48 years old male trauma patient was referred to department of prosthodontics after plastic and reconstructive surgery in order to control scar contraction in between pre-planned consequtive multiple reconstructive surgeries. Fabrication of an extraoral dynamic commissural splint was planned which was driven initially by 2 factors: (1) avoiding placement of unnecessary external pressures or frictional contacts to the cheeks and other head and neck structures; (2) developing a stable and functional splint without the need for intraoral anchorage. A custom impression technique was designed and performed. Splint was fabricated with readily available materials and procedure that could be performed by any competent dentist or laboratory technician familiar with wire bending techniques was selected.
Results: Commissural splint was easy to fabricate and could simply be positioned and cleaned by patient himself. Its resistance for scar contracture was defined to be satisfactory by the surgical team. Perioral splinting devices which maintains the commissures in their normal relationship during the healing process, offers physical resistance to scar contracture which have proven to be effective and economical.
Conclusion: This clinical report describes the multidisciplinary approach for a microstomia patient resulting from trauma to the perioral region and the fabrication procedure of a transition dynamic commissural splint, the rationale for its modification, advantages, and disadvantages.

PP68

Effect of oxidation temperature and firing procedure on bond strenghth of titanium ceramic restoration

Alper Tukay, Emir Yuzbasioglu, Umut Cakan
Gülhane Military Medical Academy, Haydarpasa Training Hospital, Istanbul, Turkey

Objectives: The purpose of this study was to investigate the effect of different oxidation temperatures and firing procedures on flexural bond strength of titanium ceramic restorations.
Methods: Seventy bar specimens of two commercially available pure titanium and NiCr alloys were fabricated with a dimensions of 15,0 × 2,0 × 0,5 mm. Thirty titanium specimens randomly selected and divided into three groups with ten specimens in each group. The specimens were oxidized at temperatures of 750° C, 850° C and 950° C. Dentin porcelain in thickness of 2.00 mm was applied over the surface of specimens with the pretreatments. Ten NiCr alloy specimens were used as control and dentine porcelain applied according to the manufacturer's instructions. Then specimens were subjected to the three different firing procedures. The 3-point bending test was performed with a universal testing machine at a crosshead speed of 2mm/min. The data of bond failure were analyzed with one-way

analysis of variance (ANOVA) and the Students t-test with a confidence level of 95%.
Results: The effect of different firing temperatures on the bond strength of titanium ceramic was statistically significant. Bond strength value of titanium specimens oxidized at 750° C was comparable with that of conventional Ni-Cr alloy ceramic, the oxide layer of specimen oxidized at the 750°C was the thinnest of those at 850° C and the 950 °C, namely while oxidation temperatures increased, the bond strength decreased. The repeated porcelain firing affected no significantly to the bond strength of titanium ceramic and did not increase the thickness of oxide layer at the interface.
Conclusion: While oxidization temperature is increased, thickness of oxide layer on titanium increases and bond strength decreases. When titanium is fired by using porcelain with proper thermal expansion at proper temperatures, titanium-ceramic system may demonstrate the results similar to the bond strength of the conventional metal-ceramic.

PP69

Application of attachment-retained partial denture and mandibular tooth supported overdenture

Merve Çakirbay, N. Volkan Asar, MelekKavasoglu
Gazi University Faculty Of Dentistry, Ankara, Turkey

There are many reported partially and totally edentulous patients worldwide. When dental implants can not be used due to insufficient bone support or economical limitations, retention and stability of dentures and esthetic of patients can be very well rehabilitated with precision attachment-retained removable partial dentures. Increasing stability and retention increases the chewing efficiency, especially in the patients having free-end partially edentulous jaws. Wear of the precision attachments over time, high cost, difficulties in fabrication and repairment procedures compared to conventional removable prosthesis are the drawbacks of precision attachments. On the other hand, tooth-supported overdentures are good treatment options for patients having a few teeth with questionable prognosis in the mouth and patients who are not satisfied with their conventional removable partial dentures and in the presence of congenital and acquired jaw defects. Overdentures maintain proprioceptive mechanism and preclude bone resorption to the great extent. Furthermore, they can be converted into complete dentures when the existing teeth are extracted and serve as transition dentures which help adjust patient to complete denture. Also, stability and retention problems are less than conventional removable dentures, which facilitate adaptation of patients to dentures. In this case report the rehabilitation of a patient with maxillary precision attachment-retained removable partial denture and mandibular tooth supported overdenture is presented.

PP70

Prosthetic Rehabilitation of Amelogenesis Imperfecta-Restoring Function and Esthetics-A Case Report

Hakan Terzioglu, Berkin Ozturk, Hakan Kurt, Ilkim Karadag
Ankara University, Faculty of Dentistry, Department of Prosthodontics, Ankara, Turkey

The treatment of amelogenesis imperfecta (AI) with an anterior open bite (AOB) is a challenge for the clinician and often requires a multidisciplinary team of specialists. The specific objectives of this treatment were to enhance esthetics and to restore masticatory function. Subsequent prosthodontic therapy consisted of 28 metal supported-ceramic crowns whereby a solid interdigitation, a canine

guidance, and consistent and regular contactsbetween tooth crowns could be achieved to assure a good functional and esthetic oral situation. Objectives : Genetically determined and rare dysplasia of the enamel formation are known as amelogenesis imperfecta (AI) and have been classified into several groups by various authors. According to the literature, AI patients, regardless of subtype, have similar oral complications: teeth sensitivity, poor dental esthetics, and decreased occlusal vertical dimension. Clinical Report:A 20-year-old boy previously diagnosed with hypomaturation amelogenesis imperfecta presented for treatment in the out patient department of Prosthodontics at Ankara University. Primary concerns included dissatisfaction with the size, shape, and shade of her teeth, food accumulation, bad odour and poor masticatory efficiency. Subsequent prosthodontic therapy consisted of 28 metal supported-ceramic crowns whereby a solid interdigitation, a canine guidance, and consistent and regular contactsbetween tooth crowns could be achieved to assure a good functional and esthetic oral situation. In the first year and second year recalls, the patient was evaluated clinically and radiologically. Discussion:The extensive rehabilitation of a young patient with a generalized AI in combination with an AOB is a challenge for any clinician, and a multidisciplinary team of dentists needs to be involved in the care plan. Several factors have to be taken into consideration, including the often young age of the patient, the quality and quantity of existing enamel and tooth substance, the periodontal condition, the long-term prognosis and stability of the result, and the total cost of treatment.

PP71

Prosthodontic Rehabilitation in Young Adult: Two Cases Report

Dashnor Dula, Linda Dula, ZanaLila-Krasniqi, Kujtim Shala
University of Prishtina, Department of Pedodontics and Preventive Dentistry, Prishtina, Kosova

Objectives: Considering the high prevalence and severity of dental caries, complications which can occur if the teeth are not replaced are: chewing, aesthetics, speech problems etc. The aim of this study was to show the practical alternative for aesthetic and functional moment with fix prosthetic rehabilitation and removable partial dentures.
Materials and methods: First case was 15 years old male with absence of lateral and central incisors of the right side and lateral incisor of left side as a result of failure treatment. The central incisor of left side was with caries. We use partial acrylic prostheses and crown from metal porcelain as a solution to the functional and aesthetic oral rehabilitation in patients. Second case was female 19 years old with presence of deciduas canines, absence of second premolar and eruption of canines in position of first premolar in cross bite. Patient extracted the deciduas canines. Orthodontic treatment was not applied because of economical state. Dental ceramics, zirconium have been the restoration of choice because of their aesthetic quality and high success rate.
Results: If there is loss of one or more front teeth, then aesthetics are severely compromised. Immediate aesthetic improvement was achieved with short, economical therapy and satisfactory prosthetic solution.
Discussion: Patient's appearance will be affected by the loss of any of the front teeth. Absent teeth may cause problems in mastication, occlusion, aesthetics, and speaking, on-time diagnosis would accelerate treatment process and prevent the following problems (Ajami B et al., 2010).
Conclusion: Consequently, the rural population and the urban poor experience difficulty in obtaining dental services when they need them. The state, social security institutions and direct payment by the patient make them to choose practical alternative that provides a relatively quick, easy, acceptable and economical solution. This solution improves the patient's quality of life and optimizes social integration.

