Clinical and Educational Scholarship Showcase

April 1–3, 2014
Clinical and Educational Scholarship Showcase 2014

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About the Showcase

The Clinical and Educational Scholarship Showcase is sponsored by the Academy of Distinguished Educators for the purpose of highlighting the breadth of scholarly clinical and educational work being done by the faculty at New York University College of Dentistry.

The specific goals of this program are:

- To promote the outstanding patient treatment and teaching being performed at NYUCD
- To emphasize the role that faculty play in both the education of our students and the treatment of our patient population
- To give faculty and students an opportunity to present examples of their work to the University community
- To give faculty a venue for academic portfolio development

The Academy

The New York University College of Dentistry Academy of Distinguished Educators is an expression of the commitment of the University to excellence in teaching, learning, and scholarship in education. The professoriate of the University is composed of women and men who search for new knowledge, foster learning, and provide service to the public. It is the belief of the Academy that faculty members should also be given opportunities to learn and grow in the practice of teaching. The vision of the NYU Academy of Distinguished Educators is to build a pedagogical environment in which teaching is valued as an essential part of academic life.
Schedule

Tuesday, April 1, 2014
Poster Viewing
1:00 PM–5:00 PM
Commons

Wednesday, April 2, 2014
Poster Viewing
8:00 AM–5:00 PM
Commons

Thursday, April 3, 2014
Poster Viewing
8:00 AM–4:00 PM
Commons

Lunch Lecture
“Self-Assessment, Self-Direction, Self-Regulation and Other Myths”
1:00 PM–2:00 PM
Nagle

Keynote Lecture
“From Data Delivery to Collegial Conversations: Toward a Culture of Effective Feedback”
4:30 PM–5:15 PM
Commons

Awards Ceremony
5:15 PM–5:30 PM
Commons
Refreshments served
Glenn Regehr, Ph.D.
Professor and Associate Director
Centre for Health Education Scholarship
Faculty of Medicine
University of British Columbia

Glenn Regehr obtained his Ph.D. in cognitive science from McMaster University in 1993. During his subsequent 20 years in the field of health professions education, Dr. Regehr has held positions as Research Associate in Medical Education at the Program for Education Research and Development, McMaster University; Professor, Senior Scientist, Associate Director and Currie Chair in Health Professions Education Research at the Wilson Centre, University of Toronto; Acting Assistant Dean and Director of the Academy for Innovation in Medical Education, University of Ottawa; and, since 2009, Professor and Associate Director (Research) at the Centre for Health Education Scholarship, University of British Columbia. Through his various research collaborations, he has published over 150 peer reviewed papers on topics including: professionalism, professional identity formation, self-assessment, self-monitoring, teamwork, authentic clinical assessment and feedback. He has also consulted for a variety of regulatory bodies across North America regarding authentic and effective models for promoting continuing professional development.
C1.

FULL-MOUTH ESTHETIC REHABILITATION WITH ACELLULAR DERMAL MATRIX

Emanuele Clozza, Takanori Suzuki, Steven P. Engebretson

Treatment of multiple recession defects with the adjunct use connective tissue graft (CTG) represents a challenge when diagnosed in several teeth of the mouth. The amount of CTG harvested from the palate may not be adequate to address this condition. In such scenario, alternative sources such as acellular dermal matrix (ADM) are preferred due to the more esthetic clinical result with ADM. A case report is presented dealing with the treatment of multiple gingival recessions affecting the majority of dentition using ADM with a 6-month follow-up.
C2.
THE REPLACEMENT OF CONGENITALLY MISSING MAXILLARY LATERAL INCISORS: RESTORATIVE AND PERIODONTAL CONSIDERATIONS

Emanuele Clozza, Takanori Suzuki

Implants are commonly used to replace congenitally missing maxillary lateral incisors in adolescent patients. However, their restorations are often challenging for the surgeon and restorative dentist. The space across the alveolar crest may be too narrow to permit the surgeon to place the implant. The narrow diameter implants offers the possibility of prosthetically driven implant placement in sites with limited bone availability, avoiding the need for additional bone grafting procedures. The present case illustrates step-by-step procedures to achieve predictable esthetics and function for congenitally missing maxillary lateral incisors.

C3.
TREATMENT OF ALTERED PASSIVE ERUPTION TO ENHANCE SMILE ESTHETICS

Emanuele Clozza, Takanori Suzuki, Kambiz A. Mohajer

The gingival complex plays a major role in the overall beauty of a smile. To predictably achieve a successful aesthetic and functional result, the dentist must be able to precisely predict the treatment outcome based on biologic determinants. The diagnosis and treatment of the “gummy smile” help the periodontist to provide the patients with the most beautiful smile possible. Excessive gingival display, frequently seen in adults and resulting in short clinical crowns, has been described in the literature as “altered passive eruption”. This article describes how periodontal plastic surgery can remodel the attachment apparatus, reestablish the correct biologic width and expose the correct dimensions of the teeth.

C4.
THE ENIGMATIC SMILE OF ‘THE MONA LISA’: THE RESULT OF PREGNANCY-RELATED BELL’S PALSY

William J. Maloney, George Raymond, Gary Berkowitz

The smile of the famed portrait ‘The Mona Lisa’ has perplexed both art historians and researchers for the past 500 years. There has been a multitude of theories expounded to explain the nature of the model’s enigmatic smile. The origin of the model’s wry smile can be demonstrated through a careful analysis of both documented facts concerning the portrait—some gathered only recently through the use of modern technology—and a knowledge of the clinical presentation of Bell’s palsy. Bell’s palsy is more prevalent in women who are either pregnant or who have recently given birth. We postulate that the smile of the portrait’s model was due to Leonardo da Vinci’s anatomically precise representation of a new mother affected by Bell’s palsy subsequent to her recent pregnancy.
C5.

DOES UNUSUAL IMPLANT PLACEMENT REQUIRE UNUSUAL IMPLANT RESTORATION?

Paul Zhivago

Implants can integrate in unfavorable positions, especially in cluster failure patients. Cantilever situations can be created due to unfavorable implant positions which may compromise the long term prognosis of the final prosthesis. With CAD/CAM capabilities there exists the possibility to minimize material dimensional changes due to exacting milling technology. PMMA provisionals can be fabricated and easily modified and reproduced as a “test run” for the definitive prosthesis. Clinical aspects of this treatment will be demonstrated.

C6.

AESTHETIC CONSIDERATIONS AND A MULTI-DISCIPLINARY APPROACH IN ATTAINING RESTORATIVE EXCELLENCE

Andi-Jean Miro, Jill Varriale, John R. Calamia

Too often dental students and even seasoned dental practitioners treatment plan their patients to provide restorations that provide functional and physiologically sound results but ignore the equally important aesthetically component that is often pointed to in today’s practice of dentistry as the tipping point in providing Dental excellence. The following case was diagnosed in this dental student/patient’s 2nd year. The final result was visualized by the clinician and described to the patient as the planned result to be attained. It was explained that in order to bring about this result, an orthodontic and
implant component of the case needed to be considered in addition to the restorative treatment that the patient had assumed would be needed. Using the NYU Smile Evaluation Form it was concluded that treatment would be provided in three phases using a multi-disciplined approach. Phase 1–consisted of comprehensive orthodontic treatment starting with a more lingual inclination of the lower anterior teeth while closing the space observed. This would then be followed by the repositioning the maxillary dentition to provide ideal space for restoration with porcelain veneer restorations and all ceramic crown restorations could then be provided with the least amount of tooth reduction as a result of the ideal positioning of the teeth to be prepared (3 months). Phase 3–implant placement and restoration of lower right 1st molar (7 months but overlapped with Phase 2). Modern dental education must include aesthetic and appearance related concepts in all anterior disciplines. The student must be provided with these concepts so that he/she can visualize the most desirable outcome. By taking into consideration, from the beginning of treatment planning, the planned aesthetic result along with the functional and physiologic results we strive for, the clinician will provide the patient with the optimum in modern patient care.

C7.
PERIODONTAL MANAGEMENT OF A PATIENT WITH END-STAGE LIVER DISEASE UNDERGOING LIVER TRANSPLANTATION

Emanuele Clozza, Mea Weinberg, Stuart Segelnick

A 49-year-old male referred by NYU Medical Center presented to the Department of Periodontology and Implant Dentistry of NYU College of Dentistry for dental clearance. Patient was undergoing evaluation for a liver transplant. He had no known allergies. His medical history included cirrhosis secondary to chronic hepatitis B, maintained on Epivir/Adefovir with excellent virologic suppression. Complications of cirrhosis included portal hypertension, ascites – well controlled on stable doses of diuretics and esophageal variceal bleeding. In addition, patient presented poorly controlled diabetes mellitus, osteoporosis and was overweight. On the day of admission, a non-invasive initial oral examination and full-mouth x-rays revealed a setting of neglected dental care and deterioration of periodontal tissues. The periodontal diagnosis was generalized severe chronic periodontal disease. Case management included a motivational session, control of the blood glucose levels, initial therapy, re-evaluation, occlusal equilibration, extraction of non-maintainable teeth, Surgical pocket elimination and supportive periodontal therapy. Clinically healthy gingiva was appreciated after completion of surgical phase. The periodontal charting revealed a mean probing depth of 2.5 mm 8 weeks after
surgery. Tooth mobility disappeared. Supra and sub-gingival calculus was not detected radiographically and clinically. A stable occlusion with acceptable phonation was established. Splinting teeth was avoided as no further migration or further increasing mobility of individual teeth was noted. The patient was left in first molar occlusion. The patient was periodontally cleared and ready for liver transplant.

C8.
“NON-PREP VENEERS”: A CASE REPORT
Klenise Paranhos, Sarah Abdat, Lara A. Ceballos, Kambiz M. Ghalili

Non-prep porcelain veneers are the most aesthetically preferable dental treatment option for patients seeking a natural smile without the reduction of their tooth structure. They are often the treatment of choice for those looking to change tooth shape, size, and/or color and to quickly fix minor twists, overlaps, and small gaps without long-term orthodontic treatment. As a result of this advancement in dentistry many patients are seeking advice regarding this treatment. Moreover, with the excellent materials available in the market today, which mimic natural teeth and bond superiorly to enamel make non-prep veneers even more desirable both to patients and dentists. However, in order to achieve optimum results, one should consider the crucial factor for the success of the non-prep veneer which is the proper selection of the patient. Not everyone who is a candidate for veneer restoration is the ideal candidate for non-prep veneers. In this case report, we used this approach to enhance the esthetics of the patient with malposition of her anterior teeth, without orthodontic treatment and removal of any tooth structure.

C9.
MANAGEMENT OF AMELOGENESIS IMPERFECTA IN ADOLESCENT PATIENT
Ann Marie Pereira

Amelogenesis Imperfecta is a term used to describe a hereditary condition that affects the structure and appearance of dental enamel in both permanent and deciduous dentition. It is classified into hypoplastic, hypomaturation and hypocalcified types. It is a rare dental disease that can present with enormous restorative challenges, especially in young patients. Common clinical complications in adolescent patients with Amelogenesis Imperfecta include impacted/partially erupted teeth, deficient coronal tooth structure, anterior open bite, hypersensitivity, hyperplastic gingival tissue, and discolored teeth. In addition, abnormal growth patterns of the maxilla and mandible pose another unique challenge in the timing of treatment initiation. This table clinic presents a treatment approach used in addressing these clinical challenges in a 15-year-old male patient.
C10.
A CASE REPORT—SPONTANEOUS GINGIVAL BLEEDING: A SURPRISING ETIOLOGY
David Levenson

At NYUCD we teach our students the importance of knowing basic biology, recognizing symptoms of systemic disease in the oral cavity, and good patient communication. Sometimes, effective patient communication means “thinking out of the box.” The following case report is an excellent example of how these factors came together to effectively treat a patient; possibly saving his life. The patient, a 60-year-old white male, made an emergency visit to the dentist’s office for gingival bleeding. An oral exam found areas of spontaneous gingival bleeding and petechiae on his soft palate and buccal mucosa. This was indicative of a failure of the blood to clot properly; most likely due to a platelet deficiency. The patient’s medical history was unremarkable and he said that he was not taking any medication. The dentist informed him that the bleeding seemed to be a problem with blood clotting, and that he should see his physician immediately for a blood workup. His response was that he had a physical recently and did not feel the urgency to see his physician. Realizing that using simple words (clotting problem), did not underscore the seriousness of the situation, the dentist changed his tactics. He stated that he may likely have a serious deficiency of platelets. The patient’s reaction “you mean I have thrombocytopenia” was indicative that the answer had been found. He explained that he had thrombocytopenia previously; a side effect of taking quinine for leg cramps. He was now taking tonic water which has trace amounts of quinine. A visit to his physician revealed a seriously low platelet count. It was treated effectively. This case report demonstrates how important communication, along with knowledge, is in treating a patient. Using the right word saved the patient from an emergency situation.

