2023
Homecoming

LLUSD Student Poster Competition

March 3, 2023

LOMA LINDA UNIVERSITY

School of Dentistry

Welcome to the 2023 LLU Homecoming Research Poster Exhibition!
This is the time to celebrate One United Alumni weekend
and share the exciting results of the LLUSD Student Research Program.

The poster session includes a total of 35 projects that have been categorized into 5 sections.
The program book outlines:

1. Poster Competition Schedule and Awards
2. Poster Competition Judges
3. Poster Event Volunteers
4. Poster Title and Authors by Section (A – E)
5. Poster Abstracts
6. Poster Competition Judge Form

POSTER COMPETITION SCHEDULE AND AWARDS

	General	DH Students (Clinical & Community)	DDS Students (Clinical, Community & Scientific)
Venue & Date	Centennial Complex 4th Floor Friday March 3, 2023		
Presentation Time	8:00 - 11:30 AM		
Awards Ceremony	Friday March 3, 2023 at 1:00 – 2:00 PM (Centennial Complex Rm 3111)		
1st Place		$600.00	$600.00
2nd Place		$300.00	$300.00
3rd Place		$150.00	$150.00
AADR/Dentsply Sirona Award	Award to honor the individual selected to represent LLUSD at the 2024 AADR/SCADA Program in New Orleans, Louisiana March 13-16, 2024.		
2023 Student Research Mentor of the Year	The award recognizes faculty who have demonstrated a longstanding commitment to mentoring students that align with LLUSD's mission.		

Total Monetary Award: $5,250.00

POSTER COMPETITION JUDGES

Section A & B	Section B & C	Section C & D	Section D & E	Section E & A
Peter Lazari*	Dean Baranski*	Brandon Dudar*	Ashley Gonzalez*	Bumsoo Park*
Madison Huffman*	Gina Roque-Torres	James Kang	Susan Roche	Anu Grandhi
Euni Cho	Robert Walter	Eileen Kim	Peter Young	John Won
Rami Jekki	Roberto Savignano	Montry Suprono	Esther Forde	

Student Judges (N=6); Faculty Judges (N=13)

POSTER EVENT VOLUNTEERS

Registration	Greeters	Judge Form Organizers	Photo Booth	Set-up & Clean-Up
Oscar Vasque*	Vu Nguyen*	Joshua Ventilla*	Michelle Chan*	Peter Lazari*
Yiyang Ning*	Matthew Cossaert*	Nathaniel Hold*	Haydan Godfrey*	Eden Cai*
Lara Elijah*	Filmon Kifle*			and all others
	Jordan Mar*			

Student Volunteers

SECTION A. DH STUDENT CLINICAL & COMMUNITY CATEGORY

Poster 23001
The Student Research Program at Loma Linda University School of Dentistry
So Ran Kwon & Udochukwu Oyoyo
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23002
Student Research Program Poster Competition
So Ran Kwon & Udochukwu Oyoyo
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23003 DH CLIN
Tooth Bleaching with Light Activation: Intensity & Heat
Shamil Hasanov, Maziar Hafezi Bakhtiari, Brittany Pinedo, Kristen Perry, Mercedes Dominguez, Matthew Gearing, Udochukwu Oyoyo, Chris Perry, Joshua Lee, So Ran Kwon
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23004 DH CLIN
Effect of Toothpaste Tablets on Gingival and Plaque Index: A Randomized Controlled Clinical Trial
Emili Bezman, Dominic DeAnda, Jaclyn Im, Esther Lee, Amber Martinez, Rachel Ree, Shelly Withers, Udochukwu Oyoyo, So Ran Kwon
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23005 DH CLIN
Increasing Awareness on the Relationship between Eating Well and Oral Health
Shauna Ashlock, Desiree Caceres, Quincey Carter, Rebecca Chang, Paige Nordland, Larysa Baydala, Udochukwu Oyoyo, So Ran Kwon
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23006 DH COM
Association Between Oral Manifestations and Obstructive Sleep Apnea
Brenda Garcia Marquez, Jamiee Hernandez, Kristy Loza, Steve Martinez, Venessa Simamora, Shelley Hayton, So Ran Kwon
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23007 DH COM
Impact of the Use of Therapy Dogs in the Dental Office: A Review of Interviews
Lauren Ziegele, Sophie Dent Krick, Christina Samaniego, Blanca Martinez, Vanessa Fox, Brittany Pos, Danielle Ellington, So Ran Kwon
Loma Linda University School of Dentistry, Loma Linda, CA

SECTION B. GENERAL CATEGORY

Poster 23008
Pulp Regeneration in Teeth with Dens Evaginatus: A Case Report
Alina Ricalde, Chih Chieh Huang, Jung-Wei Chen, Samah Omar
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23009
Replantation of High Dry time Avulsed Tooth: A Case Report
Temitayo Akinyemi & Houman Mizani
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23010
Comparison of Microbial Activity Among Infants With or Without Using Presurgical Nasoalveolar Molding Appliance
Hassani H, Chen J-W, Zhang W, Hamra W, Justin Im
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23011
Taurodontism and Associated Clinical and Radiographic Features and Syndromes: A Case Report
Kaveh Ghods & Jung-Wei Chen
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23012
Effects of Dental Chair Backrest Inclination on Virtual Interocclusal Record of Maximum Intercuspal Position: A Clinical Study
Sasiya Bhumpattarachai, Kawther Ali, Roberto Savignano, Joseph Kan
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23013
Primordial Odontogenic Tumor: Report of a Rare Case with a Review of Literature
Navneet Kaur Sehgal, Dwight Rice, Tsungju O-Lee, Mia Nepomuceno-Perez, Anupama Grandhi
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23014
Virtual Start Check for Improved Time Management and Productivity
Margaret Soh, Gino Silvestre, Kiddee Poomprakobsri
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23015
Characteristics of LLUSD Urgent Care Users: A 7-Year Retrospective Study
Reema Younan & Holli Riter
Loma Linda University School of Dentistry, Loma Linda CA