PP72

Treatment of the Edentulous Maxilla with an Immediate Occlusal Loading Protocol a case report

Melahat Çelik, Melih Yildiz, Gizemnur Bagrivatan, Tonguç Sülün, Gülsen Bayraktar
Istanbul university, Department of Prosthetic Dentistry, Istanbul, Turkey

Immediate occlusal loading in the edentulous maxilla has been defined as implant placement with adequate primary stability and a fully functional occlusion at the time of implant placement. This definition is specific regarding time and function of the implants. Immediate Occlusal Loading has proven to be predictable when implants are placed with insertional torque values of at least 30 Ncm or greater. The protocols described are designed for immediate implant loading of the completely edentulous maxilla and to provide the patient with a prosthesis that incorporates structural durability and esthetics in a time efficient manner. This articleis presented a protocol for treatment edentulous maxilla with an immediate occlusal loading protocol

PP73

Reconstruction of occlusal vertical dimension and uneven occlusal plane: A clinical report

Banu Çukurluöz, Canan Akay
Gazi University, Prosthodontics Dentistry Department, Ankara, Turkey

Objectives: The aim of the this clinical report is to present a patient who had occlusal vertical dimension loss and uneven occlusal plane with full mouth restoration with metal-fused to porcelain restorations had precision holder and partial denture.
Clinical report: 50 year-old man was referred to Gazi University Faculty of Dentisty department of prosthodontics to make a new prothesis. In the clinical examination esthetic, function and phonetic problems were observed. This clinical report proposed to rehabilited a patient who rehabilited with class 3 occlusion before. Vertical dimension of occlusion analysed with cephalometric radiographs. It was observed that mandible movements were free and in a centric relation with De Nevreze
Method. First of all we applied self-cure acrylic resin to his prosthesis and the it was raised to new class 1 occlusion. He used this prosthesis for four months. Modified splint were used for two times. Methodology based on cephalometric analysis were used. In the end we have rehabilitated the patient with anterior bridge restorations with precision holder, partial dentures in mandible and maxillary jaws.
Conclusion: The concept of vertical dimension of occlusion (VDO) refers to measure in the vertical plane that establishes the relation between the maxilla and is subject to change, and when this occurs, it can compromise both the function and the facial aesthetics. In the case presented here, the patient was treated with class 1 occlusion with skeletal limitation The patient has been followed for a year and he has no problem (earache ,clicking, limitation in mouth opening…etc)

PP74

Nanotenology in dentistry

Banu Çukurluöz, Canan Akay
Gazi University Prosthodontics Dentistry Department, Ankara, Turkey

Objectives: The aim of this study, particularly in dentistry, including emerging biomedical applications of nanotechnology to explain. Compile and present forms of the preparation of nanoparticles and their use of research samples.

Methods: '' Nanoparticles in dentistry '' was written in pubmed and 313 results were found. ''Nanoparticles in prosthetic dentistry" were written in pubmed and 115 results were found. We chosed a portion of these articles, presented in the form of compiling and rewiev.
Results: Nanoparticle is one billionth of a millimeter. Not only shrinks the size of the matterial but also behavioral characteristics of the material is changed. Nanoparticles are obtained by two methods: ''botton up" and" top down" . Example of methods for creating nanoparticles is also same areas of the dental research. They are as the same; chemical vapor condensation method (CVC), hydrogen reduction method, inert gas condensation(IGC), Microheterogeneous nanoparticle production systems, flame synthesis method, mechanical grinding, ultrasonic spray pyrolysis method (USP). In 2010, Lipovsky et al ZnO nanoparticles produced by the ultrasonic method as a result of evaluating the impact of their antibacterial action have found antifungal. In 2012, Besinis et al silica and hydroxyapatite nanoparticles produced by sol-gel technique is capable of infiltration showed that the demineralized dentin.
Conclusion: The areas of use in dentistry of nanoparticles produced in various ways,from implant surface coating , to the denture base material, to the adhesive systems is expanding. Nanoparticles products content may be present in dental materials in the future due to superior behavioral characteristics of nanoparticles. Further study for the development of certain areas in dentistry nanoparticles is needed.

PP75

Esthetics provision of anterior single tooth restorations: Case Series

Banu Çukurluöz, Canan Akay
Gazi University Prosthodontics Dentistry Department, Ankara, Turkey

Objective: The purpose of this study, particularly dental aesthetics provision with the rehabilitation of the anterior single crown restorations and explain the factors of affecting the aesthetics.
Methods: For this purpose, consulting three patient to Gazi University Faculty of Dentistry, Prosthodontics clinic were evaluated. Case 1: Prefabricated post-treated maksillary central incisor tooth female patient consulted for tooth was broken. Periapical x-ray was taken. Post, were found too short to adequate retention. Any symptom was not detected and tooth at the root of any fracture.Root preparation was removed and post was been exracted the screw by turning counterclockwise . Glass fiber post replaced and rehabilitation was completed with ceramic crowns supported by zirconia. Case 2: After apical resection maksillary central incisor tooth has class 3 mobility of the Miller's Mobility Index was foolowed during 1 year. It was splinted with temporary crown. When it has physiological tooth mobility and no symptoms , glass fiber post placed and rehabilited with zirconia supported ceramic crown. Case 3: The patient has a pre-made cemented zirconia abutment for maksillary central incisor tooth. The abutments were changed because of the patient swallows the teeth for abutment not having sufficient retention. Titanyum screw supported zirconia abutment was used. Restoration was completed with zirconia supported ceramic crown.
Results: Patients with prosthesis use 1-year follow-up success. Acceptable in the pink esthetic score and white esthetic scores values for a restoration is presented.
Conclusion: Unrecognized visual aesthetic rehabilitation of the existing retaining physiology may be acceptable. For this purpose, prefabricated metal posts leaving the place to aesthetic such as glass fiber, for the implants aesthetic it can be provided with the zirconia abutments.