C11.
A PROSTHODONTIC APPROACH TO THE TREATMENT OF A MANDIBULAR MOLAR WITH A KIDNEY SHAPED DISTAL ROOT CANAL
Eugene H. Bass, Ahmed Shebab El-Din

The Kidney shaped root canal is a rare root morphology that is predominantly found in mandibular second molars. Endodontically treated teeth with such complex root morphology present a challenge for the clinician in their prosthodontic rehabilitation. This article demonstrates the prosthodontic approach in restoring an endodontically treated first molar with a kidney shaped distal root, using prefabricated posts and a composite core buildup, followed by preparing the tooth to receive a porcelain fused to metal crown.
2013

CLINICAL & EDUCATIONAL SCHOLARSHIP SHOWCASE

First Prize

Clinical Scholarship
C12.
THE USE OF A TRANSITIONAL OVERLAY PARTIAL DENTURE AND COMPOSITE BUILD UP FOR A FULL MOUTH RECONSTRUCTION PATIENT: A CLINICAL REPORT

Piriya Boonsiriphant

This clinical report describes a noninvasive and reversible approach with the use of a transitional cast overlay removable partial denture and composite build up for restoring occlusal vertical dimension in a skeleton class III patient with excessive wear due to parafunctional habit. The overlay partial denture assists in maintaining the vertical dimension and stabilizing the occlusion while building up composite. Interim treatment options for patients with worn dentition are often limited to fixed dental prosthesis. This therapy can be used as an alternative transitional treatment to provide esthetics, function and stable occlusion in patients with worn dentition.

C13.
RANULA, A CASE REPORT

Raymond Safarkoolan, Angela DeBartolo, Lucretia DePaola Cefola, Émanuele Clozza, Veena Nanda

The floor of the mouth is a u-shaped space located under the tongue containing the sublingual and submandibular salivary glands as well as several subepithelial minor salivary glands. The squamous epithelium of the mucosal surface and other anatomic features of the floor to the mouth are easily evaluated by physical examination. Some abnormalities in the floor of the mouth can be assessed visually without the aid of imaging. A submucosal swelling in the floor of the mouth often represents a disease process of the salivary glands. This case report describes a patient with a painless, bluish, submucosal swelling that was clinically diagnosed as a ranula. A 26-year-old female presented to NYUCD with the chief complaint of “a large bump” under her tongue that was interfering with her ability to swallow. Clinical evaluation of the floor of the mouth revealed a bluish swelling approximately 6 mm in length located left to the midline. A preliminary diagnosis of ranula was made and the patient was referred to Oral Medicine where the diagnosis was confirmed. The patient was then referred to ENT for diagnostic imaging, consultation and treatment. A ranula commonly presents as a swelling in the sublingual space and exhibits specific clinical features. The term, ranula, is derived from the Latin word, rana which means frog because its shape and coloration resembles a frog’s underbelly. A ranula may elevate the tongue and hinder its movement, which in turn can hinder mastication, deglutition, and speech. Ranulas are formed from trauma to the major excretory ducts of the sublingual gland. This leads to mucus extravasation and formation of a pseudocyst. The purpose of this case report is to review the normal anatomy of the floor of the mouth and to identify the specific characteristics of a ranula.

C14.
INTERDISCIPLINARY SOLUTION FOR GINGIVAL DISCREPANCY

Rebekah L. Browder, Marjan Moghadam, Vera Tang, Colleen Watson, Marguaritha Stuffken

A 39-year-old female patient presented to NYU College of Dentistry with a large span fixed dental prosthesis in the maxillary anterior region. The patient exhibited a large gingival defect on the buccal surface of the ridge supporting this FDP necessitating the use of a removable gingival prosthesis. The goal of treatment was to address the patient’s request to eliminate the need for the gingival prosthesis. Treatment was approached with a combination of periodontal and prosthetic treatments. A connective tissue graft harvested from the palate was tunneled through the buccal gingiva from canine to canine in the maxilla. A provisional restoration with more appropriate contours was used as a guide for the surgical procedure. The surgical procedure provided
the additional tissue bulk needed to close the discrepancy, while achieving an esthetic emergence profile. A review of the literature on prosthetic and surgical management of soft tissue defects will be presented. Additionally, clinical presentation of this patient’s treatment will be presented as well as photographs of the surgical outcome.

C15.

CLEIDOCRANIAL DYSPLASIA

Colleen A. Watson, Marjan Moghadam, Steven Resnick

Cleidocranial dysplasia is an autosomal dominant disorder. It consists of skeletal dysplasia of the clavicles (either short or missing) shoulders will appear sloped, patent cranial sutures, frontal bossing, hearing loss, short stature and dental abnormalities that can consist of delayed exfoliation of primary teeth, delayed eruption of secondary teeth, irregularly shaped, and multiple supernumerary teeth often accompanied by cysts. A 50-year-old Caucasian male presents with the request to have a new denture fabricated. Upon examination he has multiple discolored, partially erupted teeth. Radiographs revealed multiple unerupted supernumerary teeth. The patient was wearing a cast maxillary metal overlay denture. His dentist came up with this solution to his dental condition when he was a teenager. He has been satisfied with this solution and does not wish to change. There are several treatments for this condition. Successful treatment of this disorder can be addressed by a combination of different dental specialties; oral surgery, orthodontics and prosthodontics. However for this presentation the prosthetic treatment will only be discussed.
COMPREHENSIVE DENTAL MANAGEMENT OF PATIENTS WITH SCLERODERMA

Jacqueline Ng, Max T. Huang, Peter A. Hertz, Marjan Moghadam, Steven Resnick

Systemic scleroderma is a debilitating disease that results in the thickening of the skin, microvascular insufficiency, and fibrosis of muscles, joints, and internal organs. Individuals with a severe disease phenotype may ultimately succumb to multi-organ failure with no known cure. Each year, roughly 4-5 thousand new cases of scleroderma are diagnosed in the US with a total of approximately 300,000 individuals in the US suffering from this devastating disease. Many patients suffering from scleroderma have oral facial manifestations characterized by the hardening of the lips, limited mouth opening and impaired efficiency in maintaining oral hygiene. These patients present unique challenges to dental health professionals in diagnosing oral diseases, devising treatment strategies, executing dental procedures and preventing oral health deterioration. The goal of this presentation is to provide oral health practitioners with an overview of scleroderma, its current treatments, a guideline of dental procedure modifications and alternatives to enhance both patient safety and treatment efficacy. A case describing a patient with scleroderma seeking and receiving dental care and therapy is presented as well as treatment and management strategies.

CASE REPORT: AN IMPACTFUL PROSTHODONTIC REHABILITATION COMBINING FIXED AND REMOVABLE PROSTHESES

Rory Chong, Michael Ferguson

A 65-year-old male presents to the pre-doctoral NYUCD clinic to make positive changes in his life and he wanted to begin with restoring his smile. This patient had neglected dental care after becoming unemployed 10 years prior due to health issues and had negative dental experiences in the past. These past experiences made him skeptical of the dentist since. He has been limited by the food he eats due to the present state of his dentition, and he presented with the chief complaint “I want to be able to chew so I can eat a larger variety of foods”. The restorative challenges faced were not limited to dental but also had psychological, social, financial, as well as physiological components to be taken into consideration throughout the course of his treatment. The purpose of this case report is to demonstrate the possibility and treatment option for oral rehabilitation combining fixed and removable prosthetics considering all of the patient issues and financial constraints.
C18.

ENHANCING SMILE DESIGN: A CASE REPORT
Abhishek Nagaraj, Angela De Bartolo, Denise Estafan, Maan Zuaitar

New York University has been instrumental in providing cutting edge technology to provide the best esthetic results to those who desire esthetic outcomes. The following case report is an example of all the resources made available to NYU students in order to provide the best possible esthetic care and result in the form of Porcelain Veneers. As a third and fourth year dental student an esthetic case involving veneers is highly challenging as well as complex. With due diligence and experience of the faculty members involved in this case, a methodical and organized approach was taken in the treatment planning and execution of the case. Successful results begin with proper and careful case selection. This case report describes the use of porcelain as a veneer material and its esthetic result in a patient who aspires to have a great smile. A veneer is a thin material placed over the tooth which is either made of composite or Porcelain. Porcelain laminates are more expensive and esthetic than Composite Veneers and are fabricated indirectly in the lab. Porcelain laminates were chosen as the material of choice in this case. This case report will showcase six anterior veneers fabricated on a female patient describing the procedure from beginning to end.

C19.

THE ROLE OF DENTAL HYGIENE STUDENTS IN INTEGRATED CASE STUDY PRESENTATIONS
Lorilei Dawn Kirby, Eva Lupovici, Cheryl Westphal Theile

A team approach was utilized to present Integrated Case Presentations by dental hygiene students and fourth, third, second and first year dental students at a College of Dentistry. The Integrated Case Presentations provide a forum for the students to apply evidence-based, patient centered dental care outcomes, enhance communication and organizational skills, and an opportunity to discuss clinical problems/issues encountered in treatment planning. Each Group Practice Director assigned four teams comprised of a dental hygiene student, one fourth year and one third year dental student, along with one assigned first and second year dental student. The teams were responsible for attending eight case study presentations within the academic year. Each team was responsible for formally presenting one case before the other groups at one of the presentations. Once the case was selected, team members gathered and submitted information to the fourth year dental students based on their assigned role. Several weeks prior to the assigned presentation date, the case was brought to the Group Practice Director for review and approval. Prior
to start of the morning clinic session, a case was presented weekly. Each team presented a patient case that would provide a valuable learning experience to the group. The case was presented to the Group Practice consisting of the Director, students assigned, a Basic Science faculty member, and dental and dental hygiene faculty who were also student mentors. The format for the integrated case presentations provided for an active role of each member of the team. The fourth year dental student presented the patient’s demographic information, the medical and dental risk assessment, social and family histories, chief complaint, along with needs and expectations of the patient. The role of the second and first year dental students was to bring physiological and pathological information to the discussion. The third year dental student presented the PICO question and literature review of two relevant publications to the case. The fourth year student then presented the extra/intra oral patient examination findings, the dental and periodontal patient status. The dental hygiene student then followed and discussed significant oral effects related to the patient’s medical history, strategies for risk reduction, oral hygiene assessment, oral hygiene aids provided, methods used to motivate the patient, plan for monitoring outcomes, and recommendation for appropriate dental hygiene care recall intervals. At the conclusion of the integrated case presentation, the fourth year dental student summarized the treatment plan developed by the team. A period of questions and answers followed with discussion among the team members, group practice peers and faculty. At the completion of the first year of the participation of dental hygiene students in the Integrated Case Presentation Program, the dental hygiene students were surveyed as to the educational value of the sessions. Ninety five per cent of the dental hygiene students stated that the integrated case presentation sessions were a valuable learning experience and appropriate format in application of evidence-based practice. The dental hygiene students also stated that the experience enhanced their communication and organizational skills in presenting patient centered dental hygiene care while in school, and will be an asset in their future careers.

C20.

THE EFFECT OF ORAL PIERCINGS ON THE PERIODONTIUM: A CASE REPORT
AND REVIEW OF THE LITERATURE

Arash J. Sadigh, Martine Mandrachia, Arash Sadigh

Introduction: Oral piercings, both intraoral and perioral, can be harmful to the periodontium causing significant mucogingival defects. Many complications are associated with oral piercings, such as: gingival recession, attachment loss, chipped or fractured teeth, swelling, infection, calculus buildup and interference with speech and swallowing.

