ACOMS 37TH ANNUAL SCIENTIFIC CONFERENCE AND EXHIBITION

Treating the Growing Patient

Ritz-Carlton SAN JUAN PUERTO RICO
April 9-12 2016

Scientific Co-Chairs:
Stephanie J. Drew, DMD
Pedro F. Franco, DDS

Co-Sponsors:
SCHEDULE AT-A-GLANCE
ACOMS 37th Annual Scientific Conference and Exhibition

SATURDAY, APRIL 9

9:00 AM – 2:30 PM
Pediatric Anesthesia Mini-Symposium
Jeffrey Bennett, DMD; Deepak Krishnan, DDS; Steven Thomas, DDS, MD; Patrick Vezeau, DDS, MS

9:00 AM – 9:30 AM
Pediatric Risk Assessment: Anatomy and Physiology
Jeffrey Bennett, DMD

9:30 AM – 10:30 AM
Anesthetic Technique and Pharmacology for the Pediatric Patient
Deepak Krishnan, DDS

10:30 AM – 11:00 AM
Break

11:00 AM – 12:00 PM
How Would You Manage This Patient?
Patrick Vezeau, DDS, MS

12:00 PM – 1:00 PM
Lunch in Exhibit Hall

1:00 PM – 2:00 PM
Management of Pediatric Anesthetic Emergencies
Deepak Krishnan, DDS

2:00 PM – 2:30 PM
Pediatric Technique: LMA
Steven Thomas, DDS, MD

2:30 PM – 3:00 PM
Break in Exhibit Hall

3:00 PM – 3:45 PM
Update in Oral and Maxillofacial Pathology in Children
Rui Fernandes, MD, DMD, FACS

3:45 PM – 4:30 PM
Maxillofacial Reconstruction in the Growing Patient
Rui Fernandes, MD, DMD, FACS

4:30 PM – 6:30 PM
Welcome Reception in Exhibit Hall

SUNDAY, APRIL 10

7:30 AM – 9:00 AM
Scientific Abstract Presentations

9:00 AM – 10:30 AM
Brunch in Exhibit Hall

10:30 AM – 12:30 PM
Extreme Cases and Management of Complications in the Growing Patient: Featuring ALACIBU and SECOM
José Luis López-Cedrún, MD, DDS, PhD, FEBOMS
Ignacio Ismael Garcia Recuero, MD, FEBOMS
Oscar de Leon, DDS
Beatriz Mejia, DDS

12:30 PM – 2:30 PM
Concurrent Industry-Sponsored Symposia:
Clinical Dialogues on Postsurgical Pain Management: Focusing on Patient-Centered Care
Dale Misiek, DMD and Thomas Williams, DDS, MD
Sponsored by Pacira Pharmaceuticals

Cosmetic Procedures and Philosophies that Can Simply Integrate into any OMS Practice
Manraj Bath, DMD
Sponsored by Ellman

6:00 PM – 7:00 PM
Kurt H. Thoma Memorial Lecture:
Inventions and Innovations in Maxillofacial Reconstruction During Growth
Cesar Guerrero, DDS

7:00 PM - 10:30 PM
Women in Oral and Maxillofacial Surgery Special Event
Sponsored by KLS Martin, Neodent, and Straumann
### MONDAY, APRIL 11

**7:00 AM - 8:00 AM**
Industry-Sponsored Breakfast Symposium: How My Nerve Algorithm Has Evolved  
Michael Miloro, DMD, MD, FACS  
John Zuniga, DMD, MS, PhD  
Sponsored by AxoGen

**8:00 AM - 9:30 AM**
Orthognathic Surgery in the Growing Patient  
Paul Tiwana, DDS, MD, MS, FACS

Parameters for Esthetic Surgery in the Teen Patient  
Jon Perenack, DDS, MD

**9:30 AM - 11:00 AM**
Brunch in Exhibit Hall

**11:00 AM - 11:15 AM**
Humanitarian Award Presentation  
Julio Acero Sanz, DMD, MD, PhD, FEBOMS

**11:15 AM - 12:15 PM**
Orthognathic Surgery in Class III Growing Patients - Long Term Follow-up  
Carlos Villegas, DDS

**12:15 PM - 1:15 PM**
TMJ Reconstruction in the Growing Patient  
Paul Tiwana, DDS, MD, MS, FACS

**5:00 PM - 6:00 PM**
Industry-Sponsored Symposium: Making the Connection: Utilizing a Morse Taper Implant System to Define a New Paradigm in Dental Implant Therapy  
Robert McNeill, DDS, MD  
Sponsored by Neodent

**6:00 PM - 7:00 PM**
Industry-Sponsored Symposium: Innovations in Implant Dentistry to Help Manage the Growing Patient  
Tara Aghaloo, DDS, MD, PhD  
Sponsored by Straumann

**7:00 PM - 11:00 PM**
ACOMS Beach Party  
Sponsored by Orthofix

### TUESDAY, APRIL 12

**7:30 AM - 8:00 AM**
Breakfast

**8:00 AM - 9:00 AM**
Timing and Indications on Dental Implants for the Growing Patient  
Tara Aghaloo, DDS, MD, PhD

**9:00 AM - 10:00 AM**
Zygoma Implants in the Growing Patient  
Cesar Guerrero, DDS

**10:00 AM - 10:30 AM**
Break

**10:30 AM - 11:30 AM**
Bone Graft and Alveolar Reconstruction for the Growing Patient  
Tara Aghaloo, DDS, MD, PhD

**11:30 AM - 12:30 PM**
Dental Implants in Growing Patients  
Javier Mareque, MD, DMD, PhD, FEBOMS

**12:30 PM - 2:00 PM**
State of the College Address and Awards Luncheon

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This activity is supported by an educational grant from 3D Systems Healthcare.
CO-CHAIRS’ WELCOME

WELCOME TO SAN JUAN!

On behalf of the Committee on Continuing Education of the American College of Oral and Maxillofacial Surgeons, we are pleased to greet you in San Juan for our 37th Annual Scientific Conference and Exhibition. We are very excited to partner with la Sociedad Española de Cirugía Oral y Maxilofacial (SECOM) and la Asociación Latino Americana de Cirugía Bucal y Maxilofacial (ALACIBU).

This conference will focus on oral and maxillofacial surgery for the growing patient. We have an outstanding internationally-recognized panel of speakers with significant surgical experience in topics such as dental implants, orthognathic surgery, pathology, reconstruction, and TMJ.

The first day of the conference will feature a mini-symposium on pediatric anesthesia that will address the latest modalities in treatment, as well as different approaches for anesthesia and sedation for children. This mini-symposium will provide a concise update through the expertise and interactive lectures of an energetic and distinguished faculty.

This year we will be honoring Dr. Cesar Guerrero with the W. Harry Archer Award. Dr. Guerrero has been a pioneer, educator, mentor, and leader in orthognathic surgery techniques, distraction osteogenesis for the facial skeleton, and placement of zygoma implants for dental rehabilitation. He will be presenting the Kurt H. Thoma Memorial Lecture, which promises to be full of innovative treatment modalities, long-term follow-ups, and wonderful cases. Dr. Guerrero’s, stage charisma will make for an amazing and memorable presentation on Inventions and Innovations in Maxillofacial Reconstruction During Growth that you will not want to miss.

ACOMS will also present the Humanitarian Award to Dr. Julio Acero Sanz, President of the International Association of Oral and Maxillofacial Surgery (IAOMS). Dr. Acero’s long career and educational path delivering oral and maxillofacial surgery care and education to new generations in third world countries will be recognized.

The evenings will be packed with island surprises. On Saturday night, please join us in the Exhibit Hall for refreshments at our Welcome Reception. Make sure to visit with our generous vendors that will undoubtedly make this event a great success!

The Women in Oral and Maxillofacial Surgery special event will be held on Sunday evening. This special event is dedicated to the women of oral and maxillofacial surgery. We honor those that have supported the growth of diversity in our specialty throughout the past, present, and future. Join us on the Vista Mar Terrace for a short presentation, followed by a fabulous dinner and the opportunity to dance the night away.

Monday night is our Puerto Rican beach party, featuring dinner under the stars. No shoes are required! Come enjoy the Latin sounds and the cool beach breeze of the evening.

On Tuesday we will wrap up the long weekend with one more remarkable educational opportunity as well as the State of the College Address.

There is no better place to host this great meeting than the Ritz-Carlton, San Juan. Be sure to take some time to relax and enjoy the beautiful location with your family, surrounded by the camaraderie of old and new friends, while you benefit from the cutting-edge education that this meeting offers.

WE THANK YOU ALL FOR COMING TO LA ISLA ENCANTADA!

BIENVENIDOS A SAN JUAN!

En nombre del Comité de educación continuada del Colegio Americano de Cirugía Oral y Maxilofacial, reciben una cordial saludo a nuestra 37va Conferencia Científica Anual y Muestra Comercial. Estamos muy halagados de poder contar con Asociaciones invitadas como son la Sociedad Española de Cirugía Oral y Maxilofacial (SECOM) y la Asociación Latino Americana de Cirugía Bucal y Maxilofacial (ALACIBU).