PP76

Oral rehabilitation of amelogenesis imperfecta by complete overdentures: Case Report

Burcu Batak, Funda Akaltan
Ankara University, Faculty of Dentistry, Department of Prosthodontics, Ankara, Turkey

Objectives: Amelogenesis imperfecta (AI) is a hereditary disease that causes abnormalities of enamel structure. Its main characteristics are abnormal coloured teeth, loss of tooth structure, pulpal symptoms, occlusal disharmony, congenitally missing and multiple impacted teeth. Our aim is to present oral rehabilitaton of an amelogenesis imperfecta patient by using complete overdentures before dental implant therapy.
Methods: A 17 year- old female amelogenesis imperfecta patient referred to our clinic at Ankara University, Faculty of Dentistry for her dental treatment. She has lost some of her teeth because of failed root canal treatment. She had only 13 teeth (13,14,15,17,24,25,32,33,37,42,43,44,45) on her mouth and they all had only roots with canal treatment except tooth, 17. Because of continuing bone growth we decided to wait for implants and during this period we made a decision to make an overdenture prosthesis for patient's function and aesthetics. Due to her root canal anatomy, inadequate root canal treatments did not enable post-core restorations. Therefore, we had to prepare remaining teeth for cast copings by removing only the filling material in pulp chambers. Than prepared cast copings were luted with Panavia F 2.0 resin cements. We took the final impression for complete overdenture and cobalt-chromium frameworks were fabricated over cast copings. Finally, complete overdentures were accomplished by conventional techniques.
Results: Due to inadequate bone growth of 17 year old female patient having amelogenesis imperfecta, we could not place implants immediately. During this period, we decided to keep her remaining roots in the mouth and protect them by using cast copings under overdenture for patient's comfort and psychosocial expectations.
Conclusion: In this case we rehabilitated the patient by providing an appropriate vertical dimension and maxillomandibular relationship using overdentures because of her incomplete bone growth. During this period before implant therapy patient's comfort, function and aesthetic expectations were satisfied.

PP77

Construction of a prosthetic appliance in displaced unilateral condylar fracture

Cem Çetinşahin, Alper Uyar
Başkent University, Department of Prosthodontics, Ankara, Turkey

The most frequent fractures of the mandible are those of the condylar process, due to biomechanical factors. The treatment of these fractures is age-related. Conservative treatment of young children is possible because of the ability to regenerate a morphologically and functionally normal condylar articulation. In contrast, conservative therapy of adolescents and adults will often lead to disturbed morphology of the condylar process and dysfunction. Surgical treatment of dislocated fractures in adolescents and adults has improved long-term results increasingly. Surgical treatment can be performed with intraoral, retromolar, preauricular or open approach. There is little scientific evidence that a period of rigid intermaxiller fixation (IMF) has any benefit, and it may adversely affect future joint function. Oedema and muscular spasm are important causes of malocclusion and time may be helpful for these to resolve. If malocclusion is to be treated by closed treatment, functional treatment with intermaxillary guiding elastics to control the occlusion seems preferable to rigid IMF. Following non-

surgical treatment of displaced condylar mandible fractures, openbite deformity or malocclusion occurs due to shortening of the ascending ramus. To avoid these complications in displaced fractures, surgical treatment with anatomic reduction is performed. Superior functional results are reported in displaced condyle fractures following open reduction and fixation compared to the more widely performed non-surgical treatment.
Case Report: A 21 year old male had fallen due to hypotension and bumped from his chin. Since he had a little discernible limitation of mobility but slightly deviation and pain, radiographic examination revealed displaced unilateral condylar fracture. This case report describes an intraoral apparatus made from PMMA to achieve intermaxillar fixation and also guidance for surgical treatment when rigid maxillo-mandibular fixation with stainless steel ligatures and bracketing is not applicable. After 1 year from surgery the prognosis of the patient was excellent, since any complications did not occured and patient has no limitation of mandibular movement.

PP78

Immediate Postextraction Implant Placement in the Maxillary Anterior Region

Sule Tugba Ozak
Ankara University, Faculty of Dentistry, Department of Prosthodontics, Ankara, Turkey

Objectives: Immediate postextraction implant placement is a well-accepted protocol because of the preservation of esthetics, shorter total treatment time, maintenance of socket walls, reduced operative time, and better actual implant placement. However, it is challenging to achieve esthetic results with anterior teeth having soft and hard tissue discrepancies.
Methods: A 54-year-old female patient presented to the Department of Prosthodontics at Ankara University Faculty of Dentistry, Turkey, for evaluation of the upper anterior region. Clinical and radiographic examination indicated a five-unit fixed partial denture in the anterior maxilla. The abutments were right lateral incisor and left canine roots with post-cores. The patient was complaining about the mobility and desimantation of this restoration. She had already had implants in both maxilla and mandible posterior region. The width of the alveolar bone at the anterior maxilla wasn't sufficient to place 3 implants for a new five-unit fixed partial denture. There were two implants for upper left 1. and 2. premolars and the crowns were desimantated. Treatment with immediate postextraction implant insertion procedure was planned after precise consultation. After 3 months, for the provisional restoration, we connected the new two implants with the other old ones and made a new seven-unit fixed partial denture. So, we coul avoid extra surgical treatment like autografting to place one more implant.
Results: Immediate postextraction implant placement led to excellent clinical outcomes. The prosthesis was functioning well up to 4 months. The width of the ridge was well maintained.
Conclusion: In this case report, the harmony of soft and hard tissue was achieved by immediate implant placement into fresh extraction socket in the maxillary anterior region. Further evaluation is needed to monitor hard and soft tissue changes on a long-term basis.

PP79

Implant retained overdenture prothesis after hemiglossectomy operation

Canan Akay, Banu Çukurluöz
Gazi University, Prosthodontics Dentistry Department, Ankara, Turkey

Introduction and Aim: The main purpose of prosthetıc dentistry is giving back of the function, phonation and esthetics which is lost for any reason. Dental implants have been used as an alternatıve to conventıonal treatment modalities to make an ideal restoratıons in modern dentistry.Purpose of our study is to give back the patients function, phonatıon and esthetics which is lost for hemiglossectomy operation ten years ago.
Method:A 39 year old man come to Gazi Universıty Prosthodontıc Deapartmant for his prosthetic treatment.He had a history of sguamoz cell carcinoma of the left base of the tongue. He had an operation and treated with a chemotherapy.After oral and radiographic evaluation we see that he had a three implants in his mandibula. Distal implants had a healing carrier but inthe middle implant had a stuck carrier lıke an abutment. We try to cancel it but we couldn't.Then we make the overdenture prothesis on it. Discussion and Conclusion:In this case report a succesful prosthodontıc treatmnet of a implant retained overdenture prothesis after hemiglossectomy operation. An acceptable function , phonation and esthetic was achıeved.

PP80

Full Mouth Rehabilitation of the Partially Edentulous Patient with Worn Dentition: Two Case Reports

Ozgun Yusuf Ozyilmaz, Filiz Aykent
Selcuk University Faculty of Dentistry, Department of Prosthodontics, Konya, Turkey

Objectives: These case reports describe the management of esthetical complaints and impaired dental function due to reduced vertical dimension of occlusion.
Methods: A 46-year old man referred to prosthodontics clinic with missing teeth and severely worn dentition. Firstly metal-ceramic restorations were fabricated and then a removable partial denture with attachments was fabricated for maxillary edentulous areas. The second case was 54 year-old woman referred to our clinic with a complaint of esthetic and reduced tooth height. Metal-ceramic restorations were fabricated to restore vertical dimension of loss. Patient's satisfaction was reported as good. In these case reports present to various prosthetic rehabilitations in worn dentitions. After treatments patients were recalled for 1 year interval.
Results: An improvement in esthetics and function was achieved by restoring the vertical dimension.
Conclusion: When restoring the worn dentition, proper planning of treatment positively provide to the psychology of patients and prevents poor performance.

