ABSTRACTS

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001 Sex determination in brazilian sample: qualitative or quantitative methodology?

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Interpol in 2014, standardized the process of human identification, dividing them into primary methods and secondary methods. The first ones allow to indicate the name of the individual and the seconds only facilitate the process, but they do not allow to establish the name, since they do not individualize the characteristics found. They are known as primary methods, the Datiloscopia / poroscopia, the examination of the dental signs and radiographic characters, the DNA analysis and the orthopedic plaques. The plates / pins carry the original number inserted by the manufacturer, being registered in the patient's chart in the hospital where the rehabilitation surgery was performed. As secondary methods Interpol defined physical anthropometry and facial reconstitution (bi, three-dimensional and three-dimensional computerized). In physical anthropometry one obtains the animal species, sex, age, ancestry and stature. Brazilian Anthropometry Forensic Anthropometry has sought during the last years the development of new mathematical models, as well as the validation of mathematical models in recent Brazilian samples, because in Brazil, mathematical models obtained from European individuals and from very old bone collections are used. Such models are not representative of the Brazilian population, which is extremely miscegenated and can generate many risks of error for the anthropologist, when affirming the sex, age, ancestry and stature. The use of forensic anthropometry allows time gain in the identification process, since it allows the association of qualitative and quantitative methodologies.

002 The dilemma of skeletal surgical modifications (feminization and masculinization) and their implications in the study of forensic physical anthropology.

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Facial Feminization is a set of surgical procedures usually composed of bone erosion of the forehead to diminish the angles, facial contour surgery, bichectomy, rhinoplasty, chinoplasty and osteotomies of the jaws, smoothing the Adam's apple and lowering the forehead (frontoplasty) . Already in masculinization, one can increase the frontoplasty (frontoplasty), as well as, to carry out the insertion of Adam's Pomo, through cartilage of the own rib. OBJECTIVES: This study aimed to review the worldwide literature on feminization and masculinization that mainly changes the original form of human facial bones. RESULTS / DISCUSSION: It was possible to identify that both feminization and masculinization are very widespread processes. Only one publication was found where the result did not meet the expectations contracted before the feminization process. CONCLUSIONS: Male subjects submitted to the feminization process will bring real losses to the process of establishing sex and ancestry, and may even make it impossible to establish the identity of the individual when reduced to the patient.

003 Study of internal measurements of the skull by means of computed tomography to determine sex and ancestry.

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Background: Anthropometry Physical Forensics is the area of science that performs linear and angular measurements aiming to assist in the process of identification offering police and judicial authorities estimates of sex, age, stature and ancestry. In order to reach this information, it is necessary to use the updated and generated mathematical models from national data. In Brazil, due to the extremely mixed population the models and international tables do not effect the expected results, can lead to errors in the establishment of the identification process. Aim: This work was sought a mathematical formula for determining sex, age and ancestry, by means of measurements obtained from computed tomography. Methodology: The measurements were taken {external portion of the optic nerve (on the right side to the left), of the lacrimal canal (right side to the left), from the center of the saddle Turcica to the Zígio (left side) to the center of the saddle Turcica to the Zígio (right side) Orbit height (left side) and the width of the orbit (left side) in 225 computed Tomographys of the Biobank osteological and CT Profº Eduardo Daruge da FOP/UNICAMP, through the software On Demand 3d ®. Results: It was obtained that all the measures carried out are dimorphic, but the results did not allow to establish a model that determines the ancestry. Conclusion: It was possible to obtain a mathematical model for the establishment of sex.

004 Sexual dimorphism through cranial measurements in computed tomography and cranial capacity.

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Introduction:The anthropometry physical forensics has been going through a series of changes, always in search of quality and reliability in the results. In this way, today in the collection of data by comparison of a mathematical model there is concern about the size of the sample (quantity of male and female acceptable, common ancestral type, among others), also with the statistical analysis to be carried out in order to obtain a model of logistic regression, and with the Aparotologia for the realization of the measurements (preferably digital compasses). Objectives: In this study, there were linear models and computed tomography and measured the cranial capacity to prove whether they are dimorphic and if there are selection of them with the ancestry. Methodology: For the realization of the measurements in computed tomography used the Software on Demond 3d ®. Measured 225 computed Tomographys of the Biobank osteol Prof. Eduardo Daruge of the FOP/UNICAMP. The linear measurements chosen were from Bregma to Básio (higher height), from Glabella to Metalambda (greater length), and from Eurio to Eurio (greater width). The cranial capacity was measured using a graph cylinder and soybean seeds, according to Grant's modified methodology. Results/discussion: It has been verified that all measurements and volume are dimorphic. A logistical regression model was obtained to determine sex. Could not get model to determine ancestry. Conclusion: The results obtained will allow the establishment of the sex with reliability and trust.