La Conferencia esta centrada en Cirugía Maxilofacial de pacientes en Crecimiento. Tenemos un panel de excelentes conferencistas reconocidos de talla internacional con una experiencia quirúrgica muy amplia en temas como implantes dentales, cirugía ortognática, patología, reconstrucción facial y de ATM.

El primer día de conferencia, tendremos un Mini Simposio en anestesia pediátrica, presentando las últimas modalidades en tratamiento y diferentes manejos de anestesia y sedación en niños. Este mini simposio ofrece una actualización muy precisa con conferencistas muy conocidos por su experiencia y presentaciones energéticas e interactivas.

Este año le rendiremos un merecido homenaje al Dr. Cesar Guerrero con el Premio W. Harry Archer. El ha sido pionero, educador, mentor y líder en técnicas de cirugía ortognática, distracción osteogénica en el esqueleto facial y colocación de implantes zigomáticos para la rehabilitación oral. El Doctor Guerrero estará presentando la Conferencia Kurth H. Thoma Memorial Lecture. Esta conferencia estará ofreciendo diferentes técnicas, seguimientos a largo plazo y casos maravillosos, además de los excelentes dotes de expositor, los cuales nos anticipan una conferencia espectacular.

ACOMS presentara el Premio Humanitario al Dr. Julio Acero, Presidente de la Asociación Internacional de Cirugía Oral y Maxilofacial (IAOMS). Su larga carrera
y pasión en llevar tratamientos en Cirugía máxilofacial a pacientes necesitados y transmitir educación y enseñanza a especialistas en el tercer mundo serán reconocidos.

Las noches estarán llenas con sorpresas de la Isla. Los esperamos el Sábado en la noche para disfrutar bebidas y pasabocas en la ceremonia de inauguración en el salón de la nuestra comercial. Recuerde de visitar a nuestros generosos expositores, que con su incondicional apoyo, nos generan un éxito total de la conferencia.

El Domingo tendremos “La Noche de las Damas”. Este evento especial está dedicado a la mujer en cirugía oral y máxilofacial. Estamos homenajeando a aquellas mujeres que han apoyado y liderado el crecimiento de esta minoría en nuestra especialidad durante todo este tiempo. Los esperamos en la terraza durante una corta presentación y después una cena deliciosa con una velada bailable increíble el resto de la noche.

En la noche del Lunes, tendremos una fiesta Puerto Riqueña en la playa. La cena será bajo las estrellas y los zapatos no son necesarios. Disfrutarán de la música Latina y de una refrescante brisa marina nocturna.

El martes terminaremos este fin de semana largo con un gran evento educativo y la conferencia del estado actual del Colegio.

El Hotel Ritz Carlton en San Juan, nos ofrece un excelente lugar para albergar este formidable evento. Este hotel de lujo, está situado a 4.7 Km. del aeropuerto internacional. La conferencia ha sido diseñada con el fin de balancear nuestro tiempo en educación, disfrutar con la familia o relajarnos en las lindas playas.

Recuerden, lo mejor de ACOMS es la oportunidad de recibir educación de excelente calidad en unos sitios de lujo y relax rodeados de la camaradería y el poder compartir con viejos y nuevos amigos.

LE AGRADECEMOS POR VENIR A LA ISLA ENCANTADA!

### ACOMS 2015–2016 OFFICERS AND REGENTS

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Nebraska Oral and Facial Surgery, Lincoln, NE

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UCLA School of Dentistry, Los Angeles, CA

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Center for Oral Facial Reconstruction, Irvine, CA

**Kevin L. Rieck, DDS, MD, FACS**  
Nebraska Oral and Facial Surgery, Lincoln, NE

**Robert A. Strauss, DDS, MD**  
Virginia Commonwealth University, Richmond, VA
The W. Harry Archer Award was established by the Board of Regents of the American College of Oral and Maxillofacial Surgeons to recognize the achievements of individual oral and maxillofacial surgeons and to memorialize Dr. Archer’s significant contributions to the specialty.

Dr. Archer, a prolific writer and gifted and respected teacher, was a trailblazer of oral and maxillofacial surgery. His excellence in leadership, teaching, research, and writing place him among the eternal giants of our specialty. Think of oral surgery as it exists today: dynamic, respected, broad. This is the legacy of Dr. W. Harry Archer.

THE 2016 W. HARRY ARCHER AWARD RECIPIENT

CESAR A. GUERRERO, DDS

Dr. Guerrero will present the Kurt H. Thoma Memorial Lecture, Inventions and Innovations in Maxillofacial Reconstruction During Growth on Sunday, April 10, 2016.

Cesar Guerrero, DDS is an Assistant Professor in the Division of Oral and Maxillofacial Surgery, Department of Surgery, at the University of Texas Medical Branch Galveston. His specialties include severe facial deformities, facial reconstruction, clefts, zygoma and extraoral implants, and distraction osteogenesis.

His contributions to ACOMS have been significant as a former Regent, frequent lecturer, and advocate for the organization. He is also a Past President of ALACIBU and NORCIBU, former Director of the IAOMS, and a member of numerous national and international oral and maxillofacial surgical organizations.

Dr. Guerrero attended dental school at the Central University of Venezuela and completed his residency in oral and maxillofacial surgery at University of Texas Southwestern/Parkland Memorial Hospital in 1981. Dr. Guerrero owns patents on internal distractors for mandibular lengthening, maxillary alveolar clefts, and bone transport in maxillofacial reconstruction. He is a Member of ACOMS, AAOMS, ALACIBU, NORCIBU, EACMF and an Honorary Member of the Chilean, Colombian, and Puerto Rican Societies of Oral and Maxillofacial Surgeons. Dr. Guerrero is the editor of books on Zygoma Implants and Distraction Osteogenesis, and also serves as a reviewer for the OOOO, JOMS, and IJOMS, and as section editor for Orthognathic and Distraction Surgery in the Annals of Oral and Maxillofacial Surgery journal.

Past Archer Award Recipients:
2015: Dr. Joseph Niamtu, III
2014: Dr. Larry Wolford
2013: Dr. Eric Dierks
2012: Dr. Robert Ord
2011: Dr. Edward Ellis
2010: Dr. Raymond Fonseca
2009: Dr. Timothy Turvey
2008: Dr. Ray White
2007: Dr. Michael Block
2006: Dr. R. Bruce McIntosh
2005: Dr. David Precious
2004: Dr. Edela Puricelli
2004: Dr. Antenor Araujo (presented jointly)
2002: Dr. John Ken
2001: Dr. James Bertz
2000: Professor Jean Delaire
1999: Dr. Robert Marx
1998: Dr. Rolf Ewers
1997: Dr. William Bell
1996: Dr. Alex Mohnac
1995: Dr. Stuart Kline
1994: Dr. James Bauerle
1993: Professor Hugo Obwegeser
1991: Dr. Philip Boyne
1990: Dr. Robert Shira
1988: Dr. Robert Walker
1987: Dr. Harold Zubrow
1986: Dr. Fred Henny
1985: Dr. Bruce Epker
1984: Dr. Daniel Laskin
1983: Dr. Herbert Bloom
1983: Dr. Irvin Uhler (presented jointly)
ACOMS HUMANITARIAN AWARD

The ACOMS Humanitarian Award was established in 1990 to recognize outstanding philanthropic and humanitarian contributions provided by oral and maxillofacial surgeons to humanity and to celebrate the public-spiritedness of those who use their skills to give back to society. This honor is not an annual award; the ACOMS Humanitarian Award is awarded only to exceptional candidates on a merit basis.

THE 2016 ACOMS HUMANITARIAN AWARD RECIPIENT
JULIO ACERO SANZ, DMD, MD, PHD, FEBOMS

Dr. Julio Acero Sanz, Chief of Oral and Maxillofacial Surgery at the Ramon y Cajal Hospital in Madrid, Spain will be honored with the ACOMS Humanitarian Award on Monday, April 11, 2016.

Dr. Acero’s humanitarian work has a name: education. In addition to his multiple missions to help patients in Africa, Dr. Acero has dedicated his time to spreading oral and maxillofacial surgery knowledge around the world. He is a pioneer who has helped to establish several oral and maxillofacial surgery educational programs in Africa, East Europe, and South America. These programs have since flourished into formal training programs in many countries, transforming patient care around the world. Dr. Acero also created international fellowship training programs through IAOMS, including fellowships in oncology, microvascular, and reconstructive surgery, and craniofacial, cleft, and facial deformities. As the current president of IAOMS, Dr. Acero will maintain the international training programs, launch their new e-learning program, and oversee other educational innovations.

Dr. Acero earned his Bachelor of Medicine and Surgery from the Autonomous University of Madrid. He received Odonto-Stomatologist training at the Universidad Complutense de Madrid and became a specialist in Oral and Maxillofacial Surgery in 1985. He is Past President of SECOM and began his term as President of IAOMS in January 2016.