PP81

Determining the most suitable microleakage measurement method for post-and-core restorations

Simel Ayyildiz, Fulya Toksoy TopÇu, Elif Aybala Oktay, H. Alper Uyar, Arzu Atay, Akin Alper
Gulhane Mulitary Medical Academy, Center Of Dental Sciences, Department Of Prosthodontics, Ankara, Turkey

Objectives: The objective of this study is to choose the most suitable dying material and microscope for

the evaluation of microleakage in cast cast metal post and core foundations.
Material and Methods The coronal microleakage was tested on cast cast metal post-and-core foundations. Eight maxillary anterior human teeth were selected. Specimens were randomly assigned to 2 experimental groups (n=4); cemented cast metal post-and-core group (CMPC), non-cemented cast metal post-and-core group (NMPC). All specimens were placed in a special custom made mechanism. The cemented specimens were luted with Panavia F dual-cure resin cement using this mechanism under 35 N pressures. Three dying materials were used in both groups; Indian ink, eosine and aqueous basic fuchsine. In both groups 1 specimen was left unstained for control. After 48h storage into dyes all specimens were embedded in epoxy resin. A grinding machine was used to obtain sagittal sections passing from the long axes of the posts. Ground specimens were examined under 3 different microscopes; cast metal microscope, coal microscope, binocular microscope and the leakage was scored.
Results Coronal leakage values of cemented and non-cemented groups were compared according to the dye material and microscopes separately. The most suitable dying material was aqueous basic fuchsine and the most suitable observation tool was the binocular microscope. Discussion In literature there are few studies about the dying materials that will be used in microleakge researches. Generally, researchers choose these materials according to their simple application. Conclusion: Both metal and zirconium post-core foundations are special materials to evaluate under microscope. To observe all the parts of the specimens, a binocular microscope and basic fuchsine should be used.

PP82

Esthetic rehabilitation of missing lateral tooth of a young patient

Elif Aybala Oktay, Simel Ayyildiz, Fulya Toksoy TopÇu, Arzu Atay, H. Alper Uyar, Akin Alper
Gulhane Mulitary Medical Academy, Center Of Dental Sciences, Department Of Prosthodontics, Ankara, Turkey

Objectives: The aim of this case report is the rehabilitation of a young patient who has congenitally missing lateral.
Materials and Methods: A 17-year-old female patient had referred to the clinic for her missing upper right lateral. As the right lateral was congenitally missing the patient had been orthodontically treated to gain suitable distance for implant placement. The patient had been referred to the clinic after the orthodontic treatment was lasted. The distance measured and it was decided that implant placement was unsuitable. As the patient was still in growing period a conventional fixed partial denture could not applicable. For this reason a porcelain prefabricated lateral tooth was adapted to edentulous region and fixed to the adjacent teeth with carbon fiber wires. The occlusal trauma and other premature contacts were eliminated over the lateral artificial tooth. The patient was recalled in 6 months intervals.
Results: The esthetic need of a young patient was eliminated with an intermittent prosthesis. Also the relapse of the orthodontic treatment was prevented.
Conclusion: Congenitally lateral tooth missing is mostly seen cases at last decades. The esthetic anxiety is very high at young patients. Until the end of the growing period it is important to solve the esthetic concern with intermittent prosthesis.

PP83

Advantage of splint design on severely damaged traumatized permanent incisors

Rahmi Eken, Cihan Aydogan, Betul Ozcopur
University of Yüzüncü Yil, Department of Endodontics, Van, Turkey

Objectives: The aim was to correct the primary splint and keep the teeth vital as long as we can without ankylosis and finish the treatment with an esthetic restoration.
Methods: The patient referred to our clinic with a complaint of traumatized teeth number 11 and 21 because she was tackled down on to face at school. The first attempt of the splint was performed by a general dentist, the next day the patient came to our clinic. Teeth 11 and 21 were injured. Upper left central incisor's fracture included only enamel and dentin, but upper right central incisor's crown fracture included distal horn of the pulp. With pulp capping and applying a correct splint made by orthodontist we followed up 3 weeks. After 3 weeks splint was removed and on the 4th week the final esthetic restoration was performed. On the 5th week the patient came to our clinic again with spontaneous pain. At the same day endodontic treatment was started and finished on the 7th week. On the 8th week the complete restoration was finished.
Results: After treatment, traumatized teeth were able to both function and satisfy the patient esthetically.
Conclusion: This type of a splint design having step bends on it could make it possible for us to perform endodontic treatment if it was necessary at the time when the teeth were splinted. As a conclusion the patient was treated successfully but long term follow ups are necessary for trauma patients. Key words: trauma, complex fracture, splint

PP84

Esthetic enhancement of ceramic crowns with zirconia dowels and cores: a clinical report

Defne Burduroğlu, Özge Çelik, Umut Güler, Senay Canay
Hacettepe University, Faculty of Dentistry, Ankara, Turkey

The use of esthetic ceramic crowns and esthetic posts in restoring endodontically treated teeth has been increased dramatically in recent years. Tooth-colored dowels and cores are being used to enhance the esthetic result. It is sometimes difficut for the dentist to decide which material is best for the restoration of endodontically treated teeth with partial coronal loss. Successful treatment of a severely damaged teeth with pulpal disease depends not only on good endodontic therapy but also on good prosthetic reconstruction. The main emphasis on deciding the restoration material should be as follows; minimal risk, biocompability, esthetics and patient desires. This clinical report describes the restoration of endodontically treated maxillary incisor with a zirconia post-core in monoblock form and a zirconia all-ceramic crown. The purpose of this study was to clinically evaluate the esthetic results of a zirconia post-core combined with a zirconia reinforced all-ceramic crown. A 16-year-old female patient came to our clinic with a fractured left maxillary incisor due to a direct trauma to the tooth. Endodontic teratment was conducted. After 2 weeks, post space preparation was carried out for the maxillary left central incisor and tooth preparation was done for all-ceramic crown. Impression was taken with polyvinyl siloxane material. The impression is scanned and CAD/CAM fabrication of the monoblock post-core was made. The post-core is cemented with resin cement and a secondary impression was taken for the crown fabrication. A zirconia reinforced all-ceramic crown is fabricated and cemented.

PP85

Efficacy of two Different Materials in the Repair of Urethandimethacrylate

Gokcen Ates, Altug Cilingir, Hakan Bilhan, Tonguc Sulun, Onur Geckli
Istanbul University, Faculty of Dentistry, Department of Prosthodontics, Istanbul, Turkey

Purpose: The purpose of this in vitro study was to investigate the flexural properties of a recently introduced urethane dimethacrylate denture base material (Eclipse) after being repaired with two different materials.
Materials and Methods: Two repair groups and a control group were generated. The ES group was repaired with auto-polymerizing polymer. The EE group was repaired with the Eclipse. The E group was left intact as a control group. A 3-point bending test device which was set to travel at a crosshead speed of 5 mm/min was used. Specimens were loaded until fracture occurred and the mean displacement, maximum load, flexural modulus and flexural strength values and standard deviations were calculated for each group.
Results: The mean "displacement", "maximum load before fracture", flexural strength" and "flexural modulus" rates of the Group E were statistically significant higher than the Groups ES and EE ($p<0.01$), but no significant difference ($p>0.05$) was found between the mean values of Group ES and EE. There was a statistically significant positive relation ($p<0.01$) between the displacement and maximum load of Group ES (99.5%), Group EE (94.3%) and Group E (84.4%).
Conclusion: The more economic and commonly used self curing acrylic resin can be recommended as an alternative repair material for Eclipse denture bases.

