

Oral Presentations

1. Presenter: Boonyapa Purn - Class of 2014
Faculty Mentor: Dr. Zhimin Feng - Department of Biological Sciences

Susceptibility of gut Fusobacterium nucleatum isolates to human β -defensin 2 and 3

This research project studied the sensitivity of various gut *Fusobacterium nucleatum* strains to human β -defensins 2 and 3 (hBD-2 and hBD-3), as compared to oral strains. We found that oral Fn25586 was resistant to hBD-2 and hBD-3, while all gut strains were resistant to hBD-2 and all gut strains, but one (strain EAVG_012), were sensitive to hBD-3.

2. Presenter: Adam Kaiser & Brian Leech - Class of 2013
Faculty Mentors: Drs. Dale Baur, Faisal Quereshey and Michael Landers -
Department of Oral & Maxillofacial Surgery

The marginal mandibular nerve in relation to the inferior border of the mandible

The purpose of this study was to ascertain the position of the marginal mandibular nerve relative to several key fixed mandibular anatomical landmarks, as well as to identify variations of the marginal mandibular nerve as it approaches the inferior border of the mandible. A definitive location of this nerve in relation to these anatomical landmarks should help surgeons avoid damage to this nerve during various reconstructive procedures.

3. Presenter: Janice Jun - Class of 2014

The Role of Human Beta-Defensin 3 on Macrophage Activity in the Tumor Microenvironment

The purpose of this project is to explore the role of human beta-defensin 3 (hBD-3) on macrophage activity in the tumor microenvironment.

Oral Presentations (continued)

4. Presenter: Julia Salmeron - Class of 2013
Faculty Mentor: Richard Jurevic, DDS - Department of Biological Sciences

Characterization of the Salivary Proteome/Peptidome in Diabetics and Healthy Controls

This project analyzed proteome and peptidome of whole un-stimulated saliva from 24 individuals, diabetics and controls, using a label-free approach. Our finding revealed that Mucin-5B and Cystatin-A were down regulated and Ras-related protein B14, high-mobility Group Protein B2, Profilin, and Human Alpha Enolase were more concentrated in diabetics.

5. Presenter: Devin A. Conaway - Class of 2013
Faculty Mentor: Juan Martin Palomo DDS, MSD - Orthodontics Department

Buccolingual Inclination of Mandibular Canines Using CBCT

Buccolingual tooth inclination is one of Andrew's "Six Keys to Normal Occlusion", and part of the phase III clinical examination of the American Board of Orthodontics (ABO) licensure exam. The ABO states that "in order to establish proper occlusion in maximum intercuspation and avoid balancing interferences, there should not be a significant difference between heights of the buccal and lingual cusps of the maxillary and mandibular molars and premolars." The objective of this study was to compare the reliability of two different methods used to measure buccolingual (BL) inclination of mandibular (MD) canines using the software program 3D Cephalometric Analysis Anatomage Inc.

Oral Presentations (continued)

6. Presenter: Ana-Luiza Arruda - Class of 2013
Faculty Mentor: Dr. Catherine A. Demko - Community Dentistry

Physician Attitudes Regarding Oral Health in Diabetes Care

This project examined the attitudes and behaviors regarding oral health and diabetes among Ohio physicians. Attitudes about the importance of oral health in diabetes management are favorable and are associated with reported behaviors.

7. Presenter: Jennifer Sanders - Class of 2012
Faculty Mentor: Dr. Sena Narendran - Community Dentistry

Dental Hygienists Awareness and Support for Existing and New Midlevel Providers

This project examined the awareness and support of the dental hygienists in Cuyahoga county for the midlevel providers; dental therapists, advanced dental hygienist practitioner and expanded function dental auxiliary.

Graduate Students Table Clinics Poster Presentations

1. Heejeong Bahng, DMD, MPH - Dept of AEGD, 2011

Antioxidants for Host Modulation in Periodontal Disease Progression

The purpose of this study is to provide an overview of the association between periodontal disease and antioxidants as well as associated other potential factors.

2. Andrew W. Bushey - Class of 2013

Utilization of the Tympanomastoid Fissure for Intraoperative Identification of the Facial Nerve

Cadaver study measuring the distance from the tympanomastoid fissure to the facial nerve in order to aid in identifying and preserving the facial nerve during parotid surgery.