SECTION C. DDS STUDENT CLINICAL CATEGORY

Poster 23016 DDS CLIN
Rate of root canal success over time, in cases using MTAD versus EDTA as a root canal irrigant
Madeleine Everett, Sara Al Tally, Bradley DeVine, Sofia Rodriguez-Fitzpatrick, Udochukwu Oyoyo, So Ran Kwon, Robert Handysides
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23017 DDS CLIN
Safety of Dentsply Aseptico vs CanalPro Jeni Endodontic Motors
Christopher Ziegele, Abraham Montalvo, Jens Nielsen, Chase Sugiono, Udochukwu Oyoyo, Richard Gray
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23018 DDS CLIN
Outcome and Efficacy of Oral and Maxillofacial Pathology Consultations at a Southern California Dental School
Chen Wei Yew, Amanda Oronoz, Ronia Ali, Susan Richards, Udochukwu Oyoyo, So Ran Kwon
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23019 CLIN
Clinical Evaluation of Patients who received 3-in-1 GPP Surgery
Alexis Perez, ChengLong Zhao, Peter Rivera, Szu-Han Weng, XiaoLei Guo, Zhen Yew Wung, Jung-Wei Chen
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23020 DDS CLIN
Comparison between digital scans and traditional impressions for single unit crown acceptance rates in a predoctoral clinic
German A. Antillon, Dilpreet Singh, Mohamed Gara, Sofia R. Fitzpatrick, Robert Walter
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23021 DDS CLIN
Osteoporosis, diabetes and smoking effects on failure rates of dental implants
Amy Lee, Winston Ramsay, Mena Zaky, Balsam Jekki, Rami Jekki, Zina Johnston, Udochukwu Oyoyo, So Ran Kwon
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23022 CLIN
Limited Restorative Space Solved with Bonded Ultrathin Ceramic: Evidence Based Clinical Guideline
Shaun Soliman & Robert Walter
Loma Linda University School of Dentistry, Loma Linda, CA

SECTION D. DDS STUDENT COMMUNITY CATEGORY

Poster 23023 DDS COM
Characterizing Dental Urgent Care Patients and Type of Care Provided
Salem Sayegh, Himani Radadiya, Sneha Mahavadi, Shreya Manocha, Udochukwu Oyoyo, So Ran Kwon
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23024 DDS COM
Snapshot of LLUSD Graduates' Satisfaction on Education and Career Choices
Corinne Atiga, Jingwei Cai, So Ran Kwon, Udochukwu Oyoyo, Esther Forde, Eun-Hwi Cho, Robert Handysides
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23025 DDS COM
Distribution of Caries Risk Category and Prevalence of Snacking among Patients at LLUSD
Marina Morgan, Karmen Battikha, Sossana Hanna, Mina Hekmat, Renu Aggarwal, Udochukwu Oyoyo, So Ran Kwon
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23026 COM
Confidence Level of LLUSD Graduates in Placing Implant Restorations
Gina Kim, Madeleine Gonzalez, Monina De Jesus, Sandra Haddad, Adrienne Carillo, Sunee Limmeechokchai, Joseph Kan
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23027 DDS COM
Equivalency and Accuracy of Three Different Periodontal Probes in Measuring Pocket Depth
Rachel Koh, Sharon Lee, Nima Sarmast, Udochukwu Oyoyo, So Ran Kwon
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23028 DDS COM
Use of Artificially Created Caries Typodont Teeth: Perception & Efficacy
Ki Park, Kasra Asnashari, Reema Younan, Ryan Becker, Clyde Roggenkamp, So Ran Kwon
Loma Linda University School of Dentistry, Loma Linda, CA

SECTION E. DDS STUDENT SCIENTIFIC CATEGORY

Poster 23029 DDS SCIEN
The Effects of BMI on General Anesthesia Emergence in Pediatric Dental Patients
Savannah Anderson, Rachel Eshtiaghpour, Andrew Lee, Brandon Castillo, Morgan Rogers, Brooklyn VanWinkle, Jung-Wei Chen
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23030 DDS SCIEN
A Novel Method of Comparing Force Required to Drill Through Four Types of Resin and Extracted Anterior Teeth
Reuben Thomas George, Justin Chung, Daul Kim, Abraham Montalvo, Roberto Savignano, Joseph Caruso
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23031 DDS SCIEN
Accuracy of Orthopantomography in Predicting Position and Proximity of Superimposed or Nearby Third Molar Root Relative to Inferior Alveolar Canal
Geonwoong Park, Min Jung Yoon, Gina Roque Torres, Dwight Rice, Roberto Savignano, Joseph Caruso
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23032 SCIEN
Comparison of Volumetric Change of Printed Objects from Anycubic vs SprintRay 3D Printers
Sarah Batarseh, Nate Goldsberry, Carina Handysides, Layla Nemat-bakhsh, Caleb Valenzuela, Udochukwu Oyoyo, Kitichai Rungcharassaeng,
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23033 DDS SCIEN
Effect of Toothpaste Tablets on Gloss and Roughness of Resin-Based Composite Material
Daniel Diaz, Hyun Ji Kim, Kristina Padilla, Emily Poon, and Kaitlyn Savage, Franklin Garcia-Godoy, Udochukwu Oyoyo, So Ran Kwon
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23034 DDS SCIEN
Marginal Fit of Zirconia Crowns: Conventional versus Blind Polishing
Rami Rashed, Kasra Asnashari, Myro Castillo, Sarah Huh, Urim Kim, Ryan Becker, Vincent Chee, Udochukwo Oyoyo, Satoshi Sakamoto, So Ran Kwon
Loma Linda University School of Dentistry, Loma Linda, CA

Poster 23035 SCIEN
Effect of Steam Sterilization on Accuracy of 3D Printed Implant Surgical Guides
Daniel Rexin, Daniela Avila, Alex Castillo, Kevin Moreno, Emily Tan, Sunee Limmeechokchai, Joseph Lee, Udochukwu Oyoyo, Joseph Kan
Loma Linda University School of Dentistry, Loma Linda, CA

POSTER ABSTRACTS

Poster 23001
The Student Research Program at Loma Linda University School of Dentistry
So Ran Kwon & Udochukwu Oyoyo

Scientific research is a vital driving force for health professions education and practice that pave the way for evidence-based decision making. LLUSD has always been a frontier in creating an environment to foster student research opportunities thus aiming to meet our mission "To make man whole" by integrative teaching, service, and research. Dental and dental hygiene students who are interested in conducting research are encouraged to select a topic in the area of clinical, basic sciences, or community research.
As part of this program, we aim to,
1) Instill critical thinking through research experience;
2) Foster collaboration between students and faculty mentors that encourages students to become involved in the design, conduct, and reporting of research;
3) Encourage students to consider academic dentistry and research as future career options.

Poster 23002
Student Research Program Poster Competition
So Ran Kwon & Udochukwu Oyoyo

The 2023 Homecoming Research Exhibition showcases poster presentations of research being conducted by each of the eight Loma Linda University Schools. One of the major highlights are the dental hygiene and dental student poster competitions from the School of Dentistry. The students have worked hard on their research projects and are excited to share their scientific findings with their peers, faculty, staff and alumni. On behalf of the student research program we welcome you to learn together and celebrate our students' achievements.