PP86

Rehabilitation of a Post-Traumatic Tooth Neglected for 13 Years

Erhan Demir, Ozgur Genc Sen, Andac Barkin Bavbek
University of Yüzüncü Yil, Department of Prosthodontics, Van, Turkey

Objectives: Immediate follow-up with a dentist is the best way of minimizing the damage sustained from a dental trauma. The aim of this study is to present a treatment strategy of a neglected tooth of a patient after 13 years of the traumatic dental injury.
Methods: A 21-year-old patient was referred to Faculty of Dentistry, Yuzuncu Yil University due to the unaesthetic smile. Displacement of the maxillary left central incisor with an apical lesion was observed by intraoral and radiographic examinations. Root formation of the apical third was not completed and the tooth was not vital. According to anamnestic data; lateral luxation and coronal fracture of the tooth had occurred after a dental trauma when the patient was 8 years old. No dental treatment was done during the injury or following the period until she complained from unaesthetic appearance of central incisor and microdontia of the adjacent lateral incisor. The root canal therapy was completed by the obturation of the apical portion with the mineral trioxide aggregate (MTA) material. After healing period, a polyethylene fiber strip (PFS) was inserted in to the post cavity and coronal parts of the PFS were positioned parallel to the adjacent central incisor to angulate the core build-up material from the root direction.
Results: The zirconia crown of the displaced tooth was luted in a coronal symmetry to the adjacent central incisor by the direction of the PFS and related to the core build-up material at the coronal part. Another prosthetic approach with a zirconia crown treated the deformity of the lateral incisor. The apical

obturation was established without a clinical and radiographic symptom.
Conclusion: Esthetic and biological outcomes of a traumatic tooth were gained by FPS, MTA and Zirconia materials although the dental trauma was neglected for 13 years.

PP87

Interdisciplinary Approach for Restoring in a Patient with anterior crowding

Ayse Tuba Ogreten, Hilal Siriner, Meral Arslan Malkoc
University of Inonu, Department of Prosthodontic, Malatya, Turkey

Objective: In the modern competitive society, a pleasing appearance often means the difference between success and failure in both personal and professional lives. As the mouth is one of the focal points of the face, the smile plays a major role in how we perceive ourselves. Ceramic laminate veneers not only reestablishes the aesthetic appearance of the smile, but also allows biomimetic recovery of the crown.
Case Report: A patient is a 20 year-old female who was not satisfied with the aesthetic appearence of her maxillary incisors, applied to the Department of Prosthodontics at Inonu University in Malatya. After a detailed intraoral examination showed that especially left maxiller anterior teeth had severe crowding and the patient didn't want to see orthodontic treatment. Porcelain laminate veneers were planned for anterior teeth. The teeth were prepared with overlapped preparation design. A temporary restorations were fabricated using a composite resin to protect dental tissues. Then pressed ceramic veneers (IPS Empress Esthetics; Ivoclar Vivadent, Liechtenstein) were fabricated. Definitive restorations were evaluated, adjusted for optimal contacts, contours, and esthetics, and luted with a composite luting agent.
Conclusion: At the end of treatment of patients with the aesthetic, functional and psychosocial problems were eliminated.

PP88

Prosthetic rehabilitation of a patient with severe attrition: Clinical Report

Hilal Siriner, Meral Arslan Malkoc, Emre Yaprak
University of Inonu, Malatya, Turkey

Objective: Tooth wear is characterized by the loss of hard dental tissue. Severe tooth wear is a potential threat for dentition and masticatory function. Many factors may combine to produce the worn dentition and the etiology often remains unidentified. Functional and parafunctional movements cause attrition that frequently result in the loss of vertical dimension of occlusion. Decreased vertical dimension may lead to some complaints, such as poor aesthetics, decreased masticatory efficiency, temporomandibular joint pain and loss of muscletone. This case report will present a sequence of treatment, including conservative multidisciplinary approach to restoring esthetics and function in a patient with severely worn maxillary dentition.
Case report: A 50year-old male patient reported to the Department of Prosthodontics. Intraoral examination of the patient revealed reduced vertical dimension and impaired dental function with attrition. Resection of the alveolar bone to increase length of crowns was performed on the vestibular sides of the maxillary anterior teeth, except the interdental alveolar crest and then the patient used occlusal splint for a month. Root canal treatment was planned for anterior teeth and treated posts and

cores. Maxillary anterior teeth were restored with zirconia porcelain. Feldspathic porcelain was chosen to restore remaining teeth. The patient also was given an occlusion guard to protect the restoration against future bruxism.
Conclusion: Prosthetic rehabilitation of decreased vertical dimension of occlusion should be considered only when dictated by esthetic or functional requirements.

PP89

An alternative method for the fabrication of immediate provisional restoration after tooth extraction

Özgür Öztürk, Ozlem Filiz, Cumhur Sipahi, Bulent Piskin, Simel Ayyildiz
Mayıs unıversity, Ankara, Turkey

Objectives: This case report aimed to present a simple design for the fabrication of a provisional restoration for an implant supported fixed prosthetic treatment.
Methods: This clinical report described an alternative fabrication method for providing an immediate provisional restoration after the extraction of mandibular left central and lateral incisors. The teeth were extracted due to the failure of previous endodontic treatments and it was not possible to treat the determined apical lesions. Due to the existing chronical apical lesions, an immediate implantation after extractions was contraindicated. The extracted teeth were decoronated at a level 2 mm below the cementoenamel junctions. The coronal portions of the teeth served as natural pontics preserving the shape of the remaining interdental gingival papillae. The coronal portions of the teeth were first splinted to each other from their approximal surfaces using a resin luting agent. The splinted teeth assembly was than splinted to the mesial and distal approximal surfaces of remaining adjacent teeth. After a healing period of two months, 2 implants were surgically placed into the edentulous area. The definitive fixed prosthesis was fabricated after an osseointegration period of 3 months. The temporary restoration was used in all phases of the implant therapy.
Results: After a follow-up period of six months the implant supported restoration and the periimplant tissues were healthy.
Conclusions: The temporary restoration fabricated using the coronal portions of extracted teeth may be an alternative method for implant retained restorations.

PP90

Surface-retained, indirect fiber-reinforced fixed dental prosthesis: Preliminary clinical findings

Guliz Aktas, Defne Burduroglu, Filiz Keyf, Mutlu Özcan
Hacettepe University, Faculty of Dentistry, Department of Prosthodontics, Ankara, Turkey

Objectives: This clinical study evaluated the clinical performance of indirect, surface-retained fiber-reinforced composite (FRC) fixed dental prosthesis (FDP). Methods: Between September-2011 and May-2012, 13 patients (9 females, 4 males, 17-60 years old, mean age: 36.5) received a total number of 13 indirect FRC FDP at the Hacettepe University, Ankara, Turkey. All restorations were made indirectly using E-glass woven fibers (Interlig, Angelus) in combination with resin composite (Gradia, GC), and bonded using resin cement (Choice 2, Bisco). FRC FDPs were made in the anterior segment of the maxilla (n=9) and the mandible (n=4). No cavity preparations were made on the abutment teeth. The restorations were made at the dental laboratory by one dental technician. Before cementation, enamel

surfaces were cleaned with pumice and etched with 38% H_3PO_4 for 30 seconds, rinsed 30 seconds. Then adhesive resin was applied accordingly. After baseline recordings, patients were followed every 3 months according to previously defined criteria. Patients were also instructed to call upon experience of a failure. Two calibrated operators performed additional qualitative analysis using modified USPHS criteria. Results: Mean observation period was 7 months with a maximum of 9 months. Altogether, one absolute failure in the form of fracture was observed in the maxilla due to trauma where the pontic was 12. This FRC FDP was renewed using the same protocol. According to USPHS criteria, no delamination of the veneering composite or debonding of the restoration from the enamel surface was experienced. Secondary caries and endodontic complications did not occur in any of the teeth. Conclusion: Except one failure, preliminary clinical findings of 13 case series with surface-retained indirect FRC FDPs demonstrated promising results up to maximum 9 months.