Methods: A case report of a 33-year-old female with a tongue piercing who sought dental care at New York University College of Dentistry is presented in this study. Clinical and radiographical examination of this patient substantiates that oral piercings have harmful effects on the periodontium. A literature review was conducted in order to assess the effect of oral piercings on the periodontium. The following significant factors were evaluated: the length of time of wearing an ornament, location of piercing, ornament material and morphology, habits, and periodontal biotype.

Results: The literature illustrates that longer wear time of piercings is associated with greater prevalence of dental defects and gingival recession, as well as greater attachment loss and probing depths. Habits also have a significant effect on the periodontium. There is a greater prevalence of deformity with tongue piercings compared to labial piercings. Ornament height and stem length of tongue ornaments also have a substantial effect on gingival recession.

Conclusion: Patients must be educated about the risks of wearing oral piercings and their effect on the periodontium. Dentists should offer educational brochures and counseling to patients with oral piercings to prevent any deformities of the periodontium.
C21.

DENTAL MANAGEMENT OF A PATIENT WITH ADVANCED ALZHEIMER’S DISEASE: A CASE REPORT AND LITERATURE REVIEW ON THE ATTITUDE/BELIEF OF CAREGIVERS OF CHINESE ANCESTRY

James D. Toppin, Khiem Nguyen, Dharti N. Patel, Miriam R. Robbins, Ryan S. Lee

A case report describing the dental management of a patient with advanced Alzheimer’s disease where the caregiver is the spouse whom is of Chinese ancestry. As manifested by the late-stage of the disease, this patient is non-verbal, non-responsive to commands, non-cooperative, and lacks movement control. The report discusses an appropriate treatment plan within the bio-psycho-social model of care and the techniques utilized to stabilize the patient during dental procedures. Furthermore, the literature is reviewed for the differences in attitude/belief of caregivers from different cultural/ethnic backgrounds (particularly of Chinese ancestry) as these differences are vital in treatment planning for a patient who is completely dependent on the caregiver.

C24.

TREATMENT OF A PATIENT IN SPECIAL NEEDS DENTAL CLINIC WITH COMPLEX MEDICAL HISTORY AND COMPLEX DENTAL NEEDS: A CASE REPORT


Description: A 53-year-old man presented to the Special Needs Dental Clinic at New York University College of Dentistry with a chief complaint of ‘my teeth are dissolving and I have dry mouth’. His medical history included squamous cell carcinoma of the left tongue in 2012, treated with radiation therapy and resection. He is HIV positive, had a heart attack in 2004, and suffers from GERD and hypertension. He is taking numerous medications, in which the main oral side effect is xerostomia. He presented with multiple carious lesions, missing teeth, and an enamel defects resulting in hard tissue sloughing of the remaining teeth. His bite was a deep cross bite.

Recommendation: Due to the condition of the enamel and the severe malocclusion, full mouth reconstruction was required. Fluoride trays were constructed prior to prosthetic work; the patient was given fluoride, and told to continue his oral hygiene routine. Temporary crowns were fabricated stepwise to gradually change the bite. Additionally the patient is under observation for oral lesions and oral side effects of his medications.

Objective 1: To improve the function and esthetics in a patient with enamel hypoplasia and a collapsed vertical dimension. Objective 2: To determine if step wise prosthetic work is a viable treatment option for opening a collapsed bite.
C25.

AN ALTERNATIVE TO CROWNS–THE SEMI-DIRECT COMPOSITE RESTORATION FOR ENDODONTICALLY TREATED TEETH

Jerry Chiu, Alexander Sy, David Montalvo Ariás, Phuong-Anh Ton That, Richard Trushkoswki, Ronaldo Hirata

Restoration of endodontically treated teeth can be complex due to the weakened tooth structures. Common traditional treatments are based on posts and crowns, resulting in additional preparation and loss of structure. A new commended treatment is the semi-direct restoration technique. Increasingly conservative treatments options have become viable and more accessible thanks to improvements in materials and techniques in adhesive dentistry. As a result, we can achieve minimal preparation of the tooth and thus maximal preservation of natural tooth strength, which is a major advantage over the use of crowns. In the semi-direct restoration, the clinician fabricates the restoration extra-orally on the silicon-working model during the same visit. Extra-oral fabrication provides a more comfortable experience for both the dentist and patient compared to direct restorations while minimizing the adverse effects of composite shrinkage. Moreover, semi-direct restorations improve on indirect procedures through the silicon-model which enables the use of regular composites extra-orally and all of their advantages, while bypassing dental labs, reducing the cost, and completing treatment in a single visit.

This report intends to describe step by step the semi-direct technique using a Mach-II silicon-working model for the restoration of an endodontically treated molar as an alternative to the post and crown technique.

C26.

MTA TREATMENT FOR PERFORATING INTERNAL ROOT RESORPTION - A CASE REPORT

Simar Kaur, Denise Foran

Internal resorption is a rare process beginning in the Pulp chamber of permanent teeth by odontoclastic or osteoclastic cells. Trauma or infection via inflammation can bring about a clastic response of cells as a part of normal scavenging function. We present a Case Report of progressing Internal root resorption. A discolored Maxillary Central Incisor with a history of trauma more than a decade ago, showed radiographic evidence of widening of pulp canal which progressed in a few months to horizontal fracture of the tooth at mid root level with inflammatory process extending and leading to the bone resorption around that tooth. An attempt was made to save the tooth by treating it endodontically and filling up the area of defect with MTA. An immediate initial stability was felt after filling it with MTA. The patient is clinically asymptomatic and condition of tooth being followed up.
C27.
AN INTERDISCIPLINARY DENTAL TREATMENT OF A YOUNG PATIENT WITH ELLIS-VAN CREVELD SYNDROME
Max T. Huang, Leslie A. Abraham

In the late 1930s, an English physician named Richard Ellis and a Dutch physician named Simon van Creveld met on a train carriage to a pediatric conference in London. They both had a patient featuring highly unusual developmental defects including short limbs, polydactyly (extra fingers and toes) and abnormal nails and teeth. Ellis-van Creveld syndrome is an autosomal recessive disorder featuring defective gene products of EVC and EVC2. While the precise functions of these genes remain elusive, it is thought that EVC and EVC2 modulate the Sonic hedgehog pathways. These pathways are paramount during vertebrate organogenesis where the formation of internal organs, organization of the brain and separation of the digits take place.

A 19-year-old female patient with Ellis-van Creveld syndrome presents to NYUCD Oral & Maxillofacial Surgery clinic for consultation exodontia as a part of the master treatment plan involving oral surgery, orthodontics and prosthodontics. Briefly, patient initially presented to NYUCD with bilateral clefts, atrophic maxilla and mandible class III malocclusion and missing teeth. Surgical procedures in conjunction with Orthodontics were performed to rectify bilateral clefts and establish proper occlusion. Exodontia was performed to remove remnants of deciduous teeth and mal-positioned permanent teeth paving way for prosthodontics. Reconstruction of the maxillary and mandibular anterior dentition is achieved via implant supported fixed partial dentures.

This case report illustrates the importance of a dental interdisciplinary team early on in patient’s life to best manage the dental and oral & maxillofacial complications associated with EVC.

C28.
ORAL MANIFESTATIONS IN A 9-YEAR-OLD CHILD WITH NEUROFIBROMATOSIS
Tasadaq Khakwani, Max T. Huang, Mark E. Turner, Leslie A. Abraham

Neurofibromatosis type I is an autosomal dominant disorder due to a mutation in the NF1 gene. This gene is responsible for encoding the tumor suppressor, neurofibromin, with a mutation resulting in uncontrolled cell proliferation and affects all neural crest cells. Only 4-7% of cases have oral manifestations. In these cases the most common soft tissue manifestation was the presence of single or plexiform neurofibromas. In addition, there have been reports of enlarged lingual papillae and problems in function from cranial nerves affected by neurofibromas. Bony changes in the mandible, maxilla, and zygoma have been noted along with changes in the temporomandibular joint.

This presentation describes a 9-year-old girl who presented to the NYUCD Oral & Maxillofacial Surgery clinic with initial complaints of a growth
on her tongue determined to be an intraoral neurofibroma. This report highlights the history, diagnosis, treatment, and concerns of NF in the oral cavity of a 9-year-old child.

C29.

IS BEAUTY ONLY IN THE EYE OF THE BEHOLDER? ESTHETIC PARAMETERS FOR THE MAXILLARY ANTERIOR

Barrett Ian Tindell, Frank Sy, Vera W. Tang, Marjan Moghadam

As restorative dentists, we are often challenged with aligning our vision of esthetics with that of the patient. Deviation from certain proportional and esthetic parameters however can cause disharmony in the patient’s appearance and smile. A 56-year-old male patient presented to NYU College of Dentistry with remarkably disproportionate and defective composite veneer restorations on his maxillary anterior teeth. Despite the existence of these restorations, severe spacing persisted in the region as well thereby exacerbating an already compromised clinical presentation. To complicate matters, large bony exostoses existed on the buccal areas of the maxillary anterior region making a crown lengthening procedure more challenging for this patient. Treatment goals for this patient include: removal of decay and calculus to establish hard and soft tissue health, management of the large tooth size-arch length discrepancies, and creation of a more pleasing height-to-width ratio of the maxillary anterior teeth. The patient’s pre-treatment condition will be presented as well as prosthetic and surgical strategies for addressing the patient’s treatment needs.

C30.

KNOWLEDGE OF HIV, ATTITUDES TOWARD HIV AND WILLINGNESS TO CONDUCT RAPID HIV TESTING AMONG DENTAL HYGIENISTS

Winnie Furnari, Susan Davide, Marilyn Cortell, Bhuma Krishnamachari, Sara Haden, Brandy Watts

Background: In the U.S., an estimated 21% of people living with HIV/AIDS do not know their positive status. Expanding rapid HIV testing to the dental setting may increase the number of individuals aware of their status to begin medical and social support services.

Purpose: Rapid HIV testing initiatives are needed outside the routine medical setting. Almost 2/3 of Americans see a dental provider each year. This study aimed to determine knowledge of HIV, attitudes toward people living with HIV and willingness to conduct rapid HIV testing among dental hygienists.

Methods: Practicing dental hygienists were recruited to complete a cross-sectional survey.

Results: Subjects were first assessed for a mean knowledge test score. Individuals who answered 75% or more of the questions correctly were placed into a category of “high test scorers,” while those who answered less than 75% of the test questions correctly were placed into the “low score” group. Associations between groups were tested using a chi-square statistic for categorical variables and a t-test for continuous variables. Attitudes were measured on a 3 point Likert scale, and analyzed as categorical variables. Age, gender and race-adjusted odds ratios and their 95% confidence intervals were estimated using unconditional logistic regression models.
Statistical significance was assessed using a two-sided test at the alpha=.05 level for all studies.

Conclusions: Increased knowledge about HIV is associated with an increased comfort level in working with medically compromised patients, and in counseling about sexual HIV prevention methods. This study demonstrates a majority of the high scoring knowledge group indicated that they would be willing to conduct HIV rapid tests. The groups did not differ in their willingness to be trained to perform HIV testing. This indicates a need to offer supplemental access to HIV education and training in dental hygiene curriculum and post-graduate continuing education.

C31.

EFFECTIVE DOSES AND ORGAN EQUIVALENT DOSES IN PANORAMIC AND CEPHALOMETRIC IMAGING USING ADULT PHANTOMS


Background: Previous studies by many investigators measured radiation absorbed doses to the different organs of the head and neck from panoramic and cephalometric imaging utilizing thermoluminescence dosimeters on a tissue equivalent phantom head. No studies have used adult CIRS phantoms and Optically Stimulated Luminescent dosimeters.

Objective: To measure the organ absorbed and equivalent dose and effective dose to organs of the head and neck of adult anthropomorphic phantoms using digital panoramic and cephalometric imaging.

Methods and Materials: Optically Stimulated Luminescent Nano dosimeters were loaded into 18 pre-manufactured slots in the head and neck region of two anthropomorphic CIRS phantoms (30-year-old male and 30-year-old female). An Instrumentarium OP100D digital Pan-Ceph was used at 73 kVp, 12 mA and 17.6 s exposure for panoramic images and at 85 kVp, 12 mA and 16.0 s exposure for a Right Lateral Cephalometric image. Organ dose was calculated in micro Gy, organ equivalent dose and overall effective dose were calculated in micro Sv based on ICRP-103 Tissue Weighting Factors.