005 Degree of efficiency of a strategy for removal of deleterious oral habits.

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Background: Prolonged sucking habits may alter the normal development of the stomatognathic system, as it may have a negative impact on the child's orofacial and respiratory health. Disruption of the habit seems to be a difficult process for some families, who often need professional support. Aim: The purpose of this study was to show the operation of the Oral Habits Removal Program (PRHO), offered by the Center for Research and Dental Care for Special Patients - Cepae, Piracicaba Dentistry School - Unicamp, and investigate the success of this Program in the interruption of oral habits among its users. Methodology: In this study, 170 children aged 3 to 5 years, Cepae patients, who presented pacifier and bottle habits, were analyzed between 2006 and 2012. These children participated in PRHO, which consists of an initial consultation with a speech therapist and dentist and six telephone contacts with the mother, counseling about cessation of the habit, providing practical tips and affective support. Results: The data showed that the bottle (without pacifier association) was used by 56% of the children and the pacifier (without the bottle), by 19%. The highest frequency of interruption was found among children who used pacifiers only (97%). Conclusions: PRHO presented very satisfactory results of removal of oral pacifier and bottle habits among children from 3 to 5 years of age, with a simple and low cost strategy.

006 Complexity and challenges for the realization of the right to health through judicialization.

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Objective: To analyze the Health Judicialization in SUS. Introduction: The right to health has been widely discussed. In Brazil, principles of integrality, universality and equity guide public health programs and policies. Methodology: Exploratory, Descriptive study with data from 2nd instance obtained at the Court of Justice of São Paulo from 2006 to 2016. Were identified 180,050 cases, 63,523 related to SUS; 630 processes composed the final sample. Results: were categorized and analyzed by descriptive statistics; there was an increase in the number of cases of 1,535% between 2006 and 2016. A large demand for access to medicines (80.67%), 61% of drug demands not included in the official lists and 28.55% of drugs in the lists and free supply. Demand for high-cost drugs without registration at ANVISA corresponded respectively to 4% and 1%. Equipment (4.34%), food supplements (4.22%) and disposable diapers (2.46%). In 89.5% of the lawsuits, there was an unfavorable decision to the public entity, a concentration of lawsuits in 13 of the 645 municipalities of the State (60%), and 89% of the plaintiffs declared income hyposufficiency. Conclusions: The judicialization of health demands has not promoted advances in the realization of the rights to the health of the population since the litigation was only effective for the plaintiffs. It is not used as a tool for adjusting or modifying the efficiency of the state. The polarization of the discussions on the subject can mask problems of access, financing, management, technological incorporation, as well as acquisition, distribution and dispense of medicines.

007 Evaluation of the impact of oral health on the quality of life of patients attended at the psychosocial care centers adult in São Paulo - SP.

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BACKGROUND: Behavioral and psychosocial factors have a proven relationship with people's self-perception about their oral health. AIM: To evaluate the impact of oral health on the quality of life of patients with schizophrenia or major depressive disorders attended by public mental health clinics. METHODOLOGY: A cross-sectional study analyzed results from the Oral Health Impact Profile (OHIP-14) and demographic, socioeconomic, and behavioral data. The probabilistic sample of 753 users was recruited in 10 Adult Psychosocial Care Centers (CAPS) from September 2015 to July 2016. The selection of two centers within each of the five municipal health regions occurred through a random lottery. The exploratory analysis of the data was made by the calculation of frequencies, means and standard deviations. RESULTS: The mean OHIP - 14 score was 13.4 (SD 10.2), with the greatest impact on "physical pain" (3.3 ± 2.3) and "psychological discomfort" (2.8 ± 2, 2). In the characterization of the sample, individuals aged between 31 and 60 years (79.7%), unmarried (68.6%), who had completed elementary school and were diagnosed with schizophrenia (83.3%) predominated. The most prevalent behaviors were: non-use of tobacco (63.5%) or alcohol (97.2%) possibly related to the continuous use of psychotropic medications (98.8%), mainly antipsychotics (86.8% %). The daily frequency of dental brushing was unsatisfactory (≥ 1) in an expressive group of participants (37.3%). CONCLUSIONS: The use of subjective indicators such as OHIP - 14 helps to elaborate individual and collective approaches to improve the oral health of psychiatric patients.