Poster 23003 DH CLIN
Tooth Bleaching with Light Activation: Intensity & Heat
Shamil Hasanov, Maziar Hafezi Bakhtiari, Brittany Pinedo, Kristen Perry, Mercedes Dominguez, Matthew Gearing, Udochukwu Oyoyo, Chris Perry, Joshua Lee, So Ran Kwon

Objectives: The objective was to determine how effective different light sources perform when the bleaching agent used is the same.
Methods: Extracted molars were randomized into groups of 20 specimens each - NC: distilled water, 9%-NL: 9% hydrogen-peroxide gel without light, 9%-OWL: 9% hydrogen-peroxide gel with Optic White light, 9%-AG: 9% hydrogen-peroxide gel with Auraglow light, and 9%-ZOOM: 9% hydrogen-peroxide gel with ZOOM light. Tooth color was measured with a spectrophotometer at baseline (T1), 1-day (T2), and 1-week post-treatment (T3). Intensity and peak wavelength and temperature changes were measured. One-way ANOVA was used to evaluate the differences among groups.
Results: There was no significant difference in all color parameters at baseline (P>0.05). There was a statistically significant difference in overall color change at T2 and T3. After multiple comparisons Group 9%-ZOOM showed the highest color change at T2 and T3. (P<0.05).
Conclusion: efficacy can be increased by using a high intensity light.
Keywords: Bleaching, light activation, intensity, wavelength, temperature

Poster 23004 DH CLIN
Effect of Toothpaste Tablets on Gingival and Plaque Index: A Randomized Controlled Clinical Trial
Emili Bezman, Dominic DeAnda, Jaclyn Im, Esther Lee, Amber Martinez, Rachel Ree, Shelly Withers, Udochukwu Oyoyo, So Ran Kwon

Objectives: To assess the change in gingival index (GI) and plaque index (PI) when comparing the use of toothpaste tablets to conventional toothpaste.
Methods: 40 participants were randomized into two groups: Colgate's toothpaste tablets (T) and Colgate's Cavity Protection toothpaste (C). Both groups utilized their assigned dentifrice for 2 weeks. A pre and post-assessment measured the GI and PI index. A questionnaire on the use of the product was distributed.

Results: There was no difference between C and T for baseline and post-assessment GI and PI (P>0.05). Both groups showed a significant decline in PI (p=0.035 & 0.017). There was no significant difference between C & T for cleanliness, flavor, ease of use, eco-friendliness, switch to the current dentifrice, and satisfaction. Feedback on the usage of toothpaste and toothpaste tablets were positive while texture was more negative in group T (p=0.001).
Conclusions: Toothpaste tablets are as effective when compared to conventional toothpaste.
Keywords: Toothpaste tablets, plaque removal, eco friendly

Poster 23005 DH CLIN

Increasing Awareness on the Relationship between Eating Well and Oral Health
Shauna Ashlock, Desiree Caceres, Quincey Carter, Rebecca Chang, Paige Nordland, Larysa Baydala, Udochukwu Oyoyo,
So Ran Kwon

Objectives: To evaluate the change in knowledge and perception of the relationship between diet and oral health by using an interactive educational pamphlet developed by student investigators.
Methods: Student investigators designed & developed an interactive educational pamphlet using CanvaPro Software. Emphasis was placed on i) Diet; ii) pH Scale, iii) Stephan's curve; iv) Sugar Consumption; and v) Food Swap. On completion of the 10-minute educational session a 5-item questionnaire was distributed. The questionnaires used a 5-point Likert scale ranging from strongly agree to strongly disagree.
Results: A total of 58 subjects participated in the study. Paired sample t-test showed that there was a statistically significant difference between baseline and post-education for three questions (p< 0.001, in all instances). For the post-questionnaire, 97% of respondents were motivated by the session and 100% of respondents would recommend the session to family/friends.
Conclusions: educational sessions can improve individuals' perception and knowledge on diet and oral health.
Keywords: Eat well, education, dental hygienist, pH scale

Poster 23006 DH COM

Association Between Oral Manifestations and Obstructive Sleep Apnea
Brenda Garcia Marquez, Jamiee Hernandez, Kristy Loza, Steve Martinez, Venessa Simamora, Shelley Hayton, So Ran Kwon

Objectives: Evaluate if there is any correlation between clinical oral manifestation and OSAS.
Methods: A pre-screening survey to determine if there are any symptoms of OSAS already present. Then an oral exam will be performed to check for specific oral manifestations present.
Results: Over 40% of the participants had a high mallampati score of 3 or 4. There were no significant correlations between sleep apnea and oral manifestations. The p-value was 0.178 and the r-value -0.226.
Conclusions: No significant correlations were found in our study in relation to sleep apnea and oral manifestations. 78% of the subjects were women under the age of 40 while most diagnosed cases of OSAS are men over the age of 50. Additional research with a wider subject pool has the potential to yield different results on whether there are clinical oral manifestations that could lead to early detection of OSAS. Dental Hygienists have the unique opportunity to aid in this early detection.
Keywords: Sleep Apnea, OSAS, Oral Manifestations, Mallampati Score

Poster 23007 DH COM

Impact of the Use of Therapy Dogs in the Dental Office: A Review of Interviews
Lauren Ziegele, Sophie Dent Krick, Christina Samaniego, Blanca Martinez, Vanessa Fox, Brittany Pos, Danielle Ellington,
So Ran Kwon

Objectives: To evaluate if there is a decrease in dental anxiety when therapy dogs are used in the dental office.
Methods: Three interviews were conducted with various dental professionals who have had experience with therapy animals in the dental office. Questions were asked regarding the training of the therapy dogs as well as background information on the office where the dog was present. Inquiries were also made regarding the overall experience of the patients with dental anxiety and of the dental professionals. Along with these interviews, articles were researched to compile a comprehensive view of what other studies found regarding dental anxiety and therapy dogs.
Results: All of the people interviewed agreed that therapy dogs in the dental office helped decrease dental anxiety. The articles collected also confirmed this theory.
Conclusions: Therapy animals in the dental office cause a palpable decrease in dental anxiety in patients.
Keywords: Dental Anxiety, Therapy Animals, Therapy Dogs

Poster 23008
Pulp Regeneration in Teeth with Dens Evaginatus: A Case Report
Alina Ricalde, Chih Chieh Huang, Jung-Wei Chen, Samah Omar

Dens Evaginatus is a relatively rare dental anomaly which presents as cusp like elevations called tubercles on the occlusal and lingual surfaces of teeth. These tubercles can contain pulpal tissue. If fracture and pulp exposure occurs, pulp necrosis and apical abscess can ensue. If this occurs in immature permanent teeth with open apices, traditional endodontic therapy is not a viable treatment option. Regenerative endodontics is a biologically based procedure that is indicated for nonvital immature permanent teeth, with the goals including elimination of clinical signs and symptoms, resolution of apical periodontitis, thickening of the canal walls and continued root maturation. This procedure was caried out in LLU pediatric dentistry clinic, and the case will be presented along with a discussion of the procedure performed, the results, and conclusion.
Keywords: Dens Evaginatus, Immature permanent teeth, Regenerative Endodontics