3. Maria Ciasca – Class of 2011

A Comparison of the Cytotoxicity and Pro-Inflammatory Cytokine Production of EndoSequence Root Repair Material® and ProRoot® MTA in Human Osteoblast Cell Culture Using Reverse Transcriptase-PCR

The purpose of this study was to compare the cytotoxicity of EndoSequence Root Repair Material® (ERRM) putty, ERRM flowable and ProRoot® MTA (Mineral Trioxide Aggregate) utilizing osteoblast cells (MG-63), using RT-PCR as the instrument to measure the levels of pro-inflammatory cytokines (IL-1 β , IL-6, IL-8, TNF- α).

Graduate Students Table Clinics Poster Presentations

4. Mark Galsterer – Class of 2012

An In Vitro Biocompatibility Comparison of Commonly Used Retro-fill Materials and Two New Materials: A MTA/IRM® Mixture and Endosequence Root Repair Material®

Ideal Retro-fill materials should be biocompatible. We hypothesized that there is no difference in cytotoxicity when MTA/IRM® is compared to a new bioceramic material Endosequence Root Repair Material® (ERRM). The purpose of this study was to evaluate the biocompatibility of various retro-fill materials, MTA/IRM® mixture and ERRM.

5. Tannisha Goggins, Jing Wang – Class of 2011

Immediate Dentin Sealing

This project examined the advantages and disadvantages of using immediate dentin sealing for indirect restorations.

6. Hardeep Dhaliwal, MD, DMD – Class of 2012

Endoscopy Assisted Mandibular Sagittal Split Ramus Osteotomy

In the present study, a 300 Stryker endoscope was used to visualize the medical aspect of the ramus in order to determine IAN location following the initial dissection. The use of an endoscope allows the operator to easily determine the location of the IAN without excess soft tissue manipulation, thereby minimizing potential damage to the IAN and possibly improving patients' post-operative outcomes.

Graduate Students Table Clinics Poster Presentations

7. Michael P. Horan, MD, DDS, PhD – Class of 2011

Identification of Body Dysmorphic Disorder in Adult Patients Seeking Orthognathic and Facial Cosmetic Surgery from Oral and Maxillofacial Surgeons

The purpose of the present study was to adult patients with BDD seeking orthognathic or facial cosmetic surgery procedures by using a well documented, “user friendly” BDD screening tool, the BDD Questionnaire (BDDQ). The results of this study indicate that patients seeking facial cosmetic surgery from Oral and Maxillofacial Surgeons score significantly higher on the BDDQ than do patients seeking dentoalveolar surgery, whereas those seeking orthognathic surgery do not.

8. M. Johnson, DDS – Class of 2011

A Comparison of the Antimicrobial Effectiveness of Hoshino’s Paste With and Without Barium Sulfate, Against an Enterococcus Faecalis biofilm using Scanning Electron Microscopy (SEM)

This research examined the microbial efficacy of a Triple antibiotic paste combined with a radiopaque agent against an e. Faecalis biofilm, with SEM technology to visualize the biofilm.

9. Lawrence E. Kalke, DMD – Class of 2011

Pre-Surgical Nasal Alveolar Molding Appliance for Cleft Lip/Palate Patients

To approximate the alveolar segments to allow for effective surgical closure under minimal tension and scar formation as well as the affected nasal cartilages being remodeled.

10. Othman Mohamad, Brett Lancaster, Louay Taifour – Dept of AEGD, 2011

Comparison Between Different Bonding Generations

This project compares different comparisons of bonding agents used for composite filling material, method of application, and evaluates the bond strength to the tooth structure under Scanning Electron Microscope.

Graduate Students Table Clinics Poster Presentations

11. Daniel Morris, DMD – Class of 2011

Scanning Electronic Microscopic (SEM) Examination of the Antimicrobial Efficacy of Various Endodontic Irrigants and Their Associated pH Changes Due to the Presence or Absence of Dentin

Antimicrobial irrigants can be highly effective against microorganisms in vitro in a test tube; however, we see a reduced effectiveness in vivo. One of these factors is the reduced antimicrobial efficacy of endodontic irrigants in the presence of dentin.

12. Louis Fernando Soares Pires – Class of July 2010

Bone Surface Characteristics and Heat Generation Using Different Burs for Osteotomy

To evaluate the heat differences and the differences in the bone surface characteristics between the repeated use of stainless steel and zirconium burs for osteotomy. Stainless steel and zirconia burs can be used several times for implant site preparation under controlled conditions where temperature is less than 44°C. Both burs used for 80 times left a smoother bone surface than the ones used for the first time.