Past Humanitarian Award Recipients:

2013: Dr. David Precious
2010: Dr. Timothy Bartholomew
2009: Dr. John Westine
2005: Dr. Leon Assael
2004: Dr. Enrique Amador
2000: Dr. Walter Guralnick

1996: Dr. Irvin Uhler
1995: Dr. R. Bruce MacIntosh
1993: Dr. Martin Dunn
1992: Dr. P. Earle Williams
1991: Mr. Harvey Sarner
1990: Mr. Walter Lorenz
SCIENTIFIC PROGRAM

SATURDAY, APRIL 9

Moderators: Jeffrey Bennett, DMD and Jasjit Dillon, DDS, MD

Registration Hours:
7:00 AM – 6:00 PM
Side Gallery

Exhibit Hall Hours:
12:00 PM - 1:00 PM
2:30 PM - 3:00 PM
4:30 PM - 6:30 PM
Salon III, IV, V

9:00 AM – 9:30 AM
Pediatric Risk Assessment: Anatomy and Physiology
Salon I–II
Jeffrey Bennett, DMD
Faculty will discuss risks associated with pediatric anesthesia; review differences between adult and pediatric airway anatomy and physiology; describe management of the pediatric airway.

9:30 AM – 10:30 AM
Anesthetic Technique and Pharmacology for the Pediatric Patient
Salon I–II
Deepak Krishnan, DDS
Faculty will discuss the differences in anatomy and physiology as it pertains to delivery of safe anesthesia in children.

10:30 AM – 11:00 AM
Break

11:00 AM – 12:00 PM
How Would You Manage This Patient?
Salon I–II
Patrick Vezeau, DDS, MS
Faculty will review common pediatric medical conditions in a patient presentation format and the impact on anesthetic delivery; discuss strategies to successfully manage such cases; describe treatment of potential complications.

12:00 PM – 1:00 PM
Lunch in Exhibit Hall
Salon III, IV, V

1:00 PM – 2:00 PM
Management of Pediatric Anesthetic Emergencies
Salon I–II
Deepak Krishnan, DDS
Faculty will identify and review management techniques of anesthetic emergencies in children.

2:00 PM – 2:30 PM
Pediatric Technique: LMA
Salon I–II
Steven Thomas, DDS, MD
Faculty will review proper techniques to safely manage the airway in pediatric patients.

2:30 PM – 3:00 PM
Break in Exhibit Hall
Salon III, IV, V

3:00 PM – 3:45 PM
Update in Oral and Maxillofacial Pathology in Children
Salon I–II
Rui Fernandes, MD, DMD, FACS
Faculty will review common head and neck pathology in children; discuss the work up for these pathologies; review the current evidence based approaches for their management; review the recommended follow up following treatment.

3:45 PM – 4:30 PM
Maxillofacial Reconstruction in the Growing Patient
Salon I–II
Rui Fernandes, MD, DMD, FACS
Faculty will review current options for bone reconstruction in children; review options for soft tissue reconstruction in children; discuss implications of chosen reconstructive options as they relate to facial growth.

4:30 PM – 6:30 PM
Welcome Reception in Exhibit Hall
Salon III, IV, V
SUNDAY, APRIL 10

Moderators: Leonard Spector, DDS; Benjamin Kur, DDS; Pedro Franco, DDS; Marianela Gonzalez, DDS, MD, MS; David Hoffman, DDS

Registration Hours:
7:00 AM – 2:30 PM
5:30 PM - 7:30 PM
Side Gallery

Exhibit Hall Hours:
9:00 AM – 10:30 AM
Salon III, IV, V

7:30 AM – 9:00 AM
Scientific Abstract Presentations
Salon I–II

9:00 AM – 10:30 AM
Brunch in Exhibit Hall
Salon III, IV, V

10:30 AM – 12:30 PM
Extreme Cases and Management of Complications in the Growing Patient: Featuring ALACIBU and SECOM
Salon I–II
José Luis López-Cedrún, MD, DDS, PhD, FEBOMS
Ignacio Ismael García Recuero, MD, FEBOMS
Oscar de Leon, DDS
Beatríz Mejía Flórez, DDS

Faculty will review extreme cases of maxillofacial pathologic conditions of the growing child, their management, and potential complications.

12:30 PM – 2:30 PM
Concurrent Industry-Sponsored Symposia:
Clinical Dialogues on Postsurgical Pain Management: Focusing on Patient-Centered Care*
Vista Mar Terrace
Dale Misiek, DMD and Thomas Williams, DDS, MD

Cosmetic Procedures and Philosophies that Can Simply Integrate into any OMS Practice*
La Luna
Manraj Bath, DMD

This session will assist in the integration of procedures, treatment philosophies (including the teen and younger adult), treatment planning and cost analysis of injectables, ablative and non-ablative RF and laser techniques, minor and major surgical techniques.

6:00 PM – 7:00 PM
Kurt H. Thoma Memorial Lecture: Inventions and Innovations in Maxillofacial Reconstruction During Growth
Salon I–II
Cesar Guerrero, DDS

Faculty will discuss new surgical modalities to reduce costs and morbidity comparing to traditional technologies and microvascular grafting; review indications and surgical management for individual maxillofacial reconstruction.

7:00 PM – 10:30 PM
Women in Oral and Maxillofacial Surgery Special Event
Salon I–II and Vista Mar Terrace

All meeting attendees are invited to join us for this special event featuring Puerto Rican food and beverages, music and dancing, and a special announcement. The event will begin in Salon I–II and will then move to the Vista Mar Terrace.

This is a ticketed event. All attendees and registered guests will receive a ticket to the event at check-in. Please be sure to bring your ticket in order to be admitted. Additional tickets may be purchased at the registration desk.

*Industry Sponsored Symposia are not accredited for continuing dental or medical education credits.
MONDAY, APRIL 11

Moderators: Brian Farrell, DDS, MD and Stephanie Drew, DMD

Registration Hours:
7:00 AM – 1:00 PM
4:30 PM – 7:00 PM
Side Gallery

Exhibit Hall Hours:
9:30 AM – 11:00 AM
Salon III, IV, V

7:00 AM - 8:00 AM
Industry-Sponsored Breakfast Symposium:
How My Nerve Algorithm Has Evolved*
Salon I–II
Michael Miloro, DMD, MD, FACS
John R. Zuniga, DMD, MS, PhD

Don’t miss this interactive panel where panelists will discuss current clinical data, evidence-based repair algorithms, case planning, time saving approaches, repair optimization, and clinical cases.

8:00 AM - 8:45 AM
Orthognathic Surgery in the Growing Patient
Salon I–II
Paul Tiwana, DDS, MD, MS, FACS

Faculty will explain the maturation of the craniofacial skeleton in the growing patient and how this applies to surgical procedures; discuss common procedures applied to the growing patient for the correction of facial skeletal deformities.

8:45 AM - 9:30 AM
Parameters for Esthetic Surgery in the Teen Patient
Salon I–II
Jon Perenack, DDS, MD

Faculty will review patterns of facial growth and skeletal/soft tissue maturity; review concepts of informed consent in the teenaged patient; discuss cosmetic procedures commonly performed in the teenaged patient.

9:30 AM - 11:00 AM
Brunch in Exhibit Hall
Salon III, IV, V

11:00 AM - 11:15 AM
Humanitarian Award Presentation
Salon I–II
Julio Acero Sanz, DMD, MD, PhD, FEBOMS

11:15 AM – 12:15 PM
Orthognathic Surgery in Class III Growing Patients—Long Term Follow-up
Salon I–II
Carlos Villegas, DDS

Faculty will review explain the benefits of orthognathic surgery in younger patients according to patient’s expectations and needs.

12:15 PM – 1:15 PM
TMJ Reconstruction in the Growing Patient
Salon I–II
Paul Tiwana, DDS, MD, MS, FACS

Faculty will discuss the indications to consider condyle ramus unit reconstruction in the growing patient; describe different procedures used for reconstruction of the condyle ramus unit in the skeletally immature mandible.

5:00 PM – 7:00 PM
Industry-Sponsored Symposia:
Making the Connection: Utilizing a Morse Taper Implant System to Define a New Paradigm in Dental Implant Therapy*
Salon I–II
Robert McNeill, DDS, MD

Osseointegration is part of our daily life in a dental clinic and utilizing a system with a more stable implant connection allows more predictable hard and soft tissue results. The common protocols for multi-functional rehabilitation are usually quite grounded and have achieved the basic expectations of the patient and the dentist in regards to successful osseointegration. However, osseointegration is only half the battle. We will discuss why it may not make sense to use the same type of implant body in different types of bone and discuss advances in surface treatments and when they may make sense for your patient.

Innovations in Implant Dentistry to Help Manage the Growing Patient*
Salon I–II
Tara Aghaloo, DDS, MD, PhD

Innovation in implant dentistry has sped up exponentially in the recent past. The time to develop and research new products continues to be squeezed in favor of bringing “the next big thing” to the market. Nevertheless, patients’ expectations for optimal esthetics and long term solutions have never been higher. Scientific evidence has, therefore, never been more important to ensure the success of treatment. The Straumann Dental Implant System has its roots in science and both new and existing products continue to be researched. This lecture will focus on new evidence on how your choice of the brand of implant can negatively or positively impact your patients’ short term and long term success. We will also explore the science behind exciting innovations and indications for the growing patient.
ADA CERP is a service of the American Dental Association to assist dental professionals in identifying quality providers of continuing dental education. ADA CERP does not approve or endorse individual courses or instructors, nor does it imply acceptance of credit hours by boards of dentistry. The ACOMS 37th Annual Scientific Conference and Exhibition has been approved for 19 hours of Continuing Dental Education (CDE) credits.