008 Methodological aspects for evaluation of toothache in treatment with acupuncture.

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Background: Acupuncture studies use the Visual Analogue Scale (VAS) to evaluate pain reduction after used of acupuncture. Because pain is an aspect of difficult measurement, the use of an objective indicator can adequately reflect the effect of acupuncture. Aim: To evaluate if there is a change in cortisol levels in saliva after acupuncture. Methodology: Saliva samples will be collected from volunteer who seek out the FOP and CEO dental emergency service reporting acute tooth pain. A double blind randomized clinical trial. Saliva samples will be collected before and after the specific treatment of each group. Saliva collection will be performed using Salivette®. The patient will be asked to position the Salivette® under the tongue and move it in the oral cavity for 1 minute at both times (before and after acupuncture). After this time, the saliva will be stored in an identified tube. Saliva samples will be analyzed by the ELISA method using the Salivar Cortisol Kit® and will have their absorbance read at 450 nm on the spectrophotometer. Cortisol levels will be determined according to standard curves provided by the manufacturer, which will allow comparisons of the cortisol levels of the two moments. Results: It is expected that a concentration of the hormone cortisol in saliva decreased after the use of acupuncture, obtaining more accurate data, without subjective interference of the patient. Conclusion: It will be verified if the concentration of cortisol in the saliva can be used in researches that use acupuncture, if they are efficient and practical.

009 Unsafed abortion.

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Introduction: Although abortion is a criminal act in Brazil, it is possible through prevalence of abortion as a method of contraception. This procedure brings great harm to women and society, as well as to the public health system. Because abortion is illegal, when performed, it is performed in an insecure way, with low hygiene conditions and without medical supervision, the drugs used are of doubtful origin and without registration of use by the competent organ, leaving the women without support and guidance. Objective: to demonstrate the prevalence of induced abortions as a method of contraception, even if clandestinely. Methodology: This work is a review of the literature in the online databases and in the notebooks of the Ministry of Health. Results: Based on the literature review, the abortion illegality does not allow a correct calculation of the practice to know the dimension of unsafe abortion in Brazil, but it is estimated that between 729,000 and 1,25 million unsafe abortions occur annually in Brazil. That is, thousands of women risk their lives through unsafe abortion and 25% of them suffer serious complications for their health. These values may continue or even increase as the prevalence of women of childbearing age increases in the country. Conclusion: The opening of non-punitive dialogues on the subject and the need to introduce new public health politics are extremely necessary, thus avoiding new occurrences and even reducing the maternal death rate.

010 Pre-surgical acupuncture: a methodology with objective indicators to evaluate comorbidities.

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Background: Most of the acupuncture works use subjective indicators and visual measures to evaluate the complications of included third molar surgery. Aim: To present a methodology that uses accurate indicators in the clinical evaluations of edema, trismus and intraoperative bleeding after the use of acupuncture. Methodology: Randomized double-blind clinical study of split mouth with third molars in symmetrical anatomical positions. The surgical procedures will be divided into two phases with a 30 day interval. One phase will be performed with energy regulation with acupuncture (real protocol) and in the other a placebo protocol will be used. Edema and trismus will be evaluated seven days after surgery (in mm). In the edema, five facial distances will be made, such as jaw angle and lip commissure, and calculation of edema coefficient. In trismus the distance between that of the Upper Central Incisor and the Lower Central Incisor will be calculated. Intraoperative blood will be stored in a container with the saline used in the procedure. The surgical sucker will be connected to a graduated ml receptacle and connected to the vacuum pump. Blood volume will be calculated by decreasing the amount of serum used. Results: Accuracy of data, as there will be no subjective interference of the patient. Conclusion: It will be verified whether the objective indicators can be used in research using pre-surgical acupuncture, if they are efficient and practical.

011 Self-efficacy in the immediate postpartum period and its influence on breastfeeding on the 30th day of the child's life.

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Background: Lack of confidence in the act of breastfeeding would lead to early weaning, and that trust studied within the construct of self-efficacy. Aim: To evaluate the level of self-efficacy in breastfeeding during the postpartum and the association with the maintenance of exclusive breastfeeding in the first month of life. Methodology: The study was quantitative, prospective observational cohort of 210 women ascribed health facilities of the family, participants in the prenatal group. The women were addressed during the last trimester of pregnancy and answered the questionnaire containing socioeconomic and demographic data. Also in the first week of the child's life, women were addressed to answer the Self-efficacy instrument in Breastfeeding - Short Form (BSES-VB - SF) to analyze self-efficacy for maintenance of breastfeeding on the 30th day of life. Bivariate analysis was performed at 5% significance level to test the association between exclusive breastfeeding on the 30th day of life with socioeconomic, demographic, obstetric and self-efficacy in breastfeeding. Results: 49.5% of the sample consisted of primiparous women, 52% of children were delivered vaginally, with 81.4% of gestational time at term without maternal complications (78.6%) and mothers were breastfeeding will (95.2%) and the use of self-efficacy instrument on breastfeeding during postpartum, were associated with the maintenance of exclusive breastfeeding in the 30th day of life. Conclusions: The mothers with high and medium self-efficacy, detected immediately postpartum, helped the maintenance of exclusive breastfeeding in the first month.