13. Ryan Reese, D.M.D. – Class of 2012

Antibacterial Effectiveness of Triple Antibiotic Paste, 2% Chlorhexidine Gel and Calcium Hydroxide Against E. Faecalis in the Presence of Dental Powder Using Radial Diffusion Assay Technique

We wanted to compare the antimicrobial efficacy of Triple Antibiotic Paste, Chlorhexidine Gel, and Calcium Hydroxide against *Enterococcus faecalis* in the presence of dentin to see which material showed the greatest antimicrobial efficacy. Triple antibiotic paste showed the greatest antimicrobial efficacy against *E. faecalis* in the presence of dentin compared to the other medicaments. Our results are important because they show that triple antibiotic paste may prove beneficial in cases where *E. faecalis* contributes to the persistence of periradicular pathosis and may be a suitable alternative to CHX and CH in these cases.

Graduate Students Table Clinics Poster Presentations

14. Poonam Solanki – Class of 2011

Effect of Docosahexaenoic Acid (DHA), An Omega-3 Fatty Acid on the Expression of IL-1 β , IL-6, IL-8, and TNF α in Normal and LPS treated MG-63 Human Osteoblasts and THP-1 monocytes Using Reverse Transcriptase-PCR.

The purpose of this study was to compare the effect of DHA on expression of these cytokines by normal and LPS treated osteoblasts followed by test on THP-1 monocytes. Our results show that DHA at higher concentrations may inhibit bone resorption by decreasing pro-inflammatory cytokine production and may have a therapeutic use for treating apical periodontitis.

15. Jose Teppa, DDS – Class of 2011

Utilization of Cone Beam CT Imaging to Volumetrically Assess Alveolar Cleft Defects

The purpose of the current study was to determine the utility of Cone Beam CT Imaging in assessing the volume of alveolar cleft defects in patients undergoing secondary cleft repair. The data collected helps quantitatively assess the volume of an alveolar cleft and aid in preoperative determination of the amount of bone that will be needed to adequately graft the cleft. This will aid in an appropriate selection of an autogenous graft donor site prior to surgery.

16. Jose Teppa, DDS – Class of 2011

Case Report of Foreign Body, Broken Dental Needle

This Case Report explains how dental needles break and get lodged in spaces around the oral cavity, how to prevent this and manage it in case it happens. Also reports a case of a broken dental needle referred to the department of Oral and Maxillofacial at Case Western Reserve School of Dental Medicine and how it was managed.

Graduate Students Table Clinics Poster Presentations

17. Brandon J. Webb, DDS – Class of 2010

Comparison of Cone-Beam Computed Tomography Scans and Direct Digital Radiography in Detecting Experimental Lesions on Radicular Tooth Structure

The purpose of this study was to assess the diagnostic ability of cone-beam computed tomography scans and direct digital radiography to detect the size, buccal-lingual location, and coronal-apical position of experimental lesions on radicular tooth structure.

18. O. Jeremy Wilde, DMD – Class of 2012

Study of Spatial Relationships Between the Root Apices of Maxillary Anterior Teeth and the Floor of the Nasal Cavity Using Cone Beam Computed Tomography

The anatomy of the nasal sinus is important for surgical endodontics. To be able to access the root tip, bone needs to be removed such that the nasal cavity is not invaded. CBCT allows us to adequately evaluate these anatomic structures to aid in diagnosis and treatment planning.

Undergraduate Students Table Clinics Poster Presentations

1. Ana-Luiza Arruda - Class of 2013
Faculty Mentor: Dr. Catherine A. Demko - Community Dentistry

Physician Attitudes Regarding Oral Health in Diabetes Care

This project examined the attitudes and behaviors regarding oral health and diabetes among Ohio physicians. Attitudes about the importance of oral health in diabetes management are favorable and are associated with reported behaviors.

2. Brian Chow - Class of 2013
Faculty Mentor: Dr. Ge Jin - Department of Biological Sciences

HPV Oncogenes E6 and E7 Directly Promote Human Beta-Defensin-3 Expression

The project examined the effect of human papilloma virus oncogenes on the cellular expression of human beta-defensin-3 (hBD-3), which is associated with oral cancer growth and progression. We found that transfection with oncogenes E6 and E7 induced the expression of hBD-3 in oral squamous carcinoma cells.

3. Devin A. Conway - Class of 2013
Faculty Mentor: Juan Martin Palomo DDS, MSD - Orthodontics Department

Buccolingual Inclination of Mandibular Canines Using CBCT

Buccolingual tooth inclination is one of Andrew's "Six Keys to Normal Occlusion", and part of the phase III clinical examination of the American Board of Orthodontics (ABO) licensure exam. The ABO states that "in order to establish proper occlusion in maximum intercuspation and avoid balancing interferences, there should not be a significant difference between heights of the buccal and lingual cusps of the maxillary and mandibular molars and premolars." The objective of this study was to compare the reliability of two different methods used to measure buccolingual (BL) inclination of mandibular (MD) canines using the software program 3D Cephalometric Analysis Anatomage Inc.