Results: In general for both phantoms the highest organ doses were seen in the salivary glands, oral mucosa, and lens of the eye. With panoramic exposure the effective dose for the female was 21.1 micro Sieverts, and for the male 24.8 micro Sieverts. For the right lateral cephalometric image the effective dose for the adult female was 9.1 micro Sieverts and for the adult male 10.0 micro Sieverts.

Conclusions: This was the initial study using CIRS adult phantoms and Optically Stimulated Luminescent Nano dot dosimeters with a digital pan-ceph machine. Our adult male Pan and Ceph effective dose data are in line with Ludlow’s JADA paper and other literature dosimetry values using the Adult Rando Phantom. Our measured values confirm literature values for adult male and provide additional data on adult women.

C32.

COMPARISON OF ALIGNMENT SYSTEMS WITH RECTANGULAR COLLIMATORS FOR DENTAL RADIOGRAPHY

J. Stabulas-Savage, I. Branets, G.S. Berkowitz, R.P. Cunningham, D.C. Colosi, A.D. Goren

Background: Rectangular collimation has been recommended by the NCRP and the ADA to be used whenever possible. There are many different types of rectangular collimation available, but their effectiveness and accuracy has not been fully evaluated.

Objectives: This study was designed to compare the effectiveness and accuracy of three different
types of rectangular collimation. Type 1, magnetic alignment. Type 2, free hand alignment of conventional rectangular collimation. Type 3, Rinn “All in one” mechanical alignment.

Methods and Materials: In Type 1 collimation, the Tru-Align magnetic alignment instrument was used. For Type 2, a Rinn XCP (PID) unit was used with rectangular collimation (Gendex Rectangular Beam Limiting Device) attached to the radiographic unit. The Type 3 mechanical alignment, a rectangular collimator was used with a Rinn PID combined with the Rinn “All in One” positioning system. IRB approval was obtained for the project. Ten third year dental students were recruited to test the devices. A mini FMS consisting of 10 views, URM, URPM, URMBW, URPMBW, URC, UA and similar LR Images were exposed on a DXXTR phantom using Kodak Insight film and processed automatically. Technique errors were evaluated by the number of images that had cone cuts, missed apices, improper positioning, elongation and foreshortening. The errors were assessed by a panel of experienced oral and maxillofacial radiologists and general practice directors. Students t-test was used to confirm statistical differences between the three types of collimation.

Conclusions: Our data indicate that each rectangular collimation instrument has its advantages and disadvantages in terms of imaging geometry. Proper placement of the imaging receptor is of prime importance.

C33.
SOCIAL WORK & DENTISTRY: HOW TO BEST MEET THE NEEDS OF OUR PATIENTS
Alyson Leffel, Kate Kolbell

Introduction: New York University College of Dentistry (NYUCD) promotes patient-centered care with an emphasis on training dental students to communicate effectively with patients and focus on their chief complaints. This includes coming to an understanding of patient needs beyond the scope of their teeth (Freedberg, 2007), primarily those needs involving social issues which require referrals outside of the dental community. In order to make resources for these referrals readily available to both students and their patients, a concise, straightforward manual filled with up-to-date information on a variety of subjects is an invaluable addition to the patient advocate/social worker office (Cattaneo & Chapman, 2010).

Purpose: Through a collaborative team approach, dental students can work with the social worker and patient advocates to learn about resources that can help accommodate the social needs of their patients beyond their dental concerns (Bronstein, 2003). They can also use this resource manual as a guide when later practicing outside of the college.
Methods: The social work intern actively pursues community resources by visiting numerous community agencies and collecting information about their programs. This manual will be continuously updated to reflect any changes. Students are educated regarding the fact that the social needs of their patients should be assessed and followed up with to seek out the proper referral (Hardcastle, Powers, & Wenocur, 2004). Students can then work with the social worker/intern to find the proper resources for their patient, including but not limited to agencies that focus on drug rehabilitation, finding affordable housing, and understanding and applying for health insurance and/or Medicaid.

Results: Students provide their patients with these resources directly, or a collaborative effort can be made whereas a patient meets with both the student and the social work intern. The patient understands that their provider has the patient’s best interests in mind and values the patient-doctor relationship. The social work intern supports the student in promoting patient-centered care, and the student in turn feels that they are able to best assist their patients.

Summary: The production of a comprehensive resource manual for patient needs outside of their dental care demonstrates a step forward in patient-centered care. Dental students can use the manual alone or in collaboration with the social work intern to best serve their patients with regard to concerns both immediately and tangentially related to their dental needs.

C34.

OROPHARYNGEAL CANCER PATIENTS AND MANDIBULAR DOSE DISTRIBUTIONS FOLLOWING INTENSITY-MODULATED RADIATION THERAPY

Ryan S. Lee

Purpose/Objective(s): Intensity-modulated radiation therapy (IMRT) is a treatment modality that can minimize doses to the entire mandible. However, no dosimetric data exist for specific sites within the mandible, information that is crucial when deciding on the need for pre-IMRT dental extractions and post-IMRT implant placement. We present data on dose distributions to specific mandibular tooth-borne regions for a cohort of oropharyngeal carcinoma patients.

Materials/Methods: Two-hundred patients from Memorial Sloan-Kettering Cancer Center who underwent IMRT between 2004-2009 for oropharyngeal cancers (133 base-of-tongue, 67 tonsil) were analyzed. The patients were grouped by primary tumor size (T): T1 (n=46), T2 (n=68), T3 (n=53), and T4 (n=33). Five mandibular areas (right molar, left molar, right premolar, left premolar, anterior) were contoured using CT images on MSKCC planning software. Average mean (avg_mean) and maximum (avg_max) volumetric doses were obtained for each defined mandibular region for both ipsilateral
and contralateral sides vis-à-vis tumor location. Contralateral-to-ipsilateral dose ratios (contra_ipsi_ratio) were subsequently calculated to measure the laterality effect. Dosimetric findings were compared between base-of-tongue and tonsil cancer patients.

Results: For all T, avg_max of 69 and 57 Gy were seen in the ipsilateral and contralateral molar regions of the mandible, respectively. For T4 disease, avg_max exceeded 60 Gy regardless of location or laterality. Mean values were lower for the anterior (29 Gy) and ipsilateral premolar (36 Gy) areas, whereas T3/4 patients received an avg_mean of 56 Gy to the ipsilateral molar regions. For base-of-tongue cancer patients, the molar contra_ipsi_ratio rose from 0.73 to 0.86 as tumor sized increased from T1 to T4, while the same ratio increased from 0.61 to 0.77 between T1 and T4 for tonsil cancer patients. This trend signifies an elevated risk of osteoradionecrosis, regardless of laterality, in advanced oropharyngeal disease patients.

Conclusions: Dental extractions and implant surgery require careful treatment planning both before and after IMRT. In patients with advanced oropharyngeal cancers, even the contralateral mandible is not spared from the risk of osteoradionecrosis. Data from this study have tremendous implications in helping the clinician decide whether pre-IMRT extractions and oral surgery procedures are indicated.

C35.

ORAL HEALTH DISPARITIES ACROSS THE CHINA-NORTH KOREA BORDER: COMPARISONS BETWEEN CHILDREN/ ADOLESCENTS IN HUNCHUN, CHINA & RAJIN, DPRK

Ryan S. Lee

Background: North Korea, also known as the Democratic People’s Republic of Korea (DPRK), is currently experiencing systemic failures in its efforts to provide even the most basic of health care services (Amnesty International, 2010). Although the country has one of the world’s lowest levels of per-capita health spending (WHO, 2006), a generalized lack of research makes it difficult to assess its health status. A growing and oft-ignored issue of refugee emigration into Northeast China further complicates accurate analyses. In particular, few studies have addressed North Korea’s oral health status, while no study has examined the cross-cultural differences in oral health between ethnic Korean-Chinese and North Koreans.

Materials and Methods: Over a 3-week period in July 2010, comparative on-the-field verbal surveys of oral health behaviors and outcomes were conducted between ethnic Korean-Chinese children and adolescents in Hunchun, Yanbian Prefecture, Jilin Province, China (N=70) and North Korean children (N=21) in Rajin, North Hamgyong Province, DPRK. Mandarin and Korean translators were used whenever necessary. All 70 children in Hunchun were examined at the city’s Special Needs School.
In Rajin, 21 children were examined at the City Orphanage, while 11 adult patients were seen at the Adult Day Clinic as a comparative cohort. A single dentist (RSL) conducted all exams. Specifically, oral health-related metrics (e.g., % visiting the dentist, hygiene behaviors, anesthesia access, etc.) were assessed.

Results: While 41.4% of children in Hunchun had ever visited a dentist in his/her lifetime, 0% had ever visited a dental provider in Rajin (Table 1), with most adult patients in DPRK refusing to answer the question because of “oversight” from government officials. Only 7.1% and 1.4% of children in Hunchun had visited a dentist or received a cleaning in the past 12 months, while none had done either in Rajin. Nearly all children in both cities owned a toothbrush (95.7%), though very few in Hunchun (18.6%) knew his/her own brand of toothpaste. In Rajin, the orphanage directors stated that each child was “given a new toothbrush regularly,” while a communal tube of toothpaste was used for all children of the same gender. The primary dental provider in Rajin’s adult clinic was an internal medicine physician with no formal training in dentistry at all. He did not know what floss was, nor did he understand how to administer local anesthesia for extractions.

Conclusions: Significant differences were seen in the access to, behaviors toward, and outcomes of oral health between children on either side of the DPRK border. Rajin clinics revealed limited access to running water, electricity, filling materials, or even local anesthetics for tooth extractions. Although only the Tumen (Dooman) River and 30 miles separate the two cities, stark contrasts were seen in the oral health status of Korean-Chinese and North Korean children. To date, this is the first study to compare oral health disparities between pediatric and adolescent groups on either side of the China-North Korea border. Further studies are warranted to elucidate this disparity, despite sociopolitical barriers to research.

C36.
CBCT ANALYSIS OF MANDIBULAR MOLAR EXTRACTION SOCKET SIZE FOR 3D-PRINTED SCAFFOLD PLACEMENT
Shira Ackerman, Marci Levine
3D-printed tricalcium phosphate scaffolds for bone repair have been analyzed sufficiently in animal models and are now ready for testing in human studies. The first human surgeries applying these scaffolds are being planned for preservation and/or augmentation of dental extraction sites following surgical extraction. Scaffolds designed for this purpose must adequately match the anatomy of the extraction site so that they are stable and block out soft tissue. The purpose of this study is to determine extraction site and alveolar anatomy following extraction of 1st and 2nd molars and to determine if a
pre-op panoramic radiograph can be used to predict required scaffold dimensions. Cone beam CT and panoramic radiographs of present 1st and 2nd molars will be evaluated to determine mean infabony root trunk and buccal plate dimensions. Cone beam CT and panoramic radiographs of healing extraction sites will then be evaluated to determine mean socket and/or lost buccal plate dimensions. Defect dimensions and days since extraction will then be used in a regression analysis to approximate extraction site dimensions immediately following surgery. Further statistical tests will then be used to see if a difference exists between pre-op predictions of extraction sites and regression-analysis approximations of extraction sites, and if this relationship is modified by patient demographic factors. These findings will allow for the fabrication of an assortment of socket preservation and buccal plate repair scaffolds for first and second molar extraction sites and will establish guidelines for the selection of an appropriate scaffold based on pre-op radiographic data. This project is currently undergoing IRB approval.

C37.

EPI-CRESTAL AND SUB-CRESTAL PLACEMENT OF IMPLANTS WITH PLATFORM-SWITCHED: PRELIMINARY RADIOGRAPHIC RESULTS IN A RANDOMIZED PROSPECTIVE CONTROLLED CLINICAL TRIAL

Ismael Khouly, Takanori Suzuki, Sang-Choon Cho, Patricia Corby, Murtada Hassan, Stuart J. Froum

Purpose: The purpose of this study was to prospectively evaluate changes in marginal bone levels around platform-switched implants placed with the implant-abutment interface (IAI) at epicrestal and subcrestal positions.