Poster 23009
Replantation of High Dry time Avulsed Tooth: A Case Report
Temitayo Akinyemi & Houman Mizani

Objective: This is a case report to show the success rate of replantation of high dry time avulsed #9
Methods: Avulsed tooth was replanted after saline rinse of tooth and socket. And secured used flexible splint line. Endodontic referral was given to parent with prescription of Doxycycline and Chlorhexidine.
Result: After 2 weeks follow up PA radiographs revealed slight external resorption on endo treated #9.
Percussion: 9 (+)
#9: Class 1 mobility
Gingiva looks healthy and all soft tissue lacerations are healed.
Conclusion: Immature teeth had a higher probability of pulp revascularization than mature teeth.
When extra-alveolar time was longer than 60 minutes, the incidence of inflammatory root resorption was higher in immature teeth than mature, however, the incidence of replacement root resorption was higher in mature teeth than immature teeth under the same condition.
Keywords: Replantation, root resorption, time, avulsion

Poster 23010
Comparison of Microbial Activity Among Infants With or Without Using Presurgical Nasoalveolar Molding Appliance
Hassani H, Chen J-W, Zhang W, Hamra W, Justin Im

Objectives: To study whether wearing the presurgical nasoalveolar molding appliance (PNAM) had facilitated the establishment of *Streptococcus mutans* and *Lactobacillus (LB)* and to determine other factors including pH and caries susceptibility associated with wearing the PNAM.
Methods: Saliva samples of 61 infants (4.5 ± 2.06 months old) were collected from 3 groups: PNAM (n = 23), healthy (n = 30), and cleft lip and palate (CLP) without any treatment (n = 8). Saliva samples were assessed using selective agar to enumerate total LB and S mutans and subjected to adenosine triphosphate (ATP)-driven bioluminescence determinations.
Results: There was a significant difference in pH ($P = .012$), *LB* Caries Risk Test ($P < .001$), *LB* colony count ($P < .001$), *S mutans* Caries Risk Test ($P < .001$), and *S mutans* colony count ($P < .001$) among the 3 groups (PNAM > CLP > healthy). The ATP level was not significantly different among the 3 groups.
Conclusion: Higher bacterial count and lower pH were found in the PNAM group.
Keywords: Presurgical nasoalveolar molding appliance, caries risk, microbial activity

Poster 23011
Taurodontism and Associated Clinical and Radiographic Features and Syndromes: A Case Report
Kaveh Ghods & Jung-Wei Chen

Objective: To emphasize the significance of awareness of Taurodontism and required coordination between the dentist and primary care or geneticist.

Case Report: A 4-years-old male with tachycardia and asthma presented with rampant caries. Due to patient's medical history and extensive dental work, he was scheduled for hospital general anesthesia. Radiograph showed taurodontism. Associated syndromes were discussed with mom and asked to work with PCP/genesis to evaluate for associated syndromes.

Discussion: Taurodontism is a dental anomaly defined by enlargement of the pulp chamber of multirooted teeth with apical displacement of the pulp floor and bifurcation of the roots. Associated syndrome are: Amelogenesis Imperfecta, Ectodrmal Dysplasia, Hypophosphatasia, Klinefelter, Microdontia-taurodontia-dens Invaginitis, Sex Chromosol Aberrations, Down, Tricho-onycho-dental.

Conclusion: Identifying patients with Taurodontism is essential in treatment planning as well as referral for identifying associated syndromes. It is important to emphasize the significance of awareness of this condition and coordination between primary care or geneticist.

Keywords: Taurodontism, Associated syndromes

Poster 23012

Effects of Dental Chair Backrest Inclination on Virtual Interocclusal Record of Maximum Intercuspal Position: A Clinical Study

Sasiya Bhumpattarachai, Kawther Ali, Roberto Savignano, Joseph Kan

Objectives: To evaluate the influence of dental chair backrest inclination (DBI) on the accuracy of virtual interocclusal record (VR) and compare it to conventional interocclusal record (CVR) record at 90,120 and 180 degrees DBI. Also aims to compare the VR of MIP at 90 degrees DBI with free-hand articulation.

Methods: Ten fully dentate students participated in this study. VR of MIP obtained at 90, 120, and 180 degrees DBI. Each participant's arches were scanned to fabricate 10 maxillary and 10 mandibular printed models. Each model was mounted 4 ways with free-hand articulation, CVR recorded at 90,120,180 degrees DBI. Forty mounted digital scans obtained by desktop scanner. All STL files were superimposed with program to determine the 3D position deviation.

Results: No significant difference was found for VR of MIP recorded at different DBI. There was no significant difference between VR and CVR at different DBI and no significant difference between VR captured at 90 degrees DBI and free-hand articulation.

Conclusions: Accuracy of VR of MIP was not influenced by different DBI between 90 to180 degrees. VR demonstrated accuracy as compared to CVR.

Keywords: Virtual interocclusal record, Dental chair inclination, MIP position, Digital scan

Poster 23013

Primordial Odontogenic Tumor: Report of a Rare Case with a Review of Literature

Navneet Kaur Sehgal, Dwight Rice, Tsungju O-Lee, Mia Nepomuceno-Perez, Anupama Grandhi

The primordial odontogenic tumor (POT) was first described in 2014. It occurs in the first and second decades of life. It is prevalent in the tooth-bearing areas of the mandible. Almost 18 cases have been published in peer-reviewed journals so far. It commonly presents as a well-defined pericoronal unilocular radiolucency. Treatment with conservative surgical excision appears to be curative, with no recurrence potential.

An 8-year-old male presented to the Loma Linda University ENT department with a soft tissue mass in the right maxillary sinus along with a free-floating devitalized tooth. A Caldwell-Luc approach was utilized for enucleation of the lesion. Histopathology showed a biphasic tumor with an epithelial lining that was composed of columnar cells with focal stellate reticulum. A diagnosis of primordial odontogenic tumor was made based on microscopic features. The patient appears to have responded well to treatment with no recurrence at 2-year follow-up.

Keywords: Primordial odontogenic tumor, benign mixed odontogenic tumor, Caldwell-Luc, radiolucency, unilocular radiolucency

Poster 23014

Virtual Start Check for Improved Time Management and Productivity

Margaret Soh, Gino Silvestre, Kiddee Poomprakobsri

Objectives: Prepare students for patient care procedures, clinical time management, and increased productivity.

Methods: An Online Virtual Start Check system will be created. Students will review armamentarium and step-by-step procedure guidelines, then answer questions after reviewing the patient chart and the presentation.

A QR code will be generated once the Virtual Start Check is completed. Faculty will use mobile devices to scan QR code at the start of clinic session. Chair side start check will be given only once the system shows the student has completed a Virtual Start Check.