012 Quality of life of caregivers of children with and without cerebral palsy.

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Background: Motor disorders present in children with Cerebral Palsy (PC) cause dependence, which may lead to a greater impairment of the Quality of Life (QoL) of the caregivers of these children compared to children without PC. Aim: To evaluate and compare the QoL of caregivers of children with and without PC. Methodology: A controlled cross-sectional study was conducted in João Pessoa-PB, with children aged 2 to 12 years with PC (G1, N=55), enrolled in rehabilitation institutions, and without PC (G2, N=165) enrolled in schools municipalities. The mean value of QOL and general health and domains of WHOQOL-bref questionnaire (physical, psychological, social and environmental) was calculated and the scores were transformed on a 0-100 scale, so that higher scores indicate better QoL. Mann Whitney ($p<0.05$) was used. Results: The mean and (standard deviation) of QOL and general health were 16.6(±4.2) and 14.5(±5.9) for G1, and 17.0(±5.0) and 17.6(±16.2) for G2. The physical, psychological, social and environmental domains presented, respectively, mean and standard deviation of 66.5(±14.4), 61.9(±14.9), 65.8(±11.5) and 50,3(±10.9) for G1, and 69.2(±27.1), 67.9(±17.0), 67.8(±18.3) and 50.7(±16,1) for G2. A significant difference was observed between the groups only in psychological domain of caregivers QoL (U=3025.5; p=0.004). Conclusions: The caregivers QoL of children with and without CP was similar in QOL and general health and in physical, social and environmental domains. Caregivers of children with CP had a impairment of QOL in psychological domain compared to caregivers of children without CP.

014 Prevalence of bruxism and quality of life in health workers.

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Backgroud: Bruxism is defined as the activity of tightening, grinding the teeth. Both stress and anxiety have been considered as initiating, predisposing and triggering factors of bruxism. Aim: To verify the prevalence of bruxism complaints in health workers and to correlate with quality of life in the work environment. Methodology: Data collection was secondary data from a public referral hospital in Piracicaba - SP in 2015. Data were collected: regarding oral health (bruxism, dental tightening and snoring), as regards the work environment (dissatisfaction with work, stress and unhealthy working environment). The analysis was performed through the descriptive measures (absolute and percentage frequencies). In order to study the associations between the variables of interest, the chi-square test with a significance level of 5% was used. Results: Of the total of 1400 employees, 192 files were filled out, mean age of 36.27 years (± 9.81), of which 171 (89.06%) were women. 21 (10.94%) male. Regarding oral health, 51 (26%) had complaints about bruxism, 80 (42%) had dental tightening, and 57 (29%) complained about snoring. Regarding the work environment, 25 (13%) reported job dissatisfaction,100 (52%) stress and 50 (26%) considered the work environment unhealthy. A positive ($p < 0.05$) correlation was found between bruxism and work and stress dissatisfaction, between dental tightening and job dissatisfaction, stress and unhealthy working environment, and between snoring and job and stress dissatisfaction. Conclusion: Most of the workers in the health area evaluated have some symptoms of bruxism associated with signs of stress and dissatisfaction with work.

015 Association of skeletal and dental aspects of malocclusion in quality of life: preliminary study.

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Beckground: The problems related to the bucomaxillofacial region lead to masticatory disorders, the individual's dissatisfaction with their oral conditions and consequently a negative impact on the quality of life. Thus, the relationship between oral health and quality of life leads to physical and psychosocial impacts. Aim: This study aimed on evaluating the association of dental and skeletal aspects of malocclusion in the quality of life related to oral health of triads patients for orthodontic treatment. Methodology: The 46 patients in the sample had dental and skeletal malocclusion evaluated at the beginning of the treatment. Dental malocclusion was determined by the Dental Health Component of the Orthodontic Treatment Need Index (IOTN-DHC). The skeletal malocclusion, by the cephalometric FMA,values, that evaluated the vertical skeletal pattern, ANB and AO-BO the skeletal anteroposterior pattern. All the quantities were obtained by the software Radiocef Studio 2.0. Oral health-related quality of life was measured by the Oral Health Impact Profile (OHIP-14). The variables were analyzed in a simple logistic regression model, estimating the gross odds ratios with the respective 95% confidence intervals. Results: There was no significant association in oral health related quality of life with sex of the individual ($p > 0.05$). There was no association in oral health related quality of life with dental malocclusion and skeletal aspects ($p > 0.05$). Conclusion: It was concluded that, according to this sample, that dental and skeletal aspects of malocclusion does not impact quality of life related to oral health.