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of University Health Services Professional Education Programs (UHS-PEP) of Virginia Commonwealth University Health System and the American College of Oral and Maxillofacial Surgeons. UHS-PEP is accredited by the ACCME to provide continuing medical education to physicians.

Designation Statement: UHS-PEP designates this live activity for a maximum of 16 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

This is a ticketed event. All attendees and registered guests will receive a ticket to the event at check-in. Please be sure to bring your ticket in order to be admitted. Additional tickets may be purchased at the registration desk.

TUESDAY, APRIL 12

Moderators: Lidia Guerrero, DMD and Edgar Echevarria-Stuart, DMD

Registration Hours:
7:00 AM – 12:00 PM

Side Gallery

7:30 AM – 8:00 AM
Breakfast
Salon Foyer

8:00 AM – 9:00 AM
Timing an Indications on Dental implants for the Growing Patient
Salon I–II
Tara Aghaloo, DDS, MD, PhD

Faculty will discuss diagnosis, treatment planning, and surgical intervention for the growing patient with dental implants.

9:00 AM – 10:00 AM
Zygoma Implants in the Growing Patient
Salon I–II
Cesar Guerrero, DDS

Faculty will review indications, clinical management, combined surgical prosthodontics, prevention, and management of complications of maxillofacial reconstruction during growth.

10:00 AM – 10:30 AM
Break
Salon Foyer

10:30 AM – 11:30 AM
Bone Graft and Alveolar Reconstruction for the Growing Patient
Salon I–II
Tara Aghaloo, DDS, MD, PhD

Faculty will discuss diagnosis, treatment planning, and protocols for alveolar bone regeneration in the growing patient.

11:30 AM – 12:30 PM
Dental Implants in Growing Patients
Salon I–II
Javier Mareque, MD, DMD, PhD, FEBOMS

Faculty will review current trends in dental implants in growing patients.

12:30 PM – 1:00 PM
Lunch
Salon Foyer

1:00 PM – 2:00 PM
State of the College Address and Awards Luncheon
Salon I–II
ACOMS President Dr. Jon Perenack reflects on the College’s year and his term of office. Meeting honorees, outgoing Officers and Regents, and abstract competition winners are recognized.
IMPORTANT INFORMATION REGARDING CDE AND CME CREDITS

Continuing Dental Education (CDE) credits are administered by ACOMS via our ADA CERP approved provider status. The 37th Annual Conference has been approved for 19 credits hours of CDE. To claim your CDE credits you must complete and return the “Certificate of Attendance” form located at the registration desk to indicate which sessions you attended. Forms may be returned to the registration desk during the conference or sent to our office via email: info@acoms.org or fax: (202) 367-2182.

Continuing Medical Education (CME) credits are administered by University Health Services Professional Education Programs (UHS-PEP) of Virginia Commonwealth University Health System. The 37th Annual Conference has been approved for 16 AMA PRA Category 1 Credits™.

In order to claim CME you MUST complete the “Verification of Participation” form and complete the “VCU Attendee Evaluation for CME” form. The verification form and evaluation are located at the registration desk. Submit the completed forms to the staff at the registration desk while you are at the conference. You may NOT complete these forms after the meeting has ended. This is VCU’s policy and we will not be able to make exceptions.

CDE and CME forms are available at the registration desk. The ACOMS staff will be pleased to answer any questions about CE administration. In most cases, CDE and CME credits will be issued within 30 days after the meeting. Please retain the carbon copies of your submitted forms for your records.

Notes:
- One may claim continuing education credits ONLY for time actually spent in a conference session. Actual, physical attendance in a session is required in order to claim the CDE and CME credit hours.
- Industry-Sponsored Symposia and Abstract Presentations are not eligible for CME credits.
- One may claim CDE for time spent in the abstract presentations.
In adherence with the Accreditation Council for Continuing Medical Education (ACCME) Standards for Commercial Support, University Health Services Professional Education Programs (UHS-PEP) of Virginia Commonwealth University Health System requires that everyone who is in a position to control the content of an education activity has disclosed all relevant commercial interests with any entity producing, re-selling, or distributing healthcare goods or services consumed by, or used on, patients. (Source: ACCME).

These faculty members report the following relevant financial relationships to disclose:

- Jeffrey Bennett, DMD is a consultant for Pacira Pharmaceuticals
- Rui Fernandes, MD, DMD, FACS is a consultant with OsteoMed and Zimmer Biomet
- Paul Tiwana, DDS, MD, MS, FACS is on the speaker’s bureau for Zimmer Biomet

These faculty members have no relevant financial relationships to disclose:

- Tara Aghaloo, DDS, MD, PhD
- Cesar Guerrero, DDS
- Deepak Krishnan, DDS
- Oscar de Leon, DDS
- José Luis López-Cedrún, MD, DDS, PhD, FEBOMS
- Javier Mareque, MD, DMD, PhD, FEBOMS
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- Patrick Vezeau, DDS, MS
- Carlos Villegas, DDS

The following members of the Planning Committee have no relevant financial relationships to disclose:

- Stephanie Drew, DMD
- Pedro Franco, DDS
- Kristin Fludder, CHCP (Activity Coordinator)

Adhering to the ACCME Standards for Commercial Support (see www.accme.org): all financial relationships reported above have been resolved according to UHS-PEP’s Policy on Conflict of Interest Resolution. All presenting faculty affirm that they will employ the best available evidence from all sources to support any clinical recommendations made in their presentations. If learners detect any commercial bias in any presentation, they should document their observations on the Activity Evaluation Form.
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Donations to the Resident Travel Award Sponsorship are used to fund travel opportunities for OMS residents to attend educational opportunities like our Annual Meeting and hands-on courses. Outstanding abstract submissions to the ACOMS Residents Meeting and Annual Meeting are used as the criteria for selecting travel award recipients.

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Donations to the ACOMS General Fund are used to support the day-to-day operations of ACOMS in the furtherance of our goal of fostering surgical excellence through education.

ACOMS is a 501(c)(3) non-profit organization and charitable donations are tax-deductible.
3D Systems Healthcare
Table 107
3D Systems Healthcare is a service company specializing in providing virtual surgical planning, custom anatomical models and other implements for transfer of a digital clinical plan to the operating room. Learn about our orthognathic surgery product called VSP® Orthognathics utilizing Dolphin Imaging’s 3D Surgery software to digitally plan orthognathic surgeries. These surgical plans allow for CAD/CAM intermediate and final orthognathic splints to be designed and used in surgery.

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Table 207
AxoGen (NASDAQ: AXGN) is a leading medical technology company dedicated to peripheral nerve repair. AxoGen’s portfolio of regenerative medicine products is available in the United States, Canada and several other countries and includes Avance® Nerve Graft, AxoGuard® Nerve Connector, and AxoGuard® Nerve Protector.

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KLS Martin
Tables 204, 206
KLS Martin is a company dedicated to providing innovative medical devices and power systems for craniomaxillofacial surgery. The company’s rich history began with surgical instrument production in Tuttlingen, Germany in 1896 and continued with miniplate production in 1975. KLS Martin has advanced the capabilities of distraction osteogenesis, and revolutionized resorbable fixation with the SonicWeld Rx system.
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Marena is the world’s leading recovery garment manufacturer. Our patented ComfortWeave fabric was developed for postoperative applications, focusing on efficacy and comfort, using cutting edge technology and state-of-the-art fibers, machinery and design. Used by more than 5,000 medical professionals in 78 countries, Marena is the preferred choice of 82% patients.

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Table 200
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Nexus CMF is working to reduce health care cost, improve patient satisfaction and decrease operative morbidity. Our products include human amniotic solution and graft, arthroscopic instruments and training, and the only partial joint prosthesis.

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Table 103
Orthofix is a global healthcare company offering a variety of biologic solutions to address the lifelong bone-and-joint health needs of patients of all ages. Biologic solutions play an important role in a number of surgical applications from spine and orthopedic surgeries to joint reconstruction.
OsteoMed
Table 108
A highly nimble and responsive company, OsteoMed is a leading global innovator, developer, manufacturer and marketer of specialty medical devices, surgical implants and powered surgical instruments.

Practice Evolutions
Table 116
Practice Evolutions provides all-in-one solutions for starting, buying and maximizing Oral & Maxillofacial Surgery practices nationwide. Our comprehensive consulting services align your goals and objectives by developing a detailed project plan and forecasting the resources it will require.

Straumann USA
Table 100
Straumann—a global leader in implant dentistry solutions the dental and lab business—is a pioneer of innovative technologies. Committed to Simply Doing More™ with world-class customer service, highly skilled technical support, and a team of experienced professionals, our vision is to be the commercial partner of choice in implant, restorative, and regenerative dentistry.