Two groups of students and faculties will be selected for a pilot study. The control group will practice the current start check protocol while the test group will utilize the new system. Number of questions asked by students to faculty will be evaluated statistically.
Keywords: Start check, QR code, Virtual

Poster 23015
Characteristics of LLUSD Urgent Care Users: A 7-Year Retrospective Study
Reema Younan & Holli Riter

Objectives: To highlight the characteristics of LLUSD Urgent Care Users over a 7-year time-period; first, determine the frequency of urgent care users that are first-time users versus patients of records. Second, the percentage of retention of first-time users on completion of their urgent care visit. Third, assess the distribution of type of urgent treatment provided.
Methods: Patient visits to the LLUSD urgent care clinic were queried from the axiUm data and calculated to determine trends in attendance. Types of procedures that were done at the LLUSD Urgent Care Clinic during the same time-period were also calculated.
Results: 68.5% of the patients who attended the Urgent Care Clinic were problem-oriented attenders who were neither existing patients, nor continued further care at LLUSD. 67% of the procedures done in urgent care were related to oral surgery procedures.
Conclusions: Most LLUSD Urgent Care users are problem-oriented attenders.
Keywords: Emergency, Oral-Surgery, Patient-trends, Urgent Care

Poster 23016 DDS CLIN
Rate of root canal success over time, in cases using MTAD versus EDTA as a root canal irrigant
Madeleine Everett, Sara Al Tally, Bradley DeVine, Sofia Rodriguez-Fitzpatrick, Udochukwu Oyoyo, So Ran Kwon, Robert Handysides

Objectives: To measure and compare the rates of success of root canal cases that used MTAD or EDTA as irrigants.
Methods: One hundred and six root canal cases treated in the Graduate Endodontics department at Loma Linda University School of Dentistry, that used either MTAD or EDTA as an irrigant, were analyzed for successful healing. Student researchers underwent calibration on using the Periapical Index. Radiographs for each case were assessed and assigned a Periapical Index Score at pre-treatment and at each follow-up appointment. PAI scores along with total years of follow-up were recorded.
Results: There was no significant difference in success rates between root canal cases using MTAD or EDTA as an irrigant, either in overall success or when assessed by follow-up year.
Conclusions: There is no significant difference in success rates between root canal cases that used MTAD or EDTA as an irrigant. MTAD and EDTA both have comparable clinical effectiveness.
Keywords: MTAD, EDTA.

Poster 23017 DDS CLIN
Safety of Dentsply Aseptico vs CanalPro Jeni Endodontic Motors
Christopher Ziegele, Abraham Montalvo, Jens Nielsen, Chase Sugiono, Udochukwu Oyoyo, Richard Gray

Objectives: Determine rate of instrument separation with the CanalPro Jeni and the Dentsply Asceptico in the hands of untrained dental students.
Methods: Two groups of 10 randomly selected third year dental students untrained in endodontic rotary handpiece use were selected. Both groups cleaned and shaped the ML canal of a plastic #19 endodontic tooth using a single length rotary file system. Group one used the Dentsply Asceptico and vortex blue files. Group two used the CanalPro Jeni motor with Hyflex CM files.
Results: There was no significant difference detected between file fracture in groups one and two.
Conclusions: There is not a big difference noted between the dentsply Asceptico and the CanalPro Jeni motors. Untrained third year dental students showed low fracture rates in both groups.
Keywords: Intsrument separation, endodontic rotary handpiece

Poster 23018 DDS CLIN
Outcome and Efficacy of Oral and Maxillofacial Pathology Consultations at a Southern California Dental School
Chen Wei Yew, Amanda Oronoz, Ronia Ali, Susan Richards, Udochukwu Oyoyo, So Ran Kwon

Objectives: Evaluation of the protocol for oral and maxillofacial pathology consultation.
Methods: A retrospective review was conducted using 371 patient records (axium) which have completed oral and maxillofacial pathology consultation (July 2020-June 2022). Review included patient profile and consultation information.

Results: 71% of needed biopsy and 71.3% of needed follow-ups were not completed. There is a 73% match between student and faculty differential diagnosis.

Conclusions: The current protocol needs revision. An ideal protocol should make it easy to quickly identify oral and maxillofacial pathologies in a chart and effortlessly track the progress of procedures for oral and maxillofacial pathologies. We suggest a dedicated section for oral and maxillofacial pathologies next to the odontogram, and an oral path screen assessment form that includes a student tab, a faculty tab, and a biopsy tab. A more efficient system will facilitate the earlier diagnosis and treatment of oral and maxillofacial pathology.

Keywords: Oral Maxillofacial pathology consultations, Oral pathology.

Poster 23019 CLIN
Clinical Evaluation of Patients who received 3-in-1 GPP Surgery
Alexis Perez, ChengLong Zhao, Peter Rivera, Szu-Han Weng, XiaoLei Guo, Zhen Yew Wung, Jung-Wei Chen

Objectives: The aim of this study is to address the success rate of LLUPD's PNAM presurgical appliance with 3-in-1 GPP surgery in comparison with the 2-step Cleft and Lip Palate Surgery.

Methods: Of the 70 total patients who were treated at LLUSD using the PNAM with GPP surgery, 45 patients met the selection criteria and were assessed. Data collection was completed by accessing the patient's medical records who received the treatment and evaluation of patient history and radiographs were used to determine success or failure rate. Failure was characterized as any abnormalities found postoperative that are outside the accepted values for these patients or any secondary treatments necessary to correct initial surgery.

Results: The success rate of LLUPD's PNAM presurgical appliance with GPP surgery was found to be 95.5% successful.

Conclusions: The PNAM with GPP should be further studied to be the standard for these procedures.

Keywords: Cleft Palate, surgery, PNAM, GPP,

Poster 23020 DDS CLIN
Comparison between digital scans and traditional impressions for single unit crown acceptance rates in a predoctoral clinic
German A. Antillon, Dilpreet Singh, Mohamed Gara, Sofia R. Fitzpatrick, Robert Walter

Objective: To compare the acceptance rate between conventional polyvinyl siloxane (PVS) impressions and digital scan of single unit ceramic crown cases from the Loma Linda University School of Dentistry (LLUSD) predoctoral clinic sent to LLUSD central laboratory quality assurance.

Methods: Data from an electronic health record lab forms for single unit ceramic crown, codes D2740, from the predoctoral clinic was collected. All cases between January 1, 2022 and October 30, 2022 were evaluated. Statistical tests were run by Chi Squared for categorical data and logistic regression for non-categorical dependent variables.

Results: A total of 521 lab forms were collected and statistically analysed. There was not a statistically significant difference in the laboratory acceptance rate between the digital scans and traditional PVS impressions (P=0.082) .