Materials and Methods: Forty eight patients requiring 1 or more implants bilaterally in the maxillary or mandibular premolar and molar areas were randomly assigned to receive a total of 2 implants: 1 on each side of the same arch (2 maxillary or 2 mandibular) based on the position of the IAI in relation to the alveolar crest at the time of implant placement. Implants in the control and test groups (n = 48 in each group) were placed at the bone level or 1.5-2 mm below the buccal aspect of the alveolar crest, respectively. Six months later, the implants were restored with final crowns. Marginal bone levels were assessed radiographically at implant placement, 6 months, and 12 months post implant placement.
Results: Thirty subjects were included as part of this preliminary report. Mean marginal bone changes in control group implants was 0.23 ± 0.62 mm at 6 months and 0.02 ± 0.52 mm at 12 months. Twelve implant sites (8 implants) showed marginal bone loss apical to the implant platform in the control group at 12 months (0.49 ± 0.35 mm). All implants in the test group exhibited no marginal bone loss below the implant platform, since the first bone-to-implant contact was located at or above the implant margin. Mean marginal bone change coronal to the implant platform in test group implants was 0.26 ± 0.90 mm at 6 months and 0.02 ± 0.49 mm at 12 months. At 12 months, implants exhibited greater mean bone above the implant platform compared to implants in control group (control group, 0.59 ± 0.76 mm; test group 2.3 ± 0.98 mm). Implants in the test group exhibited a higher percentage of implant surfaces with bone on the implant platform compared to control group implants (100% versus 45%).

Conclusions: The preliminary results of this randomized prospective controlled clinical trial showed differences in peri-implant bone responses with the test group (implant platform placed 1.5-2.0 mm apical to the alveolar crest) showing greater mean bone coronal to the implant platform (2.3 mm) compared to the control group (implant platform placed at the alveolar crest) (0.59 mm). The final study will include measurements of marginal bone at 2 and 3 years post surgery. A determination will then be made if the reported trends at 12 months in marginal bone levels change.

C38.
EFFECTIVE COMMUNICATION STRATEGIES REGARDING ORAL HYGIENE INSTRUCTIONS FOR CAREGIVERS OF PATIENTS WITH SPECIAL NEEDS: A STUDY DESIGN OF 3 METHODS

James D. Toppin, Virginia Viviano, Morgan Lewis-Smith, Dharti N. Patel, Ryan S. Lee, Miriam R. Robbins

Issue: It has been well documented in the literature that patients with special needs have poor oral hygiene and high plaque scores. Caregivers of these patients often have difficulty understanding how to provide oral care to this patient population. At New York University College of Dentistry (NYUCD) there is insufficient instructional oral hygiene material provided to these patients and their caregivers.

Description: Every week the Special Needs Dental Clinic (SNDC) at NYUCD serves approximately 50 patients with physical, cognitive, developmental, or acquired disabilities. Patients are often accompanied with their caregivers who assist with activities of daily living.

Recommendation: Patients and caregivers that present to the SNDC will be given one of three oral hygiene instructional aids, chosen at random: 1. DVD with video instruction; 2. written and pictorial instructional page; 3. a tell-show-do demonstration in clinic. Plaque scores of the anterior teeth will be assessed over the span of several weeks using disclosing tablets. Patient
and caregiver usage of instructional materials will also be reinforced and documented. Objective 1: To identify the most efficient way to convey oral hygiene instructions to patients with special needs and their caregivers receiving care at the SNDC at NYUCD. Objective 2: To identify the most effective way to improve oral hygiene in patients with special needs receiving care at the SNDC at NYUCD based on plaque score. Patients and caregivers for each method will also be surveyed as to how effective the OHI were in conveying instructions.

C39.

METHADONE MAINTENANCE THERAPY AND ITS IMPLICATIONS IN DENTISTRY

George Raymond, William James Maloney, Gary Berkowitz

Methadone is classified as a Schedule II drug. It is best known for its use in the treatment of opioid dependence. In most cases, the individual is attempting to free himself/herself from the addiction of heroin. There are lingering dental and systemic effects from heroin abuse which are sometimes exacerbated by methadone maintenance therapy. Pain management can also become a dilemma which requires special attention. The history of heroin abuse and its enduring effects coupled with participating in a methadone maintenance therapy pose a unique situation which dental providers may encounter. A summary of the pharmacology, systemic effects, drug interactions, and oral manifestations of methadone use are discussed. Alterations to treatment of the dental patient and specific considerations in dental therapies are presented.

C40.

FROM OKC TO KCOT AND WHAT MEANS TO THE PATIENT

Francesca Verratti, Silvia Spivakovsky

Abstract: KOTC is an extremely controversial odontogenic pathology. The entity once known as Odontogenic Keratocyst (OKC) was changed by the WHO in 2005 into Keratocystic Odontogenic Tumor (KCOT) and defined as “benign uni or multicystic intraosseous tumor of odontogenic origin, with a characteristic lining of parakeratinized stratified squamous epithelium and potential aggressive, infiltrative behavior.” These changes reflect novel histochemical and genetic research findings. KCOT has a slight male predilection and is more common in the mandible than in the maxilla. (Neville 3rd edition) It represents between 2 to 11% of all jaw cysts. Despite the current classification some still recognize this entity as a cyst with high recurrence rate. Multiple treatment modalities exist reflecting different understanding of the nature and potential behavior of KCOT. The overall recurrence rate ranges from 3-60% regardless the nature of the intervention.
Objectives: To review and compare the effectiveness of all the different surgical interventions and adjunct procedures used for the treatment of KCOT over the past 30 years.

Methods: Original articles were retrieved using PubMed, Lilacs and the Cochrane library from 1982 to September 2012. We included all cases of non-syndromic, biopsy confirmed KCOT lesions with a mean follow-up of at least 5 years using experimental and observational studies. The outcomes considered were: lesion elimination, recurrence rate and any patient centered outcome. Treatments were separated into 2 categories: Conservative and Radical.

Results: The electronic search retrieved 2035 articles. Two reviewers independently checked for inclusion criteria. Fifteen articles met the inclusion criteria and were used for the final analysis. All were observational studies. Different treatment modalities varied from marsupialization alone to resection. Reported recurrence rate ranged from 0.00% to 86.36%.

Conclusions: Treatment of KCOT varies from very conservative to radical. Not unified approach modality has been established. The selection of a particular technique seems as much a factor of surgical experience and training as the presentation in the patient. Only 1 article reported patient outcomes and complications which is not enough to establish the quality of life and what is really best for the patient.

C41.
COMPARISON OF BONE HEALING AFTER TOOTH EXTRACTION WITH OR WITHOUT INTERVENTION
Akhlas Elmabrouk

Objective: Our Objective is two folds: To examine the effect of alveolar ridge preservation (ARP) compared to unassisted socket healing in vertical and horizontal dimension. To examine whether there is a difference in ridge remodeling using flap compared to flapless tooth extraction

Material and methods: MEDLINE (PubMed) was searched from January 2000 Until December 2012 and Google scholar was searched from 2011 to 2013.

Result: Titles and Abstract of 313 papers were screened. A Total of 13 papers were selected for full text reading. Five papers of systematic review were selected for further analysis. Heterogeneity in types of graft material used and technique of extractions, as well as different methods of investigation did not allow for a meta-analysis. Average change in clinical alveolar ridge width varied between 2.2 and 4.6 mm in the controls (without using of bone graft) compared to 1 to 3.5 mm in the test sites (bone graft have been used). The range of height reduction in control sites (without bone graft) was 0.4 to 3.9mm compared to an increase of 1.3 to loss of 1.3 mm in test sites (with bone graft) in period of 6 to 9 months.
Radiographically the range of height in control sites (without bone graft) was between 0.51 to 1.17mm compared to range of 0.02 to 1mm in test sites (with bone graft) in period of 6 to 9 months. The data shows no significant alteration of alveolar dimension in long term when comparing flapped and flapless tooth extraction.

Conclusion: Multiple studies have shown that bone resorption after extraction can be limited but cannot be eliminated when extraction socket have been treated by different materials. There is no clear evidence that supports the theory that more bone resorption may occur if a flap is raised versus flapless extraction.

C42.

DIGITAL DENTURES, A NEW CONCEPT IN COMPLETE DENTURE FABRICATION

Tapan Pujara, Asmahan Khater

Computer aided technology is an emerging method for fabricating complete dentures. According to the American Dental Association, there are approximately 19 million people who are completely edentulous in United States. Unfortunately, the routine process of fabricating complete denture is very time consuming and requires multiple in-office visits. CAD/CAM technology which is now available, offers reproducibility and increased efficiency. Digital denture is a promising hope which is aimed at helping patients and practitioners. This poster presents an overview of the clinical application of digital dentures as well as a comparison to the conventional methods for denture fabrication.

C43.

THE EFFECT OF LASER ON BONE REGENERATION. A SYSTEMATIC REVIEW.

Marci Levine, George Refky Helmy, Francesca Verratti

Objective: To analyze the scientific literature considering bone regeneration of the jaws as an outcome by employing low laser therapy (LLLT) as a primary or adjunctive method of treatment.

Introduction: Laser therapy, also called low level laser therapy (LLLT), cold laser, soft lasers, or laser acupuncture devices are FDA approved for the palliative treatment of temporary pain relief. However, several medical fields are applying this technique for soft and hard tissue healing, achieving diverse outcomes. In dentistry, LLLT is been used off label to improve implant osseointegration, promote bone regeneration in distraction osteogenesis, and in rapid maxillary expansion.

Methods: Original articles published from 2003 to 2013 were retrieved using electronic databases (PubMed and The Cochrane library). The search strategy comprised the following key words: LLLT, bone regeneration, bone turnover, laser. The electronic search retrieved 200 articles. Two reviewers independently checked for inclusion criteria. A total of ten articles met the inclusion criteria (in progress) and were considered for the final analysis. Six studies used laser therapy as primary method of treatment; four studies utilized laser therapy as an adjunct method combined with other techniques.
Conclusion: Through various mechanisms, LLLT was found to positively affect bone regeneration in both human and animal studies. Also on histological level, LLLT was found to have stimulatory effect on the osteoblast, in addition to positively affect the expression of BMP4, BMP7 and type 1 collagen.

C44.

AVAILABILITY OF DENTAL ONCOLOGY SERVICES AT NCI-DESIGNATED AND COMPREHENSIVE CANCER CENTERS

Ryan S. Lee, Nicole D. Holland

Objective: Dental oncology focuses on prevention and/or management of oral complications before/during/after cancer treatment. Dental oncologists undergo post-graduate residency and/or fellowship training in oncologic dentistry, a field encompassing hospital dentistry, surgery, chemoradiation, and transplant medicine. This study evaluated the status of U.S.-based dental oncology training programs and availability of dental oncology services in NCI-designated and comprehensive cancer centers.

Method: The following databases were searched for dental oncology training programs and/or services in the U.S.: MEDLINE (PubMed), Embase, Google Scholar. The following Internet search engines searched links to dental oncology providers or services: Google, Yahoo, Bing. Reference lists of relevant articles were searched. Identification of relevant studies and quality assessments were conducted independently and in duplicate.

Result: Among 66 NCI-designated cancer centers, only 3% (N=2) had a formal postgraduate residency/fellowship program in dental oncology. Fewer than half had a dental department, while most lacked the services of a postgraduate-trained dental oncologist, even in those hospitals associated with a U.S. dental school. No cancer center websites had links to standardized pre/post-cancer therapy dental protocols. Most Internet search engine results led to providers without formal oncology training or clinics without NCI affiliation.

Conclusion: Poor oral health is associated with increased incidence and severity of oral complications in cancer patients, necessitating dental services before/during/after treatment. Most NCI-designated comprehensive cancer centers lacked postgraduate-trained dental oncologists. Future research is warranted on the assessment of strengths and weaknesses of current delivery models, as well as the development of standardized protocols for the oral management of cancer patients.
LEARNING WITH GAMES IN DENTAL EDUCATION: A LITERATURE REVIEW
Michele Equinda, Anthony Congiusta, Darren Huang

Purpose: Generation Y students function in an environment with constant immediate contact to peers and resources through digital media. Educators have capitalized on this—exploring a variety of methods to present content and assess learning outcomes and achievement. One is the use of games in learning. Neuroscience suggests that positive emotions elicited by the user’s playing can facilitate learning. Educators realize that engagement is a key element to learning. Games offer challenge, competition, interaction, feedback, in a safe environment (no consequences in the real world). Previous studies of game-based learning, whether modified virtual realities or more conventional forms of gameplay, have demonstrated advantages over didactic formats such as increased retention of material, student enjoyment, and cooperative learning. Though utilized in K-12 and higher education, there are few reports of game based learning in the dental education literature. This may be related to the lack of defined criteria for games and game-like activities. The purpose of this investigation is to understand the use of games and game-like characteristics in health education by reviewing and analyzing professional literature.