PP91

Evaluation of Microleakage of Teeth Restored with Zirconium Oxide Post

Meryem Ates, Bengul Yurdukoru
Gazi University State Hospital, Ankara, Turkey

Objectives: Post-core restorations are commonly used for the treatment of pulpless teeth with extensive loss of structure. The purpose of this study was to investigate the microleakage of endodontically treated teeth restored with a current post system, zirconium oxide posts.
Methods: Seventy two freshly extracted human premolar teeth were selected for this study. Sandblasting with aluminium oxide particles, ceramic primer and Rocatec tribochemical silica coating system were applied to surfaces of zirconium oxide posts and each post group was cemented with using both Rely X ARC and Rely X Unicem adhesive resin cement (n=12). Restorations were completed with composite cores and full metal crowns. All samples were subjected to dynamic loading and thermocycling to simulate a one-year service in oral environment with natural conditions. Following these procedures, teeth were subjected to methylene blue solution and analyzed under stereomicroscope for microleakage.
Results: According to values of the microleakage occured at the crown margins, statistically there was no significant difference among the samples cemented with Rely X Unicem adhesive resin cement and Rely X ARC cement within different surface treatments groups (p=0.590, 0.887, 0.755 respectivelly). Statistically there was no significant difference among the samples subjected to Sandblasting with aluminium oxide particles, ceramic primer and Rocatec tribochemical silica coating system within different cements groups (p=0.411, 0.856).
Conclusion: Following the statistical evaluations, no significant difference between surface arrangement procedures in terms of microleakage was observed. Statistically there was no difference between microlekage values of Rely X Unicem adhesive resin cement and Rely X ARC cement.

PP92

The Turkish prosthodontic version of the oral health impact profile

Lale Karaagaclioglu, Esat Basol , Deniz Yilmaz
Ankara University, Faculty of Dentistry, Department Of Prosthodontics, Ankara, Turkey

Objectives: Oral health related quality of life (OHRQoL) is increasingly of interest in dentistry and also

in Turkey. The Oral Health Impact Profile (OHIP) is one of the most detailed instruments available. The objective of the current study to develop a Turkish prosthodontic version of the Oral Health Impact Profile (OHIP- TP) following accepted guidelines.
Methods: The orginal English-languange version was translated in to Turkish, back-translated in to English, and tested for its psychometric properties. Patients aged 30- 60 years were interviewed by two interviewers and examied clinically by one of two calibrated dentists. Informations on subjects demographic backround and oral health prosthodontic conditions were collected.
Results: A total of 50 prosthodontic patients were interviewed and clinically examined before and after the treatment. Cronbach's alpha of the translated OHIP- 14 subscales ranged from 0,65 to 0,89 and the test-retest correlation coefficient ranged from 0,70 to 0,92. Construct validity of the translated Turkish version was supported by the finding that the OHIP-14 and subscale scores increased as the subject's perceived prosthodontic treatment. Also, those who had a perceived dental treatment need had higher mean OHIP-TP and subscale scores compared to those who did not.
Conclusions: The translated Turkish version of OHIP demonstrated good validity and reliability. It is usefull for researchers and clinicians in Turkish patients.

PP93

Influence of Thermocycling on Bond Strength of Self Cure Adhesive Resin Cement to Ni-Cr Alloy

Lale Karaagaclioglu, Sadullah Uctasli, Esat Basol, Deniz Yilmaz
Ankara University, Faculty of Dentistry, Department Of Prosthodontics, Ankara, Turkey

Objectives: This study evaluated the effects of thermocycling on the bond strength of Ni-Cr alloy specimens to enamel and dentin using a self cure adhesive resin cement (Super Bond C&B, Sun Medical, Japan).
Methods: A total of 60 extracted human mandibular molars, free of caries and restorations, were collected. The teeth were cleaned of residual periodontal tissues and were embedded with dental stone in the shape of universal testing machine. The specimens were ground flat in a polishing machine with adrasive paper (320 grit; Struers) (ISO 6344). The enamel and dentin was exposed to a test surface area of approximately 10 mm2. Before the shear bond tests, the exposed dentin surface was refreshed in the polishing machine with polishing paper for smear layer (600 grit). The 60 teeth were divided in to the four groups according to the thermocycling regime (5000 cycles, 50C- 550C) and exposed enamel and dentin surface. An amount of 60 round - shaped Ni-Cr alloy (Kera N, Germany) samples with a 2 mm diameter and 2 mm height were prepared for 4 groups. The surfaces were sandblasted with 50µm silica. After the bonding procedurs, shear bond testing was performed in a mechanical testing machine (LLOYD LRX INSTRUMENTS, England) with a knife- edged rod at a crosshead speed of 1.0 mm/min until fracture.
Results: The shear bond strength values (Mpa) were decreased with aging procedurs. Super Bond C&B resin cement exhibited the highest shear bond strength values on dentin in comparison with enamel.
Conclusions: The results suggest that the Super Bond resin cement have got clinical acceptable bond strength values with the aging procedurs.

PP94

Preliminary clinical results of early loaded, implant-supported fixed dental prostheses

Jong-Hwa Kim, In-Sung Yeo, Young-Kyun Kim, Yang-Jin Yi, Pil-Young Yun, Hyo-Jung Lee
Seoul National University, Department of Prosthodontics, Seoul, South Korea

Objectives: The aim of this study was to evaluate the outcome of early functional loading of the implant (CMI implant, Neobiotech Co., Seoul, Korea) in partially edentulous maxilla or mandible.
Methods: Total 15 implants were placed. Between 48 hours and 2 weeks after implant insertion, provisional implant-supported fixed dental prostheses were delivered to the patients. The implants were early loaded with occlusal centric contacts and without eccentric contacts. Quantitatively, marginal bone loss was measured at the time of loading, after 3-months of continued loading and at the last follow-up. The mean follow-up period was 4.8 months.
Results: Mean marginal bone loss from implant surgery to early loading, 3-months follow-up and last follow-up was 0.03 mm (SD, 0.07 mm), 0.16 mm (SD, 0.17 mm) and 0.29 mm (SD, 0.19 mm). No implant failed up to 6 months after insertion, resulting in a 100% survival rate.
Conclusion: Immediate loading exhibited high success rate in partial edentulism for up to 6 months. Well-controlled long term clinical studies with large sample size are necessary to confirm this finding.