Conclusion: There is no difference between the quality assurance acceptance rate between PVS impressions and digital scans for single unit ceramic crowns in the LLUSD predoctoral clinic.

Keywords: digital dentistry, single crown, digital scans, PVS impression

Poster 23021 DDS CLIN
Osteoporosis, diabetes and smoking effects on failure rates of dental implants
Amy Lee, Winston Ramsay, Mena Zaky, Balsam Jekki, Rami Jekki, Zina Johnston, Udochukwu Oyoyo, So Ran Kwon

Objectives: Observing implant removal rates of LLUSD patients with Diabetes Mellitus (DM), Osteoporosis (OP), or smoking history over a 12-year period.

Methods: Case-control study observed patient cases on Axium with procedure code D6100 Implant Removal between January 2007 to December 2019. Retrieved 480 cases and recorded DM, OP, bisphosphonate use, smoking history, implant placement and removal dates, age at removal, and reason for removal. Cases without DM, OP, bisphosphonates, and smoking are the control group. Implants not placed at LLUSD (177 cases) or removed due to fracture (18 cases) were excluded. Conducted chi-squared analysis comparing the disease and non-disease groups.

Results: Chi-squared tests revealed no difference between the no disease and disease groups by location (p=0.95) and reason for removal (p=0.21).

Conclusions: We fail to reject the hypothesis that the disease group and healthy group are not different from one another.

Keywords: perimplantitis, bone loss, failed osseointegration, mobility, perimucositis

Poster 23022 CLIN
Limited Restorative Space Solved with Bonded Ultrathin Ceramic: Evidence Based Clinical Guideline
Shaun Soliman & Robert Walter

Objectives: Limited restorative space as a result of skeletal and dental positions may indicate the employment of ultrathin bonded lithium disilicate restorations.
Methods: The occlusal clearance at teeth #8 and #9 was restricted to less than 1mm due to small teeth and patient's occlusal arrangement. A systematic search approach was utilized to create a search strategy. Keywords and Medical Subject Heading (MeSH) terms were entered into an open-source electronic database (PubMed). Inclusion and exclusion criteria were formed based on the PICO model. After processing the data, an evidence-based clinical guidance would be developed for the minimal thickness of lithium disilicate ceramic to be bonded using Variolink Esthetic (light) for tooth #'s 8 and 9.
Results: 11 articles were reviewed based on the inclusion and exclusion criteria. Minimum thickness values were gathered, which ranged from 0.5 to1.0 mm.
Conclusion: Lithium disilicate restorations can be as thin as 0.5- 1.0 mm at occlusal contacts when bonded.
Keywords: lithium disilicate, e.max, ultrathin, minimal space, minimal clearance

Poster 23023 DDS COM
Characterizing Dental Urgent Care Patients and Type of Care Provided
Salem Sayegh, Himani Radadiya, Sneha Mahavadi, Shreya Manocha, Udochukwu Oyoyo, So Ran Kwon

Objectives: To characterize dental urgent care patients and the type of care provided.
Methods: Axium patient chart that were related to limited exam codes were used and information populated including age, gender, true urgent care need, discipline of procedure, treatment provided same day or not, if no treatment provided what was the chief complaint and if the patient had multiple urgent care visits. Chi-square test of independence and independent sample T-test was used to analyze the difference in the frequency of urgent care visits by age and gender.
Results: There was no significant difference in the urgent care cases by gender and age ($P = 0.486$, $P = 0.494$). Amongst patients with multiple urgent care visits, 60.4% were females ($P = 0.038$). Amongst patients who had multiple urgent care visits, 43.2% were OMFS.
Conclusions: Patients with multiple urgent care visits tend to be female, older age, and need OMFS related treatment.
Keywords: Urgent care, Type of care, frequency

Poster 23024 DDS COM
Snapshot of LLUSD Graduates' Satisfaction on Education and Career Choices
Corinne Atiga, Jingwei Cai, So Ran Kwon, Udochukwu Oyoyo, Esther Forde, Eun-Hwi Cho, Robert Handysides

Objectives: To provide a snapshot of LLUSD graduates and discuss the impact of the School's values to their career choices.
Methods: A comparative study of class 2021 between LLUSD and the national percentages was applied based on ADEA Senior Survey. A search was performed on the mission, vision, and values of U.S. dental schools. Word analysis on Excel to calculate the total count and the most frequently occurring value.
Results: Among senior dental students (class of 2021). National data (N=6,720) with 44.3% response rate, 132 samples are from LLUSD. Among 78 values, top 5 values are: Excellence (N=28), Integrity (N=25), Diversity (N=21), Respect (N=20), Innovation (N=18).
Conclusions: LLUSD results were comparable to other schools. Higher percentage of LLUSD students plan to work immediately after graduation and have higher amounts of educational debt. A relationship between school values and graduate's career choices was not possible to analyze.
Keywords: Senior dental student, satisfaction, education, school value, career choices

Poster 23025 DDS COM
Distribution of Caries Risk Category and Prevalence of Snacking among Patients at LLUSD
Marina Morgan, Karmen Battikha, Sossana Hanna, Mina Hekmat, Renu Aggarwal, Udochukwu Oyoyo, So Ran Kwon

Objectives: To evaluate the distribution of caries risk category and prevalence of snacking among patients at LLUSD
Methods: LLUSD axiUm data was accessed from March 1 to June 30, 2022. The records had completed codes of D0120 (POE) and D0150 (COE) performed at the student main clinic or wellness center. Data regarding age, DMF, CRA and related objective testing was collected. A statistical analysis was carried out through Pearson's Chi-squared test and Linear Model ANOVA.
Results: Approximately 90% were in the high/extreme risk category. Patients who reported snacking were more likely to present with

higher CRA levels (p < .001), younger age (p < .001), and be female (p = .003).
Conclusions: LLUSD patient population is disproportionately skewed towards high and extreme caries risk. Management protocols and educational tools should be focused on this risk category and be able to follow-up on the change in risk category.
Keywords: Caries Risk, Snacking, management

Poster 23026 COM
Confidence Level of LLUSD Graduates in Placing Implant Restorations
Gina Kim, Madeleine Gonzalez, Monina De Jesus, Sandra Haddad, Adrienne Carillo, Sunee Limmeechokchai, Joseph Kan

Objective: Evaluate LLUSD graduates' proficiency in implant restoration based on LLUSD's implant curriculum.
Methods: We surveyed recent dental graduates (2017-2021) anonymously via Qualtrics to assess their attitude, confidence, proficiency, and competency in implant restoration.
Result: Out of 461 respondents, 46 (10%) were analyzed. The linear regression model found a strong correlation between restorations placed in school and graduates' confidence in placing implant restorations. The majority of respondents had less than 10% of their courses related to dental implants.
Conclusion: The amount of restorations placed in school significantly affects graduates' confidence level in placing implant restorations. Our research aims to improve LLU's curriculum for adequate implant restoration training and could supplement future studies for predoctoral implant education improvement.
Keywords: LLUSD Curriculum, Implants, Qualtrics survey