Methods: By applying Whitton’s (2010) nomenclature for characteristics of games and game-like activities, trends in the evolution of this potentially important pedagogical tool can be identified. In this study, investigators broke each characteristic into a set of more specific terms. Trials, studies, and reviews published between January, 2000 and June, 2013 were searched in PubMed and MedEdPORTAL. Each article was reviewed independently by two investigators and coded according to characteristics. In cases of disagreement, the third investigator weighed in until there was consensual agreement.

Conclusion: Descriptive and graphical results demonstrate the incidence and prevalence of game characteristics in the professional literature. Understanding these characteristics and their effect on engagement and learning outcomes can guide educators in using games and game-like activities in instructional strategies.

ORAL HEALTH-RELATED QUALITY OF LIFE (OHRQoL) IN DENTAL PATIENTS WITH MULTIPLE SCLEROSIS: A CASE REPORT AND LITERATURE REVIEW
Ryan S. Lee, Manu Bharti

Background: Multiple sclerosis (MS) is an autoimmune disease affecting the myelin sheath that covers the brain and the spinal cord. Unfortunately, the rate of patients with MS is increasing, although no definite cure exists for the disease. A 55-year-old patient with MS presented to the Special Patient Care (SPC) Clinic at New York University College of Dentistry with multiple dental needs, which affected the overall quality-of-life of the individual.

Methods: A literature search was conducted on PubMed, MEDLINE, Google Scholar, and other relevant databases to identify articles specifically discussing OHRQoL in patients with multiple sclerosis. Relevant dental textbooks used in the curriculum at NYU College of Dentistry were also searched for information regarding the quality-of-life of dental patients with MS.

Results: No articles or passages regarding quality-of-life matters were identified in the literature search or the search of in-curriculum textbooks, respectively, as most information focused on the dental/clinical management of patients with MS from a pathophysiological standpoint. To the best of our knowledge, no previous survey has assessed OHRQoL in patients with MS presenting to a SPC Clinic at a dental school environment.

Conclusions: Although the prevalence of MS continues to increase, there is a gap...
in the existing literature regarding the OHRQoL of patients with MS. A survey is being designed to address this knowledge gap through a pilot study of dental patients with MS at NYU College of Dentistry.

C49.

PREVALENCE OF PERIODONTAL DISEASE IN ASIAN PATIENTS

Martine Mandracchia, Tiffany Tien

Purpose: 1. To survey available evidence that supports high prevalence of periodontal diseases in Asian patients 2. To identify contributory factors of the high prevalence of periodontal diseases in Asian patients. 3. Highlight potential clinical initiatives targeting specific contributory factors for the prevention and management of periodontal diseases in Asian patients.

Background: Patients of Asian descent (South Asians, East Asians, and Southeast Asians) constitute a significant proportion of the dental patient pool in New York. The speculation that Asians are more susceptible to periodontal diseases has been widely agreed by many dental practitioners based on clinical experiences. With the rapidly expanding Asian population, this high prevalence of periodontal diseases can be foreseen to become a potential threat to public health. Specific prevention and management plans tailored to this population should be implemented clinically to combat this growing issue.

Methods: A systematic search of the published literature will be performed to identify abstracts relevant to this investigation. A literature review process will then be conducted to identify relevant articles supporting the high prevalence of periodontal diseases in Asian patients and possible contributory factors. Lastly, potential clinical prevention and treatment strategies will be constructed based on the contributory factors identified.

Results/Conclusion: As an ongoing project, it is predicted that existing evidence will support the theory that a high prevalence of periodontal diseases is observed in Asian patients. Anticipated contributory factors include lack of dental knowledge, inadequate oral hygiene, and disease prone dentition. Specific strategies targeting these major contributory factors should be implemented clinically to improve the prevention and treatment of periodontal diseases in Asian patients.
C51.

A BIBLIOMETRIC ANALYSIS OF THE CHARACTERISTICS AND TRENDS IN DENTAL RESEARCH: A SURVEY OF RESEARCH ARTICLES PUBLISHED IN SELECTIVE DENTAL JOURNALS BETWEEN 2007 AND 2013, EVALUATING THREE DENTAL SPECIALTIES

Ellen Lee, Brian Chin, Joshua Lin, Christopher Lin, Arthur D. Goren, Candace Lee, Katie Yang Xie

This literature review analyzes trends of original research articles in three dental specialties: Endodontics, Periodontics, and Pediatric Dentistry. The parameters analyzed: number of original research articles per year, the countries of the first authors, and the contribution of research by geographical regions. All research articles published in five major dental journals: Journal of American Dental Association, British Dental Journal, Journal of Endodontics, Journal of Periodontology and Journal of Dentistry for Children between January 2007 and December 2013 were tracked. Statistical analyses were made to note the changes and trends. A total of 1711 research articles were collected and bibliometric analysis indicated that there exist changes in the volume of publications amongst the three distinct specialties. A compounded growth rate of approximately 1% in Endodontics was noted; both Periodontics and Pediatric Dentistry saw a decrease of -4.0% and -13.6% respectfully. An analysis of the first author by country for the overall number of research publications indicated that the United States had the most publications (19.75%), Brazil (17.94%) and China (8.36%). By specialty, for the first author by country, the United States (19.7%) had the most number of publications for Endodontics, Japan (16.25%) for Periodontology and Brazil (39.3%) for Pediatric Dentistry. By continents, Asia had the most contributions (37.58%), followed by North America (23.14%) and South America (19.11%). Overall, this bibliometric analysis of dental journals captures the shifting global interests in these three specialties over the past seven years. Our data highlights which regions of the world were the most prolific in publishing research, and which displayed the most rapid growth and decline in the volume published. It also provides insights into which dental specialty is generating the most interest in the academic community. Furthermore, looking at the trends of the volume of publications highlights notable changes, and suggests further investigations into reasons behind these shifts.
C52.

A CASE REPORT AND A LITERATURE REVIEW OF TREATMENT OF FIBROMA

Max T. Huang, Leslie A. Abraham

Fibroma is a benign soft tissue tumor consisting of mainly fibroblasts and dense collagenous and fibrous connective tissue. It can occur virtually at any site in the oral cavity. One of the common locations seen in the oral cavity is the buccal mucosa proximal to the occlusal plane. For the most part, fibroma is formed due to the focal irritation of the soft tissue thereby inducing a fibroblastic hyperactivity and hyperkeratotic response at the site of injury. A 45-year-old male presents to NYUCD Oral & Maxillofacial Surgery clinic with a 7mm x 7mm rock hard pedunculated growth on the buccal gingiva between maxillary left lateral incisor and cuspid. Excisional biopsy was performed, lesion was completely removed and histological evaluation confirmed the diagnosis as fibroma. This case report also includes a literature review of the differential diagnosis, incidence, etiology, treatment options of fibroma.

C53.

DO NOT BEE AFRAID 2 CANTILEVER!

Heba T. Elkassaby, Kenneth S. Kurtz

There is overwhelming evidence that resin-bonded fixed dental prostheses (RBFDPs) with a cantilever (1-Wing) design provide better functional longevity than the fixed-fixed (2-Wing) design. Despite this evidence, most dentists continue to use fixed-fixed designs and double abutments. Multiple abutments are more likely to debond due to the differential movement of abutment teeth. When only one retainer fails, the bridge is likely to remain in situ possibly promoting the development of caries beneath the failed retainer. Clinical aspects of treatment demonstrating two-unit cantilevered, single-abutment, single-pontic, RBFDPs will be presented.

C54.

OUTCOME OF SURGICAL TREATMENT OF PERI-IMPLANTITIS: CLINICAL CASE STUDIES

Dawlat Hasso

The rapidly expanding placement and restoration of dental implants is here to stay but as time progresses we are now realizing that inflammation around implants can grow into a big problem now referred to as peri-implantitis. A two-prong disease process, similar to a tooth’s gingivitis and periodontitis, periimplantitis is preceded by peri-implant mucositis and likewise if it is not reversed it progresses in to peri-implantitis evidenced by bone loss.

As such, this poster will present a surgical approach for regenerating lost tissue around implants that have experienced peri-implantitis utilizing calcium sulphate (Nanogen). The regimen that we employ at the Manhattan V.A. will be presented along with a reentry case showing tissue regrowth around the implant.
Mutually interactive communication between patient and doctor results in increased compliance and completion of dental treatment. The literature has shown there is a correlation between compliance and treatment by Spanish-speaking, minimally English-speaking patients, in completion of dental treatment when communication in Spanish is provided by the practitioner. To meet the needs of the large Spanish-speaking population of patients that present to NYUCD a program was initiated by the HSDA serving to enhance the communication skills between the dental professionals and their Spanish-speaking patients. The topics taught in the course were introducing yourself, medical history, dental history, radiology, treatment planning, during a procedure, dental exam, endodontics, complete denture treatment and pediatrics. Teaching the faculty to communicate with our Spanish-speaking patients, making patients feel comfortable would serve to minimize language barriers, thereby improving “dental literacy” and acceptance of treatment. The purpose of this poster is to present the literature related to patient communication, and the facilitation of treatment after removal of the language barrier as well as to describe the program initiated at NYUCD.
2013

CLINICAL & EDUCATIONAL SCHOLARSHIP SHOWCASE

First Prize

Educational Scholarship
E2.
POSITIVE EFFECTS OF MORNING ROUNDS ON DENTAL STUDENTS BEGINNING CLINICAL TRAINING

Marie A. Congiusta, Gene B. Sherwin

New York University College of Dentistry is approaching the start of its third year of implementation of a program termed “Morning Rounds.” The inception of this program arose from a perceived need to offset the anxiety and uncertainty that many students experience prior to entry into the clinical phase of their dental education. The objective of this program is to facilitate the transition that students make from the pre-clinical setting into the clinical setting. Experiential learning is utilized, that is, learning takes place in the same setting in which students will be practicing. Small groups of second and third year dental students gather monthly in the clinic with a faculty facilitator to discuss and enact what takes place in the clinical setting beginning from the initial encounter with a patient. Third year students are included both to enhance their educational experience and to draw upon peer teaching and learning. They can convey their experiences treating patients to the second year students, who have not yet been initiated into patient care. During a typical session, a preselected case is open for discussion. The faculty facilitator’s role is to prompt students to identify all relevant data and encourage them to think independently when formulating treatment options. As a result, students develop a clearer understanding of what they will be expected to know and do upon entering the clinic for the first time. This understanding instills more confidence and less anxiety as they begin working with patients. Since the development of this program, department leaders continuously seek to improve its effectiveness. Participating faculty meet annually to openly exchange new ideas and discuss ways to further improve the efficacy of the program.

E3.
SELF ASSESSMENT AND PEER ASSESSMENT IN DENTAL EDUCATION: DEVELOPING LIFE LONG CRITICAL THINKING SKILLS

Marie A. Congiusta, Maria P. Rodriguez Cardenas

Purpose: The goal of this new program is to develop a student’s ability to learn how to effectively evaluate his/her own skills and knowledge so that constant learning and development is achieved. Demonstrating competence in self-assessment and peer assessment is a process that requires effort and time in order to do it with proficiency. Students must learn how to assimilate and apply knowledge in order to solve problems and to continuously improve their clinical skills.

Methods: Faculty is involved and responsible in leading students toward acquiring and perfecting these skills. As dental students graduate and begin practicing they will no longer be able to rely or depend on instructors to provide them
with decision choices. They must learn how to evaluate their own work and be ready and confident in solving problems on their own. By cultivating these important skills, students will be able to apply their acquired knowledge to make good evidence based decisions.

Conclusion: It is with this objective in mind that New York University College of Dentistry is implementing this exciting new learning program. The goal is to enhance and create innovating changes to the dental curriculum that will impact education long term.