Undergraduate Students Table Clinics Poster Presentations

4. Myeshia Edgerton - Class of 2013
Faculty Mentor: Suchitra Nelson, PhD - Community Dentistry

Birth Factors and Tooth Eruption in a Cohort of Pre-Term Very Low Birth Weight Infants

The purpose of the study was to assess the incidence of tooth eruption patterns in Very Low Birth Weight (VLBW) and Normal Birth Weight (NBW) infants at 8 months corrected or chronological age, with correlations specific to perinatal risk factors. Overall, VLBW infants who are medically compromised at birth are similar to NBW infants in the presence of teeth at 8 months.

5. Robert Greene – Class of 2013
Faculty Mentor: Dr. J. Martin Palomo - Department of Orthodontics

Airway Volume and Hyoid Position Following Orthodontic Treatment of Class II Malocclusions

This project compared oropharyngeal airway volumes and position of the hyoid bone of class II adolescent patients before and after orthodontic treatment. The measurements showed an overall increase in airway volume with less hyoid movement than expected, the result of which has possible implications for obstructive sleep apnea patients.

6. Tom Gutberg - Class of 2013
Faculty Mentor: Dr. Sorin.Teich - Department of Comprehensive Care

Assessment of implementation of a CAMBRA based program.

Evaluation of CAMBRA at CWRU and the effect of fluoride varnish and oral hygiene instructions on the reduction of caries risk assessment of school patients.

Undergraduate Students Table Clinics Poster Presentations

7. Ryan Jensen - Class of 2013
Faculty Mentor: Dr. Catherine Demko - Community Dentistry

Patient Recall of Caries Risk Status and Recommendations

This project examined the amount that patients recalled about their Caries Risk Assessment and the recommendations they received after being designated to a specific risk status.

8. Janice Jun - Class of 2014
Faculty Mentor: Dr. Ge Jin - Dept. of Biological Sciences

The Role of Human Beta-Defensin 3 on Macrophage Activity in the Tumor Microenvironment

The purpose of this project is to explore the role of human beta-defensin 3 (hBD-3) on macrophage activity in the tumor microenvironment.

9. Adam Kaiser & Brian Leech - Class of 2013
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Undergraduate Students Table Clinics Poster Presentations

10. Rahul Mehta - Class of 2013

Faculty Mentor: Dr. Leena Palomo - Periodontics

Adolescent Overweight Status and Periodontal Changes Over Two Years

This project attempted to determine if overweight adolescents experience worsening periodontal parameters (plaque index, inflammation, bone loss, and patient treatment time) versus their healthy counterparts. It was determined that overweight adolescents do not experience worsening periodontal parameters versus healthy weight counterparts when followed over two years.

11. Ilia Oukhalov - Class of 2013

Faculty Mentor: Dr. Leena Palomo - Periodontics

Inflammation in overweight versus healthy females during orthodontic therapy

This project assessed the link between inflammation due to obesity and the treatment time of orthodontic therapy. While a link has been demonstrated by previous research no such relationship was found in this pilot study.

12. Boonyapa Purt- Class of 2014

Faculty Mentor: Dr. Zhimin Feng - Department of Biological Sciences

Susceptibility of Gut Fusobacterium Nucleatum isolate to human β -defensin 2 and 3.

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Undergraduate Students Table Clinics Poster Presentations

13. Margaret J. Richards – Class of 2013

Faculty Mentor: Dr. Kristin Victoroff - Community Dentistry

Dental Student Performance in the Clinical Setting: A Qualitative Study Using a Critical Incident Technique

The purpose of this study is to explore the characteristics and behaviors attached to high-performing dental students in the clinical setting. Using critical incident technique facilitated the collection of detailed descriptions of outstanding student clinical performance.

14. Julia Salmeron - Class of 2013

Faculty Mentor: Richard Jurevic, DDS - Department of Biological Sciences

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16. Tucker VanYperen – Class of 2013

Faculty Mentor: Dr. Aaron Weinberg - Department of Biological Sciences

Ontogeny of Oral Epithelial Cell Derived Antimicrobial Peptides

This project examined four different antimicrobial peptides present in human saliva, and how their levels vary with age. For most, the correlation was weak, but there were other correlations between levels of these peptides.