Poster 23027 DDS COM
Equivalency and Accuracy of Three Different Periodontal Probes in Measuring Pocket Depth
Rachel Koh, Sharon Lee, Nima Sarmast, Udochukwu Oyoyo, So Ran Kwon

Objectives: To determine the compatibility and accuracy of three different manual periodontal probes on a periodontal typodont model.
Methods: Forty-one D3, D4, and DH students performed a 6-point pocket depth measurement on the mandibular teeth of the Nissin 500HPRO periodontal typodont mounted on a manikin. Each measurement site was outlined with black marking on the tooth to facilitate consistent reproducibility in periodontal probe placement and angulation.
Results: Probing depth measurements between UNC-15, PCP-126, and Disposable i-PAK® rendered an excellent equivalency (ICC = 0.960) with narrow CI (0.947, 0.971). There is a significant difference among these three instruments in their capability to replicate the manufacturer's suggested probing depth on the periodontal typodont (p < 0.001). UNC-15 was the most accurate, followed by PCP-126, with Disposable i-PAK® being the least accurate.
Conclusions: This in-vitro study demonstrated that UNC-15, PCP-126, and Disposable i-PAK® yielded equivalent results when measuring probing depths on a periodontal typodont.
Keywords: periodontal probe, accuracy, equivalency, compatibility, periodontal typodont

Poster 23028 DDS COM
Use of Artificially Created Caries Typodont Teeth: Perception & Efficacy
Ki Park, Kasra Asnashari, Reema Younan, Ryan Becker, Clyde Roggenkamp, So Ran Kwon

Objectives: To evaluate the educational benefits of using artificial caries in typodont compared to blank typodont teeth for operative laboratory.
Methods: Artificial caries made with hide-glue and chocolate powder were embedded into in distolingual of #9 ModuPRO plastic typodont teeth. First year students with no clinical experience were divided into two groups. Group BA prepared blank teeth first, then artificial caries teeth. Group AB prepared the artificial caries teeth first, then blank teeth. The preps were compared for any statistical significance (P>0.05, in all instances). A questionnaire was given to rate and comment on the educational purposes of artificial caries.
Results: Two groups showed no significant difference in grades and no significant changes in their scores regardless of which order they prepped the teeth. The questionnaire was heavily positive towards the usage of artificial caries typodont teeth.
Conclusions: Students strongly favored the artificial caries teeth for education, but quantitative improvements were not evident.
Keywords: Artificial caries, operative laboratory, dental education

Poster 23029 DDS SCIEN
The Effects of BMI on General Anesthesia Emergence in Pediatric Dental Patients
Savannah Anderson, Rachel Eshtiaghpour, Andrew Lee, Brandon Castillo, Morgan Rogers, Brooklyn VanWinkle, Jung-Wei Chen

Objectives: This study compared the effects of normal and overweight/obese body mass index (BMI) on general anesthesia (GA) emergence in pediatric patients.

Methods: GA pediatric patients, ages 3-9 years, where Sevofluorine, Propofol and Meperidine were used were included in the data review. T-Test was used to compare emergence time in patients with normal BMI and overweight/obese BMI.

Results: Out of 4212 charts, 25 records met criteria. There was no significant difference between BMI and emergence-time, however, there was a significant difference in emergence-time based on patient height (R = -0.458, P= 0.021), weight (R = -0.435, P= 0.03), and amount of Demerol (mg/kg) (R=0.654, p=<0.001).

Conclusions: Emergence time is not affected by a pediatric patient's BMI. However, there is significant correlation on emergence time based on the patient's height and weight separately. There was also a correlation between the amount of Meperidine/Demerol given per body weight and emergence time.

Keywords: General Anesthesia, Pediatric Dentistry, Obesity

Poster 23030 DDS SCIEN

A Novel Method of Comparing Force Required to Drill Through Four Types of Resin and Extracted Anterior Teeth

Reuben Thomas George, Justin Chung, Daul Kim, Abraham Montalvo, Roberto Savignano, Joseph Caruso

Objectives: To determine the force required to drill through four types of resins and extracted teeth.

Methods: Four types of resins, NextDent C&B MFH, SprintRay Study Model White 2, SprintRay Crown by BEGO and Anycubic White, were used to 3-D print anterior tooth models. A Bien-air handpiece was mounted on a Mark-10 motorized force test using 3-D printed jigs to securely hold the handpiece and teeth in place. Flat-end tapered diamond burs were used to drill through teeth at 100k rpm, with the Mark-10 measuring the amount of force required to drill down to a pre-set depth. 8 trials were conducted for each group.

Results: Average-force over 8 trials required to drill through NextDent C&B MFH was 0.65625 N, SprintRay Study Model White 2 was 0.56250 N, SprintRay Crown by BEGO was 0.71250 N, Anycubic White was 0.57500 N and natural teeth was 0.79375 N.

Conclusions: SprintRay Bego Crown shared similar cutting strength to natural teeth.

Keywords: Resin, 3-D print, dentistry, CAD, CAM, teeth

Poster 23031 DDS SCIEN

Accuracy of Orthopantomography in Predicting Position and Proximity of Superimposed or Nearby Third Molar Root Relative to Inferior Alveolar Canal

Geonwoong Park, Min Jung Yoon, Gina Roque Torres, Dwight Rice, Roberto Savignano, Joseph Caruso

Objectives: To evaluate correlations between panoramic radiographic signs and relationship between third-molar root and IA canal using CBCT

Methods: 380 mandibular 3rd molars were selected. 9 PANO variables were examined through axium MiPACs and 4 CBCT variables through Invivo 6 Plus, along with demographics and third-molar root classification identification. Binomial logistic regression was performed.

Results: Five variables were statistically significant predictors of presence of contact between root and IA canal assessed in CBCT: Superimposition of root and IA ($p < 0.001$), Narrowing of IA canal ($p < 0.003$), Interruption of superior white line of IA canal wall ($p < 0.016$), Narrowing of root ($p < 0.036$), and Radiolucency on Root ($p < 0.049$). Mesioangular impactions among the third-molar classifications had a statistically significant correlation with the presence of contact between root and IA ($p < 0.010$).

Conclusions: 5 PANO variables are effective in predicting close proximity between IA canal and 3rd molar roots on CBCT.