E4.
LEARNING THE ESSENTIAL SKILLS NEEDED TO DIAGNOSE AND EFFECTIVELY MANAGE MEDICAL EMERGENCIES

Morey J. Gendler, Scott W. Podell, David H. Hershkowitz, Mark S. Wolff

Learning the essential skills needed to diagnose and effectively manage medical emergencies is a critical part of a dental student’s clinical training. New York University College of Dentistry (NYUCD) has implemented a scenario and case based model for training our students for medical emergency preparedness. Our student’s training incorporates both a didactic and an interactive clinical training component which allows our students to develop the skills required to recognize, diagnose and effectively manage various medical emergencies in the dental setting. Simulation exercises facilitate a team approach where students work cohesively while gaining the confidence and clinical expertise necessary to care for a patient experiencing a medical emergency. During Phase 1, students receive didactic training which includes a comprehensive review of the clinical signs and symptoms of various medical emergencies including vaso-vagal syncope, orthostatic hypotension, hypoglycemia, asthmatic crisis, latex allergy, angina, myocardial infarction and/or epileptic seizure. Students demonstrate their proficiency with several emergency response skills appropriate to the emergency including the administration of oxygen, glucose paste and their ability to perform patient ventilation. Students are taught that the first line of care in managing any medical emergency is being able to avoid it from happening in the first place. Our students initially evaluate their patient as they greet and escort them from the reception area to the treatment setting, looking for any possible signs of an imminent medical problem. A current and detailed medical history is completed at the initial visit and the medical history is reviewed at each and every appointment. Students are trained to evaluate their patient’s medical histories, perform a detailed review of systems, obtain necessary medical consults, and learn when a medical referral is indicated due to data obtained from our screening questions. Phase 2 includes the use of simulation drills. Students are asked to diagnose and render emergency care for various medical emergencies. During this phase, case based scenarios and simulation exercises assist our students in becoming skilled at recognizing and treating several different medical emergencies. Our medical emergency training program which combines a didactic component
with clinical training simulation drills is an effective model for training dental students. These skills, and the experience and knowledge gained by our students will greatly benefit their current and future dental patients and communities.

E6. SKILLS IN ASSESSING THE PROFESSIONAL LITERATURE (SAPL): 7-YEAR ANALYSIS OF STUDENT EBD PERFORMANCE AT NYU COLLEGE OF DENTISTRY

Ralph Katz, Hebba A. Shami, Bianca A. Dearing, PDS Kang, Lin Li, Andy Chang

Objective: The primary goal of this project was to describe the level of knowledge acquisition by detailed test performance outcomes of the EBD SAPL curriculum over the first seven years of its implementation at the NYU College of Dentistry. A secondary goal was to compare performance outcomes of the full 60-hour SAPL curriculum as taught to our 4-year DDS students vs. an abbreviated 30-hour SAPL curriculum as taught to our 3-year Advanced Placement DDS students.

Methods: The D1 SAPL curriculum for traditional 4-year DDS students consists of a 40-hour ‘Epidemiology & Critical Thinking Course’, with 20-hours of basic epidemiology followed by 20-hours of skill-building exercises on how to read, analyze and interpret professional clinical literature using a 44-item Literature Analysis Form. In the 2nd D1 SAPL course, the students have eight 2-hour seminar-of-the-whole discussions in which they review their individually completed LAF for an original scientific research article, followed by a four hour SAPL Competency Exam. The AP students got the same content via the same approach but in a condensed presentation of 30 hours in June.

Results: The findings for the period 2004-2010 are reported for 1,647 dental students (63.6% 4-year DDS students, 36.3% 3-year Advanced Placement DDS students). The major findings were overall high performance by both groups of students (SAPL exam scores of 85.8 vs 83.7, respectively) as well as very similar outcomes between these two student groups on: 1) recognizing research design elements and on interpreting those design elements for clinical application, 2) detailed performance of knowledge within the specific five traditional sections of research articles, and 3) detailed performance across 18 identified research design topics.

Conclusions: Both course formats appear to be highly effective for their respective student groups, but should not be interpreted as evidence favoring the shorter format given the different characteristics of the two student groups.
A NEW LEARNING PARADIGM FOR ASSESSING DIAGNOSIS OF ORAL PAIN AT NEW YORK UNIVERSITY COLLEGE OF DENTISTRY (2014-2015)

Manju Gopinathan, Kenneth Allen, Silvia Spivakovsky, Mark Wolf

The focus of this creative educational pilot project is to assess effective learning for only the fourth-year dental students who volunteer to participate in the Oral Diagnosis Pain Pilot Program. Our project will be using specific learning outcome based assessments to demonstrate the levels of competency for the volunteering fourth-year dental students. In addition, we seek to encourage and motivate student centered self-directed learning supplemental to the conventional teacher/didactic centered based method. The specific aims of this study are as follows: first, the project would develop skills for lifelong learning; second, it would support the needs of the students who would be identified as being academically weak in certain areas of a particular topic; and third, it would present modules to assess learning and performance of the students by feedback from students’ self-assessment self-reflection, peer assessment, and faculty assessment by objective observation. Two issues were identified among the fourth-year dental students. One issue was that some D4 students were not getting adequate exposure to specific type of clinical cases; the second issue was that other D4 students were academically weak. These two types of students couldn’t grasp concepts, couldn’t apply theoretical knowledge to a clinical case and, the students did not prepare ahead of time for the procedure. The educational outcomes for this diagnosis of oral pain program were then established. One is to develop and effectively communicate a proper diagnosis for the patient by gathering information and data collection and second, to develop a viable treatment plan and an alternative treatment plan by applying what the students have previously learned to the case at hand. We seek to integrate this new assessment system as part of the standard pre-doctoral curriculum after this pilot study is concluded, which will include all D3 and D4 dental students.

UCSD SCHOOL OF MEDICINE PROGRAM ADDRESSING THE ORAL HEALTH NEEDS OF THE UNDERSERVED

Andrew Schenkel

This poster will present information on the University of California San Diego School of Medicine’s inaugural faculty development program for dental school faculty- Addressing the Oral Health Needs of the Underserved. This new program is modeled after their long running and very successful faculty development
program for medical school faculty- Addressing the Health Needs of the Underserved. The goal of that program since its inception in 1999 has been to 1) build a national community of scholars who are passionate about underserved medicine and 2) provide them with three skill sets: a) building and maintaining effective community partnerships, b) developing, implementing, and evaluating community and academic curricula and programs addressing the needs of the underserved and c) providing skills for personal and professional renewal [Beck, et al., Acad Med. 2008; 83:1094–1102]. The program grew out of the same vision that led to the creation of the UCSD Student Run Free Medical Clinic in 1997. In 2003 the program was expanded into a full year long Fellowship for designed for primary care physicians who, on completion of their residency training, wanted to devote their careers to underserved medicine. Working closely with the UCSD Student Run Free Dental Clinic, Dr. Beck saw firsthand the needs for a similar program related to dentistry. The faculty development program spans three separate weeks and presents materials on many topics related to the various groups of underserved individuals. A very wide range of issues are confronted and discussed by the numerous experts brought in from various institutions. This poster will outline the program in detail for each of the three weeks listing the topics and presenters.

E10.
A CLINICAL RADIOLOGY MANUAL/HANDBOOK WITH CLINICAL EXERCISES TO TEACH AND GRADE DENTAL HYGIENE STUDENTS

Fern Dembner

A Clinical Radiology Manual/Handbook with Clinical Exercises (ten pages) provided a step-by-step approach to facilitate taking dental radiographs. The manual assists in student self-assessment. It provides guidelines, protocols and correlates clinical assessment with theory. The student-friendly handbook is easy to use and instructs exposing, processing and interpreting radiographs, as well as clinical exercises. With the Department of Oral and Maxillofacial Pathology, Radiology and Medicine, dental hygiene students were randomly paired with dental students for clinical assignments. Final grades were assigned once dental hygiene students completed their competencies. Students were required to take a total of 36 radiographs in their third semester and 54 radiographs in their fourth semester. Two successive cohorts in the Dental Hygiene program (n=57 and n=54) were examined. Comparing the same student’s performance in the third and fourth semesters, there was a mean increase of 6.22% and 14.22%, respectively, in overall competency. Four students were excluded from the mean analysis because the necessary number of
patient encounters was not completed. Students achieve higher levels of competency with the curriculum-specific manual/handbook. It also conveys concepts and fundamentals for interpretation of radiographs. Students develop an understanding of the differences between normal and abnormal anatomical structures. Students develop incrementally, from semester to semester a broader understanding of radiography. Data from two successive graduating classes of dental hygienists shows the efficacy of the program. The Clinical Radiology Manual/Handbook with Clinical Exercises can be developed digitally to include checklists for maintaining sensors and equipment and managing software skills given HIPAA confidentiality laws. A digital copy of the manual would then be available to all dental hygiene students on the University intranet.

E11.
THE EFFECT OF RETRIEVAL PRACTICE IN COMPETENCY-BASED DENTAL TRAINING
Sarah E. Prehn, Rebecca Goldman, Mitchell J. Lipp

People do not have the ability to self-assess, but increasing metacognition through guidance and targeting can enhance self-assessment. Retrieval, once thought to be a learning tool, is actually a form of learning, and it produces more successful retention of information than studying. The purpose of the study is to gauge the instructional effect of a new method that incorporates a series of case based assessments with formal (grades) and informal feedback (discussion) compared to a traditional approach incorporating classroom presentations and activities.

Methods: Competence outcomes on case-based summative assessments for two groups of D3
students (2012: N=84, 2013: N=85) were compared. The 2012 group received traditional seminar instruction. The 2013 group received the test-enhanced retrieval (TER) approach, which involved formative assessments with feedback. Both groups receive four graded summative assessments at the sixth and final session. Competent students correctly identified skeletal and malocclusion problems with no critical errors.

Results: Overall competence levels for the traditional vs. the TER groups were relatively similar for each case, excluding Case 3 which showed significantly higher competence rates in the TER group. When comparing cumulative assessment grades, the traditional group had more failures than the TER group.

Discussion: This is the first experiment to assess performance on higher-cognitive order examinations after retrieval-based learning. Confounding effects were observed. Case 3 was inadvertently given as a formative case in the TER group. When comparing cumulative assessment grades, the traditional group had more failures than the TER group. Also, giving letter grades affected students’ attitudes toward learning. In accordance with prior studies, students disliked continuous testing compared to traditional lectures.

Conclusions: This study indicated a need to refine course design to eliminate confounding factors, but does not suggest that TER was harmful compared to the traditional approach. More data must be obtained to generate conclusions on whether or not TER is more effective than traditional seminars.

E12.
EFFECTIVENESS OF A PREDOCTORAL ORTHODONTIC HONORS PROGRAM ON POSTGRADUATE EDUCATION
Rachale E. Cohen, Kathrin Praedikow, Maureen McAndrew

Purpose: In 2011 the NYUCD Orthodontic Department implemented a unique opportunity for their postgraduate students to pursue a career track in education. Postgraduate students oversaw and restructured the predoctoral orthodontic honors program as teaching assistants. They created a mini-residency building upon students’ previously attained knowledge, exposing them to clinical orthodontics, and guiding them through the application and interview process to postgraduate programs. The purpose of this study was to investigate the effectiveness of the predoctoral honors orthodontics program in preparing students for postgraduate orthodontic education.

Methods: Each student accepted into the honors program was assigned to a senior resident in the NYUCD Postgraduate Orthodontic Program for clinical exposure and hands-on experience with orthodontic patients. Adult Learning Theory was applied to identify course objectives which were met during weekly seminars facilitated by the teaching assistants and applied during clinical sessions and case presentations. Towards the end of the course, the students took a written examination to verify their knowledge and application thereof. In addition, each student was asked to complete an anonymous course evaluation in the form of a survey to determine the impact of the course. Participation in the survey was completely voluntary.

Results/Conclusion: The course evaluation yielded overall positive results. The students all reported improvement of orthodontic knowledge and skills and that they had sufficient exposure to clinical orthodontics. However, in the comments some students indicated that they desired more clinical exposure and more structured clinical participation. Overall, the students indicated that the course helped to prepare them for application and interviews to specialty programs as well as to solidify their decision to pursue a career in orthodontics. The most positive feedback was received regarding the instructors and their teaching methods and motivation. Although the evaluations were positive, the feedback on the clinical component of the course lends to the ongoing evolution and improvement of the course moving into the future.
ART THERAPY IN THE DENTAL MANAGEMENT OF PATIENTS WITH SPECIAL NEEDS

Ryan S. Lee, Rashmi Srivastava, Peter Lim

Background: Patients with special needs can present with unique needs that may present challenges to the dental provider, especially regarding doctor-patient communication and issues surrounding health literacy. With numerous patients presenting to the Special Patient Care (SPC) clinic at NYU College of Dentistry, communication can be difficult due to the intellectual, cognitive, and/or physical disabilities, as well as the underlying medical complexities. The application of art therapy methods in the care of such patients was explored.