Stryker
Tables 209, 211
Stryker is one of the world’s leading medical technology companies and, together with our customers, we are driven to make healthcare better. The Company offers a diverse array of innovative products and services in Orthopaedics, Medical and Surgical, and Neurotechnology and Spine. Visit us at www.stryker.com.

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ACOMS 37th Annual Scientific Conference and Exhibition attendees will receive an Exhibitor Check-Off Card in their attendee bags. Attendees who visit with exhibitors and get a minimum of 12 exhibiting company signatures from a corresponding exhibit representative will be entered in a drawing for one of three great prizes:

- Complimentary Meeting Registration to the 38th Annual Scientific Conference and Exhibition at the Fairmont Vancouver, May 3–5, 2017;
- One (1) year of complimentary membership in ACOMS for 2017;
- Two (2) nights lodging at the Fairmont Vancouver in conjunction with the ACOMS 38th Annual Scientific Conference.

Visit our exhibiting companies and ask an exhibit staff member to initial your check-off card. Only Check-Off Cards with valid exhibitor signatures from a minimum of 12 exhibiting companies will be considered complete and thereby eligible for the drawing. Visiting all of our exhibitors is highly encouraged since their support of ACOMS helps makes this conference possible. Be sure to clearly print your name on your card and return it to the registration desk no later than 10:00 AM on Monday, April 11.

The drawing will be held in the Exhibit Hall at 10:30 AM on Monday, April 11. You must be present to win.
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RESIDENT ABSTRACT COMPETITION

All attendees of the ACOMS 37th Annual Scientific Conference and Exhibition were invited to submit scientific abstracts to be presented orally or as a poster. Outstanding oral and poster abstracts submitted by residents will be judged in our Resident Abstract Competition. Winners will be announced at the awards presentation at 1:00 PM on Tuesday, April 12.

Oral Scientific Abstracts

TITLE: Clinical Application of Desktop Three-Dimensional Printing Technology in Ablative and Reconstructive Maxillofacial Surgery

AUTHORS: Ignacio Velasco, DDS; Soheil Vahdani, DDS; Hector Ramos, DMD; Julio Guzman, DMD

AFFILIATION: University of Puerto Rico Medical Sciences Campus

ABSTRACT NUMBER: O-1

AUTHOR IS A RESIDENT? Yes

PURPOSE: Three dimensional (3-D) printing is a relatively new technology with clinical applications, which enable us to create accurate rapid prototyping models of a selected anatomic region. Using these models, facilitate the planning of complex surgeries and pre-bending of hardware for individual surgical cases. The application of 3-D printing has gained momentum in the medical field and it is becoming an easy and accessible tool since the desktop 3-D printers were introduced with an aim to be part of every home and institution. This study aimed to express our experience with the use of medical rapid prototyping (MRP) models of the maxillofacial region created with desktop 3-D printing technology and its application for preoperative planning in ablative and reconstructive surgeries.

METHODS: In period of June 2015–January 2016, 22 patients (13 women and 9 men; age range, 2-58 year-old) were included in this study after obtaining informed consent. Six patients were previously diagnosed with mandibular tumors, two patients presented maxillary lesions, 10 patients presented cleft lip and palate with alveolar cleft defects, two patients presented post-traumatic maxillofacial deformities and two patients with mandibular defects after ablative surgery. All patient underwent a whole maxillofacial computed tomography scan or cone beam computed tomography and the data was processed using the open source software InVesalius 3.0.0 version (Centre for Information Technology Renato Archer, Campinas, SP, Brazil) for segmentation of the images and the software Autodesk Meshmixer® 2.9.1 version (Autodesk®, San Rafael, CA, USA) to isolate the region of interest and prepare the model for printing, using the ROBO 3D R1 printer (Robo 3D®, San Diego, CA, USA). The MRP models were used for preoperative surgical planning and a reconstruction titanium plate or mesh (KLS Martin®, Jacksonville, FL, USA) was prebended for each case accordingly.

RESULTS: MRP model production based on CT Imaging data took between 2-12 hours depending on the size of the anatomic region of interest, using 0.3 mm resolution for each layer. MRP models were used for surgical planning of the eight cases of tumor resection or cyst enucleation and for the assessment of alveolar cleft, mandibular defect or post-traumatic deformity in other 14 cases, which further reconstruction with autologous bone grafts was performed on them. Additionally, in eight cases the model was used for reconstruction titanium plate and mesh pre-bending, which further modification of hardware was not required intraoperatively.

CONCLUSIONS: In our experience MRP models created with desktop 3-D printing is a cost-efficient, quick and easily produced appliance for the planning of ablative and reconstructive maxillofacial surgery in different ways. It can contribute in pre-operative counseling for patient orientation and help them for a better understanding of their condition and proposed surgical treatment. It helps surgeons in pre-operative planning in the resection or reconstruction cases and gives better vision to surgeons about surgery anatomic region. The reconstruction plate or mesh pre-bended by using MRP models as anatomic templates, resulted in decreased surgery time which additionally reduced the anesthesia risks on the patients.
CONCLUSIONS: The mean number of visible 3rd molars in NHANES 2009-10 decreased progressively from the age cohort of 30–39 years, mean 1.4, to 70–79 years, mean 0.5. The mean PDs for the 1st and 2nd molars was significantly greater if a 3rd molar was visible compared to if no 3rd molar was detected for cohorts age 30–39 through 50–59 years, P<0.01. Though outcomes for AL for 1st and 2nd molars were also greater if a 3rd molar was visible, these differences were not significant, P=0.3 and 0.1, respectively. After controlling for covariates including gender, race/ethnicity, smoking status, and education, significant differences remained for PDs.

RESULTS: We reviewed 148 cases involving DFSI. 144 of these cases exhibited a dentigerous origin, while the remaining 4 were due to failed hardware. In 34 cases we were unable to determine whether the exact dentigerous etiology of DFSI. DFSI cases studied exhibited a third molar etiology (38.52%), the majority of which being submandibular space infections 61.54 percent 95% confidence interval (47.02–74.70).

CONCLUSIONS: Results from this preliminary analysis show that retained third molars commonly cause DFSI. Synergistic factors including concomitant disease seem to influence morbidity associated with retained third molars. DFSI requires hospital admission and surgical treatment at Tufts Medical Center (TMC) due to retained third molars compared to infections attributed to other odontogenic sources. We studied these cases to better answer the question, “should we remove or prophylactically extract third molars.”
TITLE: Third Molar Autotransplantation: a Contemporary treatment that should have a place in conventional dental prosthetics. Autotransplantation of third molar teeth is rarely proposed to patients due to lack of experience, understanding, and technical challenges. However, patients with a non-functional third molar could also have the alternative to transplant their teeth to a functional site. We present a retrospective study of 17 consecutive cases of immediate or delayed third molar autotransplantation, with 6 to 24 months follow-up. The biologic principles of success, the traditional surgical techniques, and the potential role that autotransplantation can play in the current era of virtual surgical planning are reviewed in this study.

METHODS: Patients were selected based upon presence of a non-restorable first or second molar with a non-diseased third molar. Patients were classified into three groups: third molars with either open or closed apices; recipient sites with or without bony periapical pathology; post-operative fixation with either rigid or non-rigid splinting. All cases were completed by the same operator under local anesthesia with either immediate or delayed autotransplantation. Patients were followed for a minimum of 6 months.

RESULTS: The study showed all transplanted third molar teeth survived in the recipient site. Among third molars with open apices, continuous root formation was noted and none developed periapical pathology. 2 of the 9 open apex transplanted teeth acquired reinnervation. Third molars with closed apices that underwent root canal therapy (RCT) within three months did not develop periapical pathology. Non-compliant patients that delayed RCT developed periapical pathology, which resolved after RCT. All transplanted teeth showed no clinical mobility greater than Miller’s Class I for the duration of follow-up.

CONCLUSIONS: Autotransplantation offers an alternative treatment modality to conventional dental prosthetics. Third molars with open apices are ideal and their autotransplantation may be the only surgical procedure required to regain a functional tooth. Third molars with closed apices can also be considered if RCT is feasible. With proper patient selection, meticulous technique, and a good follow-up protocol, third molar autotransplantation achieves predictable results. Although of its lack of utilization, it is a valuable procedure that should have a place in contemporary oral surgery.
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TITLE: Risk Factors for Major Complications of Operative Mandibular Fractures

AUTHORS: Brian Christensen, DDS; Brett King, DDS

AFFILIATION: LSU Health Sciences Center New Orleans

ABSTRACT NUMBER: O-6

AUTHOR IS A RESIDENT? Yes

PURPOSE: The primary goals in the treatment of mandible fractures are to 1) restore proper form and function of the injured bone and associated structures and 2) achieve osseous union of the bone segments. Implicit in these goals is the avoidance of complications which jeopardize successful outcomes, add time to the healing process, and increase cost of providing care. Some risk factors for complications in mandibular trauma have been described, such as: poor compliance, substance abuse, and certain plating techniques. However, few of the existing studies controlled for confounding variables and no studies have attempted to stratify the risk factors. The purpose of the study is to determine and quantify the risk factors for developing serious complications in the operative treatment of mandibular fractures.