Keywords: Mandibular third molar root, Inferior alveolar canal, Panoramic radiographic signs, CBCT, Third molar extractions

Poster 23032 SCIEN

Comparison of Volumetric Change of Printed Objects from Anycubic vs SprintRay 3D Printers

Sarah Batarseh, Nate Goldsberry, Carina Handysides, Layla Nemat-bakhsh, Caleb Valenzuela, Udochukwu Oyoyo, Kitichai Rungcharassaeng,

Objectives: To determine whether volumetric change of objects printed with the Anycubic and SprintRay 3D printers are clinically or statistically significant.

Methods: Using SprintRay and Anycubic 3D printers, twenty premolars were printed on each printer resulting in a total of 40 models. TRIOS scanner was used to scan and record the volume of each object to measure their initial volume before any change had occurred. Subsequent scans were taken 3, 6, 24, and 48 hours after the initial scan. Scans were analyzed using Geomagic and compared to the initial scan. The scans were overlaid on top of each other and analyzed from the most coronal portion to the root of the plastic tooth.

Results: Volumetric change observed in 3D printed teeth was not *statistically* significant or *clinically* significant. The average volumetric change in Anycubic 3D printed teeth was about 0.2mm, and the SprintRay was 0.9mm.
Conclusions: Both printers showed no statistically significant volumetric change.
Keywords: Orthodontics, 3D Printing, Premolars, Trios Scanners, Geomagic

Poster 23033 DDS SCIEN
Effect of Toothpaste Tablets on Gloss and Roughness of Resin-Based Composite Material
Daniel Diaz, Hyun Ji Kim, Kristina Padilla, Emily Poon, and Kaitlyn Savage, Franklin Garcia-Godoy, Udochukwu Oyoyo, So Ran Kwon

Objectives: To evaluate the effect of toothpaste tablets on the gloss and surface roughness of resin-based composites.
Methods: Rectangular jigs were designed and printed. Wells (2 mm deep x 7 mm dia) were filled with Filtek Supreme Ultra A2B, light-cured and polished. A small-area glossmeter was used for gloss measurements and a profilometer was used to measure the roughness (Ra). Automated tooth-brushing machine was set at 120 strokes/min for a total of 10,000 strokes to evaluate four test groups. NC: Brushing with distilled water; TABS: Colgate Anywhere Travel Tooth Tabs; CP: Colgate Cavity Protection Toothpaste and AW: Colgate Whitening Advanced Toothpaste. Kruskal-Wallis test was used to test the difference.
Results: At post-brushing, there was a statistically significant difference among the groups ($P<0.001$) with increased roughness and gloss of CP and AW when compared to TABS.
Conclusions: Toothpaste tablets retained better gloss and roughness of resin-based composite materials when compared to conventional toothpastes.
Keywords: Toothpaste tablets, gloss, surface roughness, resin-based composite

Poster 23034 DDS SCIEN
Marginal Fit of Zirconia Crowns: Conventional versus Blind Polishing
Rami Rashed, Kasra Asnashari, Myro Castillo, Sarah Huh, Urim Kim, Ryan Becker, Vincent Chee, Udochukwo Oyoyo, Satoshi Sakamoto, So Ran Kwon

Objectives: To compare marginal fit of zirconia crowns when polished with and without a die.
Methods: Three extracted molars were prepared and three zirconia crowns were milled. Crown 1 used the die when polishing and crowns 2 & 3 were polished without a die (Blind polishing). Polishing was performed by a Master Lab technician using the same polishing protocol. Marginal fit was evaluated by 10 faculty that were blinded from the type of polishing protocol. They used an explorer to check the fit and grade each crown from Excellent (3), clinically acceptable (2), and to not clinically acceptable (1). ANOVA was used to test difference among the groups.
Results: The mean scores for marginal fit were crown 1: 2.6, crown 2: 2.3, and crown 3: 2.2. There was no statistically significant difference in marginal fit among the crowns ($P=0.166$).
Conclusions: Conventional and blind polishing resulted in clinically acceptable marginal fit of zirconia crowns.
Keywords: Zirconia, marginal discrepancy, die

Poster 23035 SCIEN
Effect of Steam Sterilization on Accuracy of 3D Printed Implant Surgical Guides
Daniel Rexin, Daniela Avila, Alex Castillo, Kevin Moreno, Emily Tan, Sunee Limmeechokchai, Joseph Lee, Udochukwu Oyoyo, Joseph Kan

Objective: To evaluate the effect that steam sterilization of 3D printed implant surgical guides has on the accuracy of fully guided implant placement.
Methods: 3D printed models were prepared with an edentulous site at tooth #8. A surgical guide was designed and fabricated to place a NobelReplace implant. Ten implants were placed with surgical guides before sterilization, followed by ten placed with the same guides after sterilization. The implants were scanned and analyzed using three-dimensional analysis software. The implant platform position, apex position, and angulation were compared for implants placed pre-and post-sterilization of surgical guides.
Results: There were statistically significant deviations of implant platform and apex in the mesiodistal and buccolingual directions (Wilcoxon signed-rank test, $p<0.05$) and angulation (one sample t test, $p<0.05$). There was no statistically significant deviation in the occlusogingival height of the implant.
Conclusions: Steam sterilization has a clinically significant effect on the accuracy of 3D printed implant surgical guides.
Keywords: Implant, Surgical Guide, 3D Print, Sterilization, Fully Guided Surgery

POSTER COMPETITION JUDGE FORM

2023 LLU HOMECOMING
POSTER JUDGING FORM March 3, 2023

LOMA LINDA UNIVERSITY
School of Dentistry

Poster 220XX CLIN
Title:
Authors:

CLINICAL/SCIENTIFIC VALUE OF SUBJECT MATTER   Maximum number points for this section = 42

	Low			High
1. Important, timely, pertinent	1	3	5	7
2. Applicable to clinical practice	1	3	5	7
3. Organized, logical, well-sequenced	1	3	5	7
4. Scientifically sound and supported	1	3	5	7
5. Original, creative or new approach	1	3	5	7
6. Used appropriate methods and/or materials	1	3	5	7

Total number points for this section: _____

VERBAL PRESENTATION   Maximum number points for this section = 42

	Low			High
1. Problem and/or purpose clearly stated	1	3	5	7
2. Objectives and conclusion related	1	3	5	7
3. Title is representative of project	1	3	5	7
4. Statistics and results explained	1	3	5	7
5. Presentation is dignified and professional	1	3	5	7
6. Presenters are able to answer questions	1	3	5	7

Total number points for this section: _____

VISUAL PRESENTATION   Maximum number points for this section = 16

	Low		High
1. Creative, attractive and professionally displayed	0	2	4
2. Visual aids represent overview of project	0	2	4
3. Abstract content is organized and complete	0	2	4
4. Handout available	0	2	4

Total number points for this section: _____

Questions and Comments _____
_____
_____

Judge_____   **Total Points: _____**
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2023
STUDENT RESEARCH PROGRAM

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School of Dentistry