Methods: For this study, a qualitative/quantitative mixed-methods model was utilized. Key interviews were conducted with Art Therapy professors at NYU Steinhardt of Culture, Education, and Human Development to assess the feasibility and efficacy of art therapy methods in the care of dental patients with ASD. A literature search was also conducted on PubMed, MEDLINE, and other databases to identify relevant articles. Finally, a pilot program was initiated to invite students in the MA Program in Art Therapy to meet with our SPC patients to develop a possible clinical rotation in art therapy.

Results: The literature search did not reveal any articles that specifically mentioned art therapy methods for dental patients, let alone those with special needs. Limited articles were identified regarding either the application of music therapy in the dental setting, as well as the use of art therapy in other medical (non-dental) settings. Art therapy professors at NYU Steinhardt provided concrete recommendations regarding the application of specialized techniques that may be suitable to the care of dental patients with special needs. One masters-level art therapy intern with a unique interest in clinical care settings started implementing a pilot program, whereby she is meeting the high anxiety needs of a special-needs patient requiring full-mouth extractions.

Conclusions: Art therapy is both a field that may be applied to the dental care of special-needs patients, as well as being a potent area of future research. Interdisciplinary efforts are required to achieve both goals.

THE EFFECT OF TEST ENHANCED LEARNING IN COMPETENCY-BASED DENTAL TRAINING

Mitchell Lipp, Nicolas Freda, Jae Ik Kim

This study was reviewed and designated exempt by the NYU IRB.

The view that testing is merely a method for assessing a student’s knowledge is rapidly changing. Recent research has demonstrated the benefits of retrieval tests to promote deep learning. It has been demonstrated that repeated retrieval is superior for learning and retention compared to traditional studying without testing. Additionally, learning is further enhanced when the retrieval practices are spread over
time and accompanied by delayed feedback. Despite retrieval consistently improving learning outcomes, students are hesitant to adopt retrieval-based study practices. Students’ confidence in their capabilities often runs contrary to their actual achievement. Most retrieval research focuses on matching, word-pairs, and short answer. There is a lack of focus on the impact of retrieval-based learning on the higher cognitive domains that involve thinking processes, essential to professional competence. The purpose of this study is to determine the effect of two different instructional approaches on competence outcomes: The traditional approach emphasizes lecture presentations and classroom exercises and the new test enhanced approach emphasizes formative assessments with formal (grades) and informal (discussion) delayed feedback. This study follows a pilot study that identified confounding factors: use of a formative assessment case in the summative, and P/F grades for formative assessments that affected students’ attitudes toward learning. This study compared competence outcomes on case-based summative assessments, for three groups of D3 students (2011 N=88, 2012 N=74, 2013 N=91). The same evaluation criteria and cases were used for each group. Rates were used to compare all three years based on percent competence and whether there were any diagnostic errors or any treatment planning errors. Results support continued use of the new instructional approach. This information can be used to guide instructional approaches used in competence-based dental education.

E16.
SNAPSHOT OF DENTAL HYGIENE DIVERSITY TRENDS
Andrea Beall, Rosemary Hays, Lisa Stefanou, Cheryl Westphal Theile

Background: As the U.S. becomes more ethnically diverse, there is need for healthcare providers that can reflect and respond to an increasingly heterogeneous population. Workforce diversity has been associated with greater patient satisfaction with care and improved patient-provider communication. In addition, health professionals from underrepresented backgrounds are also more likely to provide care to underserved communities and to conduct health disparities research. Unfortunately, there is a lack of racial and ethnic diversity in the oral health workforce.

Purpose: The purpose of this poster is to compare ethnic backgrounds of the current U.S. population to dental hygiene students in the U.S and those specifically at NYUCD.

Methodology: Distribution of population by ethnicity was compared using the 2010 U.S Census and the 2010-2011 ADA Allied Dental Education Survey results.

Findings: According to the survey, there was obvious disparity in the representation of minorities in the future of the dental hygiene profession compared to the U.S population
(over 75% of enrolled students in all dental hygiene programs were White). However, the NYUCD dental hygiene program demonstrated a more accurate reflection in all groups. Minorities comprised almost half (46%) of this program’s dental hygiene student population and Hispanic students (14.8%) and were almost a mirror image to the U.S. census. Black/African American students were still somewhat underrepresented in the program (7.4% compared to the U.S population (12 %) whereas Native Hawaiian and other Pacific Islanders (14.8%) were almost fifty times the Nation’s distribution (0.2%). Future Significance: Efforts to enroll more minority dental hygiene students across the country may result in a more equitable geographic distribution of dental hygiene health care providers and ultimately address one aspect of the access to care problem. Future research can explore factors that cultivate institutional diversity.

E17.

ENHANCE LEARNING AND INTERDISCIPLINARY COLLABORATION DURING THE PROCESS OF CARE

Andrea Beall, Shirley Birenz, Cynthia Howard, Cheryl Westphal Theile

Background: The dental hygiene process of care (assessment, dental hygiene diagnosis, planning, implementation, and evaluation) provides a framework through which dental hygienists develop an individualized dental hygiene care plan for patients as part of an overall comprehensive treatment plan developed by dentists.

Purpose: To devise a dental hygiene care plan form geared to an interdisciplinary college where the dental student has already the assessed, diagnosed and planned, but now the dental hygiene student also needs to gain experience in assessment, decision making, and evaluation without making it a passive and repetitive exercise.

Methods: By employing several evidence based learning strategies, our committee developed and proposed a draft for an updated dental hygiene care plan which was then piloted in 2012-2013 at our institution.

Findings: Anticipated outcomes of this curricular component include students that will: 1) understand the rationale for the process of care, 2) review resources, 3) practice the 5 steps of the process of care, 4) refine decision making and evaluation, 5) develop independent learning, and 6) increase interdisciplinary collaboration. Preliminary findings indicated students were initially overwhelmed with new documentation but became more confident in their abilities. In our fully integrated dental setting repetitive and passive thinking and writing became replaced with higher order thinking, processing, and problem solving. Clinic assessment, diagnosis, planning, and implementation, and evaluation were enhanced. In particular, periodontal charting, health literacy, health behavior risks, cultural factors, and detailed interventions in the care plan were improved.
Significance: Our dental hygiene care plan can be used to enhance learning and guide the successful integration of the dental hygiene process of care in dental hygiene education and practice through the formation of comprehensive treatments developed by both dental hygiene students and dental students collaboratively working together.

E18.

EFFECTIVELY TRANSITIONING DIGITAL PHOTOGRAPHIC TECHNIQUE FROM THE SIMULATION LAB TO THE CLINICAL SETTING

Glenn K. Rochlen, Bruce Brandolin, Aaron Soeprono, June Weiss, David Hershkowitz

Today’s dental student has an array of choices in documenting dental cases. Since the decline of film cameras, digital photography is now routinely used in all aspects of esthetic cases from the initial visit to the final result. Dental students are introduced to the fundamental requirements of dental photography in our Simulation lab. Their experience is expanded when they begin their course in Orthodontics and Invisalign. In this course students learn exactly how many photographs are needed to properly evaluate a patient and capture images. The required views are of the occlusal, maxillary, mandibular, interdigitation, palatal, lingual, face on and extra-oral profiles. Students are taught to evaluate the images for discrepancies in symmetry, degree of tooth reveal, smile line and gingival contour. They are then required to practice and master these diagnostic skills on each other. When dental students begin their clinical training, they are often confronted with cases that require esthetic rehabilitation. In order to plan a complex case a series of diagnostic procedures must be completed. A smile evaluation form combined with study models, radiography and photographic documentation are all required for diagnosis. As treatment progresses digital photography is used to evaluate the wax up and provisionals. Students can then critique the images and determine how to best optimize results. The true test of a student’s mastery of skills is their ability to apply them to multiple platforms. The skills acquired in the Simulation lab and Invisalign course are then utilized in order to plan and document the case. Once again, these skills are used to plan and document progress in esthetic rehabilitation cases. The goal of every didactic course is for students to acquire fundamental knowledge for application in clinical care. Our objective is fully realized as students apply the information learned in the Simulation lab to clinical situations ranging from Orthodontics to esthetic rehabilitation.
E20.

INNOVATIVE INTERNSHIP OPPORTUNITIES IN A BACCALAUREATE DEGREE DH CURRICULUM
Rosemary Hays, Eva M. Lupovici, Cheryl Westphal Thiele

The baccalaureate degree dental hygiene (DH) curriculum is designed to pursue an area of focus, which is enhanced by Internship in DH Program Course. The purpose of these assignments is for the student to further develop interprofessional educational experiences, innovation, reflection, while assessing their future professional goals. The internship opportunities include areas of focus in Corporate, Research, Nursing, Education, Public Health, Geriatrics and Law/Ethics. Areas of focus are: A major pharmaceutical company, the students learn about research, dental product development, manufacturing and marketing strategies. Interprofessional educational experiences are achieved at the Colleges’ Nursing Faculty Practice. In corroboration with Nurse Practitioners, the student participates in a pilot program on interdisciplinary learning model for nursing, dental and hygiene students. Students and faculty develop strategies to promote greater interdisciplinary alliances in offering comprehensive holistic patient’s care all in one location. Another Internship with the Colleges’ Patient Advocate, student learns about laws governing student and licensed dental practitioners, and ethical issues of conflict resolution. The research Internship is at the College’s Research Center. Students participate in various funded projects. A student whose interest is public health is achieved at the Veteran’s Administration Hospital dental clinic, while those interested public health and the older adult can complete the internship at a Naturally Occurring Retirement Community (NORC). They work as a team member with a nutritionist, nurse and social worker to provide
on site care and lectures to meet the concerns of the older adult patient. Students interested in pursuing education are assigned to dental clinics at the College to teach the undergraduate DH students under faculty supervision. At the completion of each semester, the students share their internship experiences on the Blackboard Course site. All students stated that their internship empowered them to assess and reflect on their future professional goals, through innovative educational experiences.

E21.

TRENDS IN ACCREDITED DENTAL HYGIENE PROGRAMS TO MEET ECONOMIC EMPLOYMENT FORECASTS

Eva M Lupovici, Judy Kreismann, Rosemary Hays, Lisa Stefanou, Cheryl Westphal-Theile

Purpose: To assess changes implemented in accredited dental hygiene (DH) programs to meet the U.S.A. Labor Department employment projections of future job growths in the DH profession to year 2020. The dental hygiene profession has been named as one of the best careers based on the Bureau of Labor Statistics Matrix.

Method: The results of the last released 2010–2011 American Dental Association Survey of Allied Dental Education Data was used to compare to the surveys released in the past 5 years to assess the changes implemented in accredited DH programs in the U.S.A. to meet forecasts of future job growths in the profession.

Findings: Results of the 2010–2011 Survey indicate that there are 323 Accredited DH Programs, an increase of 14 or 4.5% from 2009–2010, and 12.9% from 2006–07. Of these, 86.1%, or 278 programs were public institutions whose tuition costs were one-fourth as compared to private educational institutions. Therefore, in 2010–11, the capacity for enrollment increased in 1 year by 6.2%, and 16.3% from 2006–07. For all programs, in 2010–11 the 1st year enrollment increased in 1 year by 2.8%, and by 7.9% since 2006–2007. The grade point (GPA) criteria in admission changed since 2007–08, a decline of 2% to 3% in several requirements, while high school overall GPA remained at 23%. However, the number of applications decreased in 2010–11 from previous year by 18%, as well as a 19% decreases in the number of students accepted.

Conclusion: DH accredited Programs have implemented changes to meet forecasts of future job growth in the DH profession in the U.S. from 2010 to 2020. There was an increase in the number of programs, with lower cost tuition. The grade point criteria for admission were lowered in some areas. The next released Survey will provide further information on changes implemented.
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