PP95

Fiber- reinforced composite fixed partial dentures for young patients

Hatice Agan, Gulay Kansu
Ankara University, Faculty of Dentistry, Ankara, Turkey

Objectives: Different restorative options can be considered for the replacement of a congenitally or traumatically missing incisors in young patients. Fiber-reinforced composite (FRC) fixed partial dentures are one of the conservative and aesthetic options for young patients following orthodontic treatment preventing orthodontic relaps and root convergence and patients who have not attained sufficient skeletal maturity for implants. FRC bridges could be made directly or indirectly using artificial plastic tooth, natural tooth or by a direct build up composite resin tooth. This case report describes fabrications of direct FRC bridges for two young patients using different glass fiber bands and pontic type.
Methods: 16 years old female patient who had a missing left lateral tooth was rehabilited with direct FRC bridge. Build up composite resin was used as a pontic and non pre-impregnated glass fiber band was used. 18 years old male patient who had congenitally missing laterals, had undergone orthodontic treatment. Implant supported crowns were decided as final restoration. Until implant surgery direct FRC was fabricated by using pre-impregnated glass fiber and artificial tooth. For both patients discolorations on the palatal surface of the involved teeth were removed with polishing paste and brush. The palatal surface was etched and then coated with primer and bonding agent. Flowable composite resin was used for bonding glass fiber bands. Occlusal contacts were checked and composite surfaces were polished.
Results: This technique offers a conservative, easy, quick and unexpensive treatment. FRC bridges solved the esthetic concern.Two patients had satisfied with their new lookings.
Conclusion: FRC fixed partial dentures are ideal interim prosthesis for young patients demanding implant placement after the end of growing period.

PP96

Level of posterior occlusion satisfying the daily living needs of partially dentate patients

Saadika Khan, R. Omar, UME Chikte
University of Western Cape, Department of Restorative Dentistry, Cape Town, South Africa

Objectives: The objectives of this study were to establish patient satisfaction related to oral functioning ability and to investigate the relationship between level of occlusion and oral health-related quality of life amongst patients with different types of shortened arches.
Method: A cohort study was conducted amongst partially dentate adult patients (N=56) at the Faculty of Dentistry, University of the Western Cape, South Africa. Patients with classic shortened, discontinuous or interrupted arches, and requesting removable partial dentures, completed the Oral Impacts on Daily Performance (OIDP) questionnaire before and after dental treatment. The data were analysed with the Epi-Info statistical programme by way of frequency calculations, paired comparisons and Chi-squared statistics to reflect the significance of each statement. Ethical clearance and informed consent was obtained from the Ethics Board and patients respectively.
Results: Age range of participants varied from 28-86 years (mean=58.11), the majority being female (62.5%). Most patients lived in urban areas (92.9%), and were largely unemployed or retired (73.2%). Equal numbers of respondents rated their dental health as very good or very poor (35.7%), with 41% not satisfied with the state of their oral health. Fifty three percent felt they were in great need of treatment. Patients received oral care advice mostly from dentists (86%). The frequency of oral impacts mostly experienced by patients with shortened or discontinuous arches were those of eating (71.4%), smiling (51.8%) and being embarrassed because of missing teeth (69.6%). A highly statistically significant reduction of negative impacts was observed following treatment with removable partial dentures.
Conclusion: In patients presenting with a range of reduced and discontinuous arches, negative oral impacts were greatly reduced after treatment with placement of removable partial dentures, increasing satisfaction with oral function and improvement in oral health-related quality of life.

PP97

Rehabilitation of the oblique fractured tooth by polyethylene fiber strip

Baris Goktas, Mert Gokay Eroglu, Gulnur Isil Turk, Andac Barkin Bavbek
University of Yüzüncü Yil, Department of Prosthodontics, Van, Turkey

Objectives: Rehabilitating the catastrophic root-crown fracture of a tooth whether by the extraction of the tooth or improving the survival rate with various restorative strategies is a hard decision to make for the clinician. The extraction is supposed to be an exact solution by eliminating the potential risks but causes aesthetic problems, alveolar resorptions and sophisticated rehabilitation approaches. The aim of this study is to expose a non-invasive technique to stabilize the fragments of the oblique fractured tooth by the Polyethylene Fiber Strip (PFS) which shows similar elastic modulus with the dentin structure.
Methods: A 30-year-old patient with a trauma of left maxillary central incisor was referred to Faculty of Dentistry, Yuzuncu Yil University. An oblique crown-root fracture localized from the middle of lingual surface to the buccal surface of root where the sound root surface was observed below 3-4 mm from the alveolar bone crest was detected after examinations. An endodontic treatment was immediately finished and a hard plastic sheet (Ultradent® Clear Treatment Splint Sheets) was constructed for the immobilization of the fragments of the tooth under occlusal forces. After healing period, post cavity

was established and two horizontal slots at post-hole through aproximal surface were prepared at gingival third of the coronal part of the tooth. The post cavity was cleaned and self-adhesive resin cement (Clearfill SA Cement) was applied into root-canal and slots. A PFS (Ribbond) with 2mm thickness was inserted into the post cavity and excess parts were laid out onto the slots. After curing period, the reinforced surfaces were restorated with a resin composite (Filtek Supreme Plus).
Results: An endodontic anchorage sustained the structural integrity of the oblique fractured tooth by the support of the PFS.
Conclusion: The mobility of the fragments was kept down and a monoblock structure was reconstructed by dentin like structures.

PP98

Bone reduction of an edentulous jaw - unexspected but sometimes necessary

Anna Knaus, Astrid Skolka, Eva Piehslinger
Bernhard Gottlieb University Clinic, Vienna, Austria

In this presentation, we want to introduce a female patient with severe occlusal circumstances. Her main concern was a functioning full denture for the upper jaw. The intraoral inspectation showed an enormous alveolar crest which means at first a simply work for a prosthodontist. But soon we came to realise, it wouldn´t be that easy. When she closed her lips in a relaxed position, the incisal edges of the lower front teeth were in contact of the mucous membrane of the upper jaw. There was no space between the upper crest and the lower frontal teeth. Step by step the diagnostic findings resulting in the implementation of our treatment plan will be presented.

PP99

Analysis of changes after 6 and 10 years using computerized cephalometry

Ljiljana Strajnic
Clinic for Dentistry of Vojvodina, Faculty of Medicine, Novi Sad, Serbia

The aim of this study was to present a longitudinal analysis of changes in the tissues of the orofacial complex and interjaw relationships using computerized cephalometry in an edentulous patient six and ten years following the treatment with complete dentures. The author presented the case of a 63-year-old female patient, edentulous for six years before treatment , with the eugnat jaw relationship. Cephalometric radiograph was carried out in the process of new complete denture production, while the evaluation was carried out with the same dentures after six and ten years. Cephalometric analysis was performed by using “Dr. Ceph” computer software (FYI Technologies, GA, USA), which registered values of 25 parameters in each lateral cephalometric radiographs. After six years, the reduction of anterior total facial height (N-Me) was 5.5 mm and the anterior lower facial height (ANS-Me) was 5.3 mm, the vertical residual ridge reduction of the maxilla was 2.1 mm and the reduction of the mandible was 3 mm. The reduction of sagittal relationship between the maxilla and mandible (ANB) was 1.9°. After ten years the reduction of anterior total facial height (N-Me) was 9.2 mm and the anterior lower facial height (ANS-Me) was 8.7 mm, the vertical residual ridge reduction of the maxilla was 2.9 mm and the reduction of the mandible was 4.8 mm. The reduction of sagittal relationship between the maxilla and mandible (ANB) was 3.3°. Changes in the vertical dimension of occlusion mostly involve the anterior total facial

height and the anterior lower face height. They are a consequence of the expected alveolar residual ridge resorption of the upper and lower jaw and of abrasion of the acrylic teeth. The measured vertical resorption of the lower alveolar ridge was higher than the vertical resorption of the maxillary ridge. Changes in the upper facial region were insignificant.