METHODS: The authors conducted a retrospective chart review on patients with open reduction and internal fixation of mandibular fractures from August 1st, 2012 to December 31st, 2014 at a large, urban teaching hospital and level 1 trauma center. The outcome variable of interest was major complications: hospital readmission, return to the operating room, and prolonged, unexpected post-operative stay. Many demographic, social, medical, injury-related, and treatment-related factors were examined for their ability to predict these major complications. Data were analyzed using bivariate and multivariate analyses.

RESULTS: A total of 317 patients met the inclusion criteria. There was a hospital readmission rate of 7.2%, a reoperation rate of 9.5%, and a rate of unplanned, prolonged admission of 0.6% for a total major complication rate of 11.4%. Eight variables reached statistical significance in their association with major complications: the presence of medical co-morbidities, a diagnosis of depression, a diagnosis of a psychiatric disorder, incarceration, interpersonal violence as a mechanism of injury, the presence of a left angle fracture, the removal of a tooth in the line of fracture, and non-compliance. After controlling for the other variables, patient non-compliance, depression, the presence of a left angle fracture, and the removal of a tooth in the line of fracture continued to have statistically significant associations with the primary outcome variable, major complications.

CONCLUSIONS: The proper identification and stratification of risk factors for the development of major complications in mandibular trauma is a primary concern for surgeons in the modern health system. This study has identified a number of variables significantly associated with an increased risk of major complications and special consideration should be given to the patients with the presence of these risk factors.

TITLE: Distraction Osteogenesis for Management of Large Alveolar Defects

AUTHORS: Phillip Newton, DDS, MD; Likith Reddy, DDS, MD

AFFILIATION: Baylor College of Dentistry Oral and Maxillofacial Surgery

ABSTRACT NUMBER: O-7

AUTHOR IS A RESIDENT? Yes

PURPOSE: The osseous and soft tissue structures of the maxillomandibular complex are vital for normal oro-nasal function and facial cosmetics. Maxillofacial tumor excision often results in large defects that commonly compromise eating, speech and facial appearance. Such defects are typically reconstructed with non-vascularized bone grafts or vascularized free bone and tissue transfer. Our technique of distraction osteogenesis offers the ability to generate not only the native bone but a good vestibule depth and keratinized gingiva, producing a successful functional and cosmetic result. This study demonstrates distraction osteogenesis for reconstruction of large maxillary or mandibular defects in which traditional methods may not be feasible.

METHODS: We will present our case series with reconstruction of large maxillary defects due to various reason by transport distraction osteogenesis. These patients presented a reconstruction challenge due to limited soft tissue coverage after tumor resection. All patients desired a fixed implant supported prosthesis and did not possess sufficient alveolar structure to support dental implants. Distraction osteogenesis devices were utilized to transport an alveolar segment, creating the necessary alveolar structure for implant retention. Once distraction was complete and appropriate consolidation periods were complete, dental implants were placed to support hybrid prosthesis, and prosthodontic reconstruction began.

RESULTS: All three cases yielded sufficient alveolar structure with good keratinized soft tissue to support implant placement, osteointegration, and eventual prosthodontic reconstruction. The mean treatment time from beginning of distraction to final prosthesis was 11 months.

CONCLUSIONS: Distraction osteogenesis is a viable alternative when more traditional reconstruction methods of managing large osseous defects are precluded due to limited soft tissue dimension. The treatment time is comparable to that of other reconstruction methods with the advantage of no donor site morbidity and a final result which closely approximates that of the native bone and mucosa of the oral cavity. Similar to when distraction osteogenesis is utilized to repair the defects of cleft lip and palate, additional bone grafting will often be required. However, this method allows secondary grafting to occur in a site with appropriate soft tissue health and dimension, and requires significantly smaller volume grafts to achieve the desired result.
Preliminary Investigative Study for Custom Designed Immediate Dental Implants

AUTHORS: Benjamin P. Archer, DDS; Likith Reddy, DDS, MD

AFFILIATION: Texas A&M Health Science Center, Baylor College of Dentistry

ABSTRACT NUMBER: O-8

AUTHOR IS A RESIDENT? Yes

PURPOSE: In 1978, Dr. Branemark first introduced the endosteal dental implant and described the physiologic phenomenon of osseointegration. The dental implants of today retain the same basic design and technical principles from the original late twentieth century technology with minor innovations in shape and surface area augmentation. The protocols for modern dental implant placement still require osteotomy formation and often delayed placement post extraction resulting in more patient appointments and overall increased treatment time. Furthermore, advancements in three dimensional printing and milling technology have significantly expanded within the last decade allowing for more cost efficient imaging-based custom made prostheses and virtual surgical planning treatment options. With the goal of minimizing surgery and chair time, while maximizing patient comfort and convenience, Replicate Dental Implant System (Berlin, Germany) designed the first custom dental implants. The purpose of this study is to investigate the application of this novel custom designed immediate dental implant system and to compare and contrast it to traditional endosteal implants.

METHODS: Baylor Oral and Maxillofacial Surgery is working with the FDA IDE Single Center, prospective, open label phase one study to evaluate the safety and efficacy of the Replicate Dental Implant System. This implant design consists of anatomic titanium root construct based on a Cone Beam CT scan, which is chemically fused to a porcelain abutment and immediately inserted into the extraction site. Next, the exposed abutment is protected out of occlusion with a temporary bridge that is bonded to the adjacent teeth. After 4 to 6 months, a final crown in cemented directly onto the abutment.

RESULTS: The initial data from Germany with this custom dental implant has shown a 97.5% success rate with 40 patients and 40 implants over an average follow up time of 9.3 months. Success was defined as osseointegration of the implant with chemically fused abutment and cemented final crown in place. Baylor Oral and Maxillofacial Surgery’s preliminary results have shown no failures.

CONCLUSIONS: This custom designed immediate dental implant system allows for reduced chair time, a minimally invasive surgical procedure, a more anatomic reconstruction providing the best support for retention of adjacent hard and soft tissues, and placement of a provisional on the day of the extraction. Preliminary results have shown this system to be a viable immediate dental implant solution.

Age-Related Differences in BMP-2-Mediated Bone Repair

AUTHORS: Lisa Tran, DDS, MD; Albert Cheng, MS; Laxminarayanan Krishnan, PhD; Steven M. Roser, DMD, MD; Robert E. Guldberg, PhD

AFFILIATION: Emory University

ABSTRACT NUMBER: O-9

AUTHOR IS A RESIDENT? Yes

PURPOSE: Reconstruction of critically-sized maxillofacial bone defects is a challenging problem for oral and maxillofacial surgeons. Bone grafts supplemented with BMP-2 have enjoyed increasing use. However, BMP-2 use is not recommended in pediatric patients due to the lack of data regarding appropriate dosing and effectiveness. The objective of this study was to evaluate age-related differences in BMP-2-mediated healing responses at early healing when inflammation is a key factor in bone healing and follow these effects on bone regeneration.

METHODS: Young (7-week-old) and old (8-month-old) male rats received surgeries to create critically-sized femoral bone defects. The defects were reconstructed using collagen sponge matrices loaded with either a low (1 µg) or a high (10 µg) BMP-2 dose. After 1 week, tissues from the bone defect and surrounding musculature were collected for gene expression analysis. At 12 weeks, bone regeneration on the remaining animals was assessed with micro-CT, radiographs, mechanical testing, and histology with the unoperated contralateral leg as a control.

RESULTS: PCR analysis of the defect tissue at 1 week demonstrated clear differences between young and old groups. The young groups had higher expression of genes related to osteogenesis (OSX, COL1A1, OPG), chondrogenesis (COL2A1, ACAN, FRZB), and matrix remodeling (MMP2, MMP13) in low and high BMP-2 doses. In contrast, the old groups had higher expression of inflammatory genes (IL1B, IL6, MCP1, TRPV1), anti-inflammatory genes (IL1Rn, IL10), and an angiogenic gene (VEGFA). At 12 weeks, CT analysis revealed that the young group had increased bone volume and bone mineral density overall compared to the old group. Mechanical testing of the defects also demonstrated increased maximum torque and stiffness in the young groups. Interestingly, only the young, high dose group had equivalent mechanical properties to intact control femurs.

CONCLUSIONS: The results of our study show that early gene expression differences between young and old rats correlated with long-term, functional differences. Young animals had higher expression of genes related to healing—bone and cartilage formation as well as matrix remodeling. Higher expression of bone healing/remodeling genes at 1 week in young rats correlated with the enhanced bone regeneration seen after 12 weeks. Young animals also demonstrated a dose-dependent increase in bone volume while the old animals did not. This suggests decreased BMP-dose sensitivity with age. This study revealed several age-related differences in BMP-2-mediated bone repair that may assist treatment strategies for different patient populations.
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Poster Scientific Abstracts

TITLE: Forced Extrusion of Impacted Dentition and Molar Up-Righting Using Micro-Screw Anchorage
AUTHORS: Peter Krakowiak, DMD, FRCD; Jose Garcia, DDS, MSD
AFFILIATION: USC Advanced Graduate Program in OMS
ABSTRACT NUMBER: P-10
AUTHOR IS A RESIDENT? No

PURPOSE: To develop a cost effective, predictable and low risk method to manage high risk third molar impactions and horizontally impacted second molar utilizing non tooth based anchorage. The methods are aimed at forced orthodontic extrusion to achieve more surgically accessible position for either extraction or orthodontic fixed edgewise positioning and detailing.