PP100

Clinical and radiographic evaluation of one-piece zirconia implants after 18 months function

Merve Bankoğlu, Cemal Aydın, Handan Yılmaz, Esma Başak Gül
Gazi University, Faculty of Dentistry, Department of Prosthodontics, Ankara, Turkey

Purpose: The purpose of this study was to evaluate the clinical and radiographic outcomes of one-piece zirconia implants after 18 months follow-up period.
Materials and Methods: A total of 10 one-piece zirconia implants were inserted into anterior maxillary region in 10 patients. The clinical and radiographic outcomes were evaluated during 18 months follow-up period. Gingival index (GI), Plaque index (PI), Probing pocket depth (PD) values and marginal bone loss were measured.
Results: PI values after 3,6,7,12 and 18 months were; 0.65 ± 0.04, 0.56 ± 0.07, 0.56 ± 0.07, 0.43 ± 0.06 and 0.37 ± 0.94, respectively. The PI values were statistically different between the follow-up periods ($p<0.01$). Assessment of GI and PD after 3,6,7,12 and 18 months revealed 0.50 ± 0.06, 0.47 ± 0.06, 0.43 ± 0.06, 0.43 ± 0.06, 0.31 ± 0.10 and 3.1 ± 0.41, 2.21 ± 0.16, 2.25 ± 0.16, 2.31 ± 0.17 and 2.37 ± 0.15, respectively. PD values were not statistically significant between the follow-up periods ($p>0.05$). Two implants were lost three months after the placement. Bone loss is statistically different between the follow-up periods ($p<0.01$). The marginal bone loss were 0.96 ± 0.08 mm within the implant insertion and after 18 months follow-up period.
Conclusion: In the radiographic examinations after 18 months, 0.96 ± 0.08 mm marginal bone loss is observed. This must be under consideration and long-term clinical studies are needed to recommend one-piece zirconia implants for clinical use.

PP101

Barriers in delivering oral health care to older people experienced by dentists

Pieternella C. Bots-VantSpijker, Jacques N.O. Vanobbergen, Jos M.G.A. Schols, Rob M.H. Schaub, Casper P. Bots, Cees de Baat
BENECOMO, Flemish-Netherlands Geriatric Oral Research Group, Ghent, Belgium/Nijmegen, The Netherlands & Department of Oral Function and Prosthetic Dentistry, Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands

Objective: To identify the barriers of delivering oral health care to both home-dwelling older peopleand older people in care homes, experienced by dentists.
Methods: A comprehensive literature search was carried out for studies published in the period January 1990 –December 2011, using free text and MESH term search strategies for PubMed (Medline), EMBASE and CINAHL.
Results: The initial search identified 236 potentially relevant publications; PubMed (Medline; n=127), EMBASE (n=108) and CINAHL (n=1). After screening of titles and abstracts, 14 publications were

considered as relevant for further review. Seven articles, focusing on dentists delivering oral health care to older people in care homes, were suitable for this review and seven articles did not meet the utilized quality criteria. It appeared that only onerelevant article could be retrieved dealing with bothbarriers experienced by dentists working in their own practice and delivering oral health care to community-dwelling older people. Finally, the reviewed articles concerned mainly barriers experiencedby dentists working in care homes.
Results: The most common barriersof delivering oral health care to older people were: the lack of adequate equipment in a care home and no area for treatment available (n= 4) and the lack of adequate reimbursement for working in a care home (n=5). In addition, the inadequate training and experience indeliveringoral health care to older care home residents (n=2) were mentioned. Four publications indicated the loss of time from private practice as a barrier to provide oral health care in a care home.

PP102

Efficacy of A Mandibular Advancement Splint Therapy After Unsufficient Pharengeal Surgery

Bülent Piskin, Ömer Karakoç, Hakan Genç
Prosthetic Dentistry, Gülhane Military Medical Academy, Department of Prosthodontics, Ankara,Turkey

Obstructive Sleep Apnea (OSA) is a potentially life-threatening and chronic disorder characterized by repetetive cessation of respiration due to narrowing or collapse of upper airway generally resulting with arterial blood oxygen desaturation and arousal during sleep.Impairment of concentration, tiredness with excessive daytime sleepiness, cardiovascular diseases as myocardial infarction, and stroke are most common complications of OSA .Since the first reported in the medical literature, different treatment approaches as weight loss, medication, and pharyngeal surgery, CPAP, and oral appliances have been proposed for OSA. In this case report we aimed to describe the fabrication procedure and treatment efficiency of a mandibular advancement splint after unsufficient pharengeal surgery for a moderate obstructive sleep apnea patient.

PP103

Tooth loss in geriatric patients: a risk for cognitive impairment?

Matthias Karl, Thomas F. Elsig, M. Schimmel, E. Duvernay, S. Giannelli, Ch. Graf, S. Carlier, F.R. Herrmann, J.P. Michel, G. Gold, D. Zekry, F. Müller
University and University Hospitals of Geneva, Geneva, Switzerland

Purpose: Patients with dementia have poorer oral health and fewer teeth than their pairs without cognitive impairment. As physical exercise is believed to reduce the risk for cognitive decline, the equivalent might apply for chewing exercise. Therefore the hypothesis of the present study is that the number of natural teeth as well as the chewing efficiency is a predictor for the cognitive functioning.
Methods: This cross-sectional study included 29 demented patients aged ≥60 years and 22 controls who were either healthy (n=19) or presenting with MCI (n=3). Neuropsychological, nutritional and dental examinations were performed. The chewing efficiency was evaluated with a two-colour mixing test.
Results: On average, participants had 4.9 teeth whereas controls presented with 6.5 teeth (n.s.). Neither the number of natural teeth was significantly predictive of the participants' cognitive function (p= 0.553) nor their sex (p= 0.901) or age (p= 0.746). The chewing efficiency predicted 9.3% of the presence of MCI or dementia and seems a better predictor of cognitive impairment than simply counting the number of

natural teeth.
Conclusions: In conclusion, functional rather than solely anatomical examinations of the masticatory system should be performed during a geriatric assessment. Forceful chewing seems beneficial to elderly patients and should be assisted by dental restorative measures, if necessary.

PP104

Clinical steps for conventional loading for maxillry fixed rehabilitations

Elli Kotina, Eustathia Besiri, Theodwra Diamantatou, Athanasios Karagiannis, Nikitas Sykaras

Goal: The aim of this poster is to present the fabrication of a fixed provisional restoration supported by teeth with poor prognosis and soft tissues during the osseointegration period and the transition to the definitive fixed implant-supported restoration in maxilla.
Method and materials: After assessing extraoral and intraoral parameters, a provisional acrylic full-arch provisional restoration was fabricated,supported in the remaining teeth and the maxillary tuberosities. The existing provisional restoration duplicated in diagnostic/surgical guide for implant placement. When implant uncoverage was performed, the existing provisional transformed to an implant screw-retained transitional restoration and the hopeless teeth were extracted. After soft-tissue healing and management, the provisional restoration was used for the registration and mounting of the master cast and as a blueprint of the final restoration.
Results: This type of fixed provisional restoration may have many advantages. The clinician can evaluate patient-related findings and verify functional parameters, such as vertical dimension, centric relation, tooth position, lip support and asthetics, before implant placement and decide whether a fixed restoration is feasible and potentional need for bone and soft-tissue augmentation procedures. It can be used to avoid a removable restoration during implant osseintagration and provide soft-tissue management. In the form of these restorations, prostheses can be transformed to the definitive implant-supported fixed prostheses.
Conclusions: The presented case demonstrate techniques that may be of value for a long-term successful and predictable outcome of fixed in edentulous patients.

Notes