METHODS: Case series of deeply impacted third and second molars is presented to show techniques, armamentarium and principles involved in correction of impacted molar dentition. Cases shown demonstrate the various patterns of impactions and different mechanics needed to achieve the required force vectors and force parameters to elicit tooth movements in different bone densities and levels/orientations of impactions.

RESULTS: Over dozen successful cases are included in the presentation showing the safety, efficacy and predictability of the developed protocols and procedures.

CONCLUSIONS: Micros screw based orthodontic anchorage is a viable, predictable and safe method or management of deeply impacted high risk molar impactions.

TITLE: Primary Unilateral Cleft Lip Repair - Mishra Technique
AUTHORS: Ignacio Velasco, DDS; Jonathan Armas, DDS; Julio E. Guzman, DMD
AFFILIATION: OMS Post-Doctoral Program, San Juan, Puerto Rico
ABSTRACT NUMBER: P-11
AUTHOR IS A RESIDENT? Yes

PURPOSE: Present 4 primary unilateral cleft lip repair cases utilizing the White Roll Vermillion Turn Down Flap as described by Dr. R.K. Mishra. The technique will be described and surgical results will be presented.

RESULTS: This was the first time that the authors have utilized this recently published technique, and although still in the learning curve, excellent preliminary results were obtained. Long term follow up evaluations are necessary and surgical results will improve.

CONCLUSIONS: The white roll turn down flap is an additional technique in the armamentarium of the treatment of the unilateral cleft lip deformity.

TITLE: The Use of Virtual Treatment Planning with Orthognathic Mandibular Distraction for Treatment of Mandibular AP Hypoplasia
AUTHORS: Majd Haddad, DDS; Michael Ryhn, DDS
AFFILIATION: Tripler Army Medical Center, Honolulu, HI
ABSTRACT NUMBER: P-12
AUTHOR IS A RESIDENT? Yes

PURPOSE: We present a case study of 28 year old male with mandibular AP hypoplasia and about 12mm inter-incisial over-jet with slight maxillomandibular midline discrepancy. Plan for correction of dental skeletal malocclusion.

METHODS: Three-dimensional treatment planning was conducted via Medical Modeling VSP Reconstruction to determine proper osteotomy location, distractor placement and vector to achieve final planned occlusion. Under general anesthesia, the patient underwent bilateral mandibular ramus corticotomies and placement of two subperiosteal intraoral distractors (KLS Martin Zurich II Williams Distractor, middle driven with ratchet, stock #51-425-20-09) using the marking guide provider by VSP Reconstruction. Postoperatively the latency period was five days. The device was then activated for ten days a distance of 0.5mm twice a day on each side. Once the patient’s occlusion was near end-to-end, an acrylic splint was secured to the maxillary dentition and guiding elastics were used to guide the mandible into the planned occlusion. Heavy elastics were used to place the patient into maxillomandibular fixation with the final splint and the consolidation phase was a period of 30 days. Finally, distractors were removed without any need for internal fixation.

RESULTS: The patient’s occlusion is class I with midline discrepancy corrected, and CN V3 fully intact without any paresthesia.

CONCLUSIONS: In our experience, 3D treatment planning undoubtedly was an advantage over traditional 2D methods, and it offered a precise
and predictable result. This smaller and more sophisticated distraction device probably made DO a better tolerated procedure by the patient. The use of VSP for Distraction osteogenesis is an excellent armamentarium in the hand of surgeons performing orthognathic surgery.

**TITLE:** Morphological Research of Epithelium in Oral Cavity After Surgical Treatment of Patients on Generalized Parodontitis

**AUTHORS:** Natalia Sopchuk, MD; Lilia Tarnavska, PhD

**AFFILIATION:** Ivano-Frankivsk National Medical University

**ABSTRACT NUMBER:** P-13

**AUTHOR IS A RESIDENT?** Yes

**PURPOSE:** One of terms of successful treatment generalized parodontitis there is a complex therapy with use of surgical methods that can provide long-term stabilizing of illness. The aim of morphological research was to determine changes of epithelium in oral cavity in patients with generalized parodontitis and after surgical treatment with use of etamzilat and curiozin, and also after traditional treatment.

**METHODS:** For electron microscopy by researchers was inspected 20 patients (in age from 21 to 59 years) with generalized parodontitis, that have had surgical influence on the tissues of parodont. Depending on methodology of medicamental treatment that used with surgical treatment, all patients with generalized parodontitis were divided into two groups: basic(10 persons) and control(10 persons). To 1-st group(basic) entered patients that 5 days before operation took one pill (0,25 g) three times per day etamzilat, and after operative intervention on the periodontal tissues of this patients was done 20-minute daily applications with solution of curiozin for two weeks. To 2-d group(control) entered patients that 5 days before operation took one pill of ascorbic acid(0,1 g) twice per day, and in a postoperative period during two weeks they took daily 20-minute applications of solcoseryl on a wound surface.

**RESULTS:** Research results showed that in patients from basic group on ultrastructural level considerable restoration processes took place in the epithelium of oral cavity, especially in cells of basal and acanthoid layer. Intracellular structures became normalized, in some cells we examined compensatory processes: increases of cores and density of chromatine granules, we found out huge mitochondrias appear with small amount of christie. Profiles of granular cytoplasmic net and vehicle of mitochondrias appear with small amount of christie. Plasma membrane is with clear outlines, christie forms strong desmosomes with nearby cells. Intervals between cells are redused. Such restoration processes are observed already on a 7 day. The material taken for electron microscopy research in control group of patients showed that restorative processes in the epithelium of oral cavity is slowed with remaining destructive changes, that we observed on 3, 7 and 14 days, comparing with a basic group.

**CONCLUSIONS:** The made research shows efficiency of the offered complex treatment directionated on optimizing of surgical after using etamzilat and curiozin.

**TITLE:** Treatment Planning Accuracy of Plain Radiography Versus Cone Beam Computed Tomography in Dental Implantology

**AUTHORS:** Ludmils Antonos, DMD; George Deeb, DDS, MD; Janina Deeb, DDS, MS; Samuel Tack, BS; Daniel Laskin, DDS, MS

**AFFILIATION:** Virginia Commonwealth University Oral & Maxillofacial Surgery

**ABSTRACT NUMBER:** P-14

**AUTHOR IS A RESIDENT?** Yes

**PURPOSE:** The purpose of this study was to prospectively determine the accuracy of implant selection and bone graft treatment planning between two different pretreatment protocols: oral examination and a panoramic radiograph vs. oral examination, CBCT imaging and Simplant treatment planning software.

**METHODS:** 82 patients treated between July 2013 and December 2014 were included in this study. These patients were first screened and treatment planned by an experienced clinician using a thorough oral examination and a panoramic radiograph. Subsequently, these patients were reevaluated by the same clinician using CBCT imaging and Simplant digital treatment planning. Following the eventual definitive treatment, the actual size of the implants placed and whether a bone graft was actually used was done to determine the predictive accuracy of each method. Kappa Statistics and accuracy measures were used to assess the agreement between bone graft treatment plans and actual grafting procedures performed and logistic regression models were used to determine the accuracy in predicting implant size (width and length).

**RESULTS:** Implant length and width determination was similar with both techniques (p=0.001). However, the CBCT treatment plan was more accurate and had higher agreement with the actual treatment than the plan based on the panoramic radiograph (p=0.0001), which in many cases indicated that bone grafting was necessary.

**CONCLUSIONS:** Whereas a panoramic radiograph can be used to accurately predict the size of an implant required, the need for a bone graft augmentation is overestimated in comparison to when a CBCT is used.
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TITLE: Osteomyelitis of the Jaws: A Retrospective Analysis of the Previous 10 Years at Tufts University School of Dental Medicine (TUSDM)

AUTHORS: Daniel Oreadi, DMD; Archana Viswanath, BDS, MS; William Gilmore, DMD; Erin Gilmore, DMD

AFFILIATION: Tufts University School of Dental Medicine

ABSTRACT NUMBER: P-15

AUTHOR IS A RESIDENT? Yes

PURPOSE: The overall objective of this retrospective study was to review the clinical experience at TUSDM in patients with Osteomyelitis (OM) of the jaws, focusing on the choice of antibiotics for patients with documented penicillin allergy. Our hypothesis is that patients with a documented penicillin allergy are more likely to have persistent disease, requiring additional surgical interventions. The goal of conducting this retrospective analysis was to identify common etiologies, pathogens, and interventions used in the treatment of OM.

METHODS: The medical records of patients treated for osteomyelitis at Tufts University School of Dental Medicine (TUSDM) and Tufts Medical Center over the past 10 years were reviewed. Up to 1500 records were reviewed. We created a database which included the following factors: demographics (age, sex), diagnosis (acute/chronic, suppurative/nonsuppurative), radiographic findings, microbiology studies (gram stain, microbiological isolates), histopathology studies, surgical interventions and outcomes (biopsy, debridement, resection, recurrence/persistence), medical treatments (antibiotics- dose and duration).

RESULTS: 25 patients with osteomyelitis were identified who underwent treatment at TUSDM. Among them, 9 (36%) patients had penicillin allergy. 31% of patients without penicillin allergy underwent just one surgical procedure for debridement whereas 55% of the patients with penicillin allergy underwent more than one procedure. In the non-penicillin allergy group the mean hospital stay was 3.5 (32.17) days whereas in penicillin allergy patients the mean hospital stay was 7.25 (37.00) days. Majority (66%) of non-penicillin allergy patients underwent the standard 6 weeks of antibiotics which is currently the standard of care for uncomplicated osteomyelitis whereas in the non-penicillin allergy group only 22% underwent 6 weeks of antibiotic therapy whereas the treatment course in the remaining 78% extended beyond 6 weeks.

CONCLUSIONS: Based on this preliminary study there appears to be a correlation between penicillin allergy patients and increased length of treatment for osteomyelitis. However multicenter studies with larger population are needed to collect more data on microbiological findings and also the type of antibiotics used in both penicillin allergy and non-penicillin allergy patients. The ultimate goal is to see if there is a difference in treatment response between patients with penicillin allergy and non-allergy patients.

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PURPOSE: The purpose of this study was to investigate the factors affecting length of hospital stay (LOS) after orthognathic surgery. Inpatient care for orthognathic surgery is necessary to monitor recovery from anesthesia, potential airway instability, hemostasis, pain control, and unanticipated surgical complications. Increased duration of inpatient stays contributes to the over utilization of available hospital resources. The use of resources is expensive and decreasing the duration of a patient’s hospital stay following orthognathic surgery has the potential to reduce costs and increase patient turnover. Knowledge of the factors contributing to increased duration of inpatient stays following orthognathic surgery will improve treatment planning and cost. Prior knowledge of influencing factors may give providers opportunity to mitigate their effects or provide patient specific recovery recommendations. Appropriate changes in post operative care could reduce the cost to the patient and reduce use of hospital resources.

METHODS: This retrospective cohort study of patients was conducted in the Department of Oral Surgery at Tufts University School of Dental Medicine. Following IRB approval we reviewed medical records of all patients who underwent orthognathic surgery in our department in the past ten years (4/1/2005-4/1/2015). The dependent variable was length of hospital stay (LOS) in hours and the independent variables were age, gender, race, BMI, medical history, type of insurance, type of orthognathic surgery, and duration of the surgery. The procedures included in this investigation were bilateral sagittal osteotomy (BSSO), Lefort, Genioplasty and surgically assisted rapid palatal expansion (SARPE). Descriptive statistics were computed for all variables. Mann-Whitney test and Spearman’s co-relation was applied to clinical variables and LOS.

RESULTS: Medical records of 99 (Female-53, Male-46) patients have been analyzed. Majority of patients underwent both BSSO, genioplasty and Lefort concurrently, while the second largest subgroup received both BSSO and Lefort concurrently. The mean length of hospital stay was 54.72 hours, with an interquartile range of 23 hours (-1 day). The correlation between LOS and age (p=0.371), BMI (p=0.0100) and gender (p=0.099) were not statistically significant.

CONCLUSIONS: The overall purpose of this study was to estimate the LOS after orthognathic surgery and also look into factors associated with increased hospital stay after orthognathic surgery. We found that the mean length of hospital stay was 54.72 hours (2.5 days). This is within the range of 1.3 to 8.5 days reported in the literature. The results of this preliminary analysis did not show any statistically significant correlation between LOS and age, BMI or gender. The length of hospital stay was trimodal distribution with the majority of patients staying ~2 days. The general trends showed a positive correlation between age and LOS and an even stronger association between BMI and LOS but the correlation was not statistically significant. The number of procedures performed proved to be the strongest predictor of LOS. Those patients who underwent Genioplasty, BSSO, and Lefort stayed an average of 10 hours longer than those who only underwent two procedures.
(OR=1.02; 95% CI 0.74-1.42; p=0.89) or the presence of any major postoperative complication (OR=0.08; 95% CI 0.59-1.09; p=0.16) in a univariable setting. SAS did not achieve significance after multivariable adjustment.

CONCLUSIONS: Despite validation within numerous other surgical specialties, the SAS may not be useful as a metric for risk stratification among patients undergoing major head and neck reconstruction with fibular free flaps.

TITLE: Implant Assisted Prosthetic Reconstruction in Radiated Jaws: A Case Series

AUTHORS: Matthew Reiland, DDS; Shiv Pruthi; Kevin Arce, DMD, MD; Chris Viozzi, DDS, MD; James Kelly, DDS, MS; Thomas Salinas, DDS

AFFILIATION: Mayo Clinic, Rochester, MN

ABSTRACT NUMBER: P-18

AUTHOR IS A RESIDENT? Yes

PURPOSE: Survival rates for dental implants in radiated tissues has been estimated to be different in past decades, when machined turned titanium surfaced implants were primarily used compared to contemporary surface treated implants. To better understand implant survival in a radiated bed and the influence of implant surface on survival, a series of patients who underwent radiotherapy and maxillofacial prosthetic rehabilitation was studied.

METHODS: A retrospective cohort study was designed with a sample of patients undergoing prosthetic rehabilitation with endosseous implant reconstruction in combination with a history of ablative surgery and radiation therapy for treatment of maxillofacial malignant disease. The primary predictor variable was radiation therapy and the primary outcome variable was implant survival. After approval of the Mayo Clinic Institutional Review Board, the medical records of 33 patients were reviewed involving implant treatment in combination with resective surgery of the maxillofacial region. Of these patient records, it was determined that twelve patients had implants which were in the field of radiation in excess of 60 Gy using external beam photon therapy.

RESULTS: The study sample consisted of twelve patients and a total of 61 implants. Of these twelve, eight patients underwent an osteomyocutaneous flap reconstruction with implant placement either immediately at the time of reconstruction, or delayed after completion of adjuvant radiation therapy. Four patients had implant placement into the native maxilla or mandible post radiotherapy. The range of follow-up time was six months to 15 years post insertion of prosthesis. Patient data was distilled to produce a life table to evaluate an implant cumulative survival rate. The cumulative survival rates ranged from 95% at 6 months, to 93% at 15 years.

CONCLUSIONS: Sporadic loss of implants was experienced in patients undergoing radiation therapy over the time period evaluated. To better anticipate this loss, over planning cases prosthetically becomes a primary consideration to avoid difficulties encountered with prosthesis redesign. Maxillofacial prosthetic reconstruction in patients with acquired defects benefit from support with the use of osseointegrated dental implants.

TITLE: The Submental Artery Island Rotational Flap for the use of Oral and Maxillofacial Reconstruction: a Case Review Series

AUTHORS: Albert Terry Conlisk, DDS, MD; Arshi S. Lehal, DDS

AFFILIATION: St. John Providence Health System Oral and Maxillofacial Surgery

ABSTRACT NUMBER: P-19

AUTHOR IS A RESIDENT? Yes

PURPOSE: The purpose of this study was to report the efficacy of reconstruction with the use of the submental artery island rotational flap for oral and maxillofacial defects.

METHODS: Eight patients underwent reconstruction of various oral and maxillofacial defects using the submental artery island flap from February 2015 to December 2015. The flap was used to reconstruct mandibular defects including the mandible proper, floor of mouth, lateral tongue, and buccal mucosa in four cases. The flap was used to reconstruct the skin of the cheek in one case, the soft palate and lateral pharynx in one case, and the hemi-maxilla in two cases.

RESULTS: No flap failures were observed. All donor site defects were closed primarily with a well-hidden scar. Marginal mandibular nerve function remained intact in all cases.

CONCLUSIONS: The submental artery island flap is a successful and excellent choice of reconstruction of head and neck defects due to its reliability with success rates of the flap reported as high as 95%. The ease of harvest, quality of tissue and blood supply allow it to be adapted and used at a variety of locations extraorally and intraorally. With a low complication and high success rate, this flap is a great option for soft tissue reconstruction of oral and maxillofacial defects.
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Department Head, Oral and Maxillofacial Surgery, University of Illinois at Chicago College of Dentistry
Program Director, Advanced Education Program in Oral and Maxillofacial Surgery, University of Illinois at Chicago College of Dentistry
Division Chief, Oral Surgery, University of Illinois Medical Center

Panelist John R. Zuniga, DMD, MS, PhD
Professor and Chairman, Division of Oral and Maxillofacial Surgery, Departments of Surgery, Neurology & Neurotherapeutics University of Texas Southwestern Medical Center
Robert V. Walker, DDS, Chair in Oral and Maxillofacial Surgery, University of Texas Southwestern Medical Center
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