016 Impact of anterior occlusal caracteristics in mixed dentition on quality of life.

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Background: The mixed dentition comprises the phase that major occlusal changes are occurring, changes that can affect the life of individuals. Aim: To evaluate the impact of occlusal caracteristics in the anterior region on oral health-related quality of life. Methodology: A cross-sectional study was carried out with 788 children enrolled in public schools, in the mixed dentition phase, and aged between 8 and 10 year-old. The clinical evaluation of occlusal caracteristics was determined by the Dental Aesthetic Index (DAI): crowding, diastema, anterior open bite, overjet, anterior crossbite and medial line deviation. Child Perceptions Questionnaire (CPQ8-10) assessed the impact of occlusal caracteristics on quality of life. The income and schooling of the parents were also evaluated. Variables with $p < 0.20$ in the simple logistic regression models were tested in multiple logistic regression models, with adjusted odds ratios being estimated at the respective 95% confidence intervals. Results: Black and brown children presented 1.48 (95%CI: 1.10-1.98); 1.54 (95%CI: 1.14-2.06) and 1.34 (95%CI: 1.00-1.80) times more likely to have a negative impact on oral symptoms, emotional well-being and social well-being, respectively.Children from families with lower income presented 1.46 (95%CI: 1.06-2.02); 1.71 (95%CI: 1.21-2.42) and 1.59 (95%CI: 1.14-2.21) times more likely to have greater impact on functional limitations, emotional well-being and social well-being, respectively. Conclusions: The occlusal alterations located in the anterior region had no impact on children's quality of life. However, the family income negatively impacted the functional limitations, emotional well-being and social well-being of the children evaluated.

017 Prevalence of psychosocial impairment in patients with temporomandibular disorders: a systematic review.

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BACKGROUND: Theories dealing with the aetiology and treatment of temporomandibular disorders (TMD) recognized the diminished role of occlusal anatomy and the importance of biopsychosocial factors in the multifactorial pathophysiology of TMD. Literature describes high rates of psychosocial impairments in different TMD populations, with important implications at the therapeutic level. AIM: This review aimed to summarize clinical trials assessing the prevalence of psychosocial impairment in TMD patients through the classification of the RDC/TMD Axis II. METHODOLOGY: PubMed and Scopus databases were explored, by using the Medical Subjective Headings (MeSH) and correlated terms as follow: ['temporomandibular disorder' (Mesh) or 'TMD'] AND ['incidence' (Mesh) or 'prevalence' (Mesh) or 'epidemiology' (Mesh) or 'diagnosis' (Mesh)] AND ['Axis II' or 'psychosocial']. Inclusion and exclusion criteria were applied. RESULTS: The search strategy provided 715 citations, from where 278 titles were considered as overlapping. By consensus, 31 papers were read in full text and finally, MORE quality assessment included 15 papers to review. RESULTS: It was possible to observe a broad range in the prevalence of moderate to severe SOM in patients with TMD, from 26.5% to 71.8% with or without pain items. Twelve studies presented data regarding DEP, and moderate to severe DEP was presented in 21.4% to 60.1% of the patients. GCPS from selected studies showed that most patients were rated as grade I or II, having low intensity or low disability pain. CONCLUSIONS: It can be concluded that psychosocial impairments such as SOM, DEP and GCPS have a relevant prevalence in TMD patients.

018 Ultrasonography findings of the temporomandibular joint in an individual evaluated by diagnostic criteria for temporomandibular disorders - case report.

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The aim was to evaluate the temporomandibular joint (TMJ) of a 26-years-old female diagnosed with temporomandibular disorder (TMD) using ultrasonography (US). Initially she reported pain in the forehead and around the ear, increased headache on chewing hard foods, hear noises on moving mouth; a year ago the mandible locked after yawning. She was clinically examined using Diagnostic Criteria for TMD (DC/TMD) diagnosing pain in the temporal and TMJ areas, click joint noise during mandibular movements, mouth opening of 52 mm, disc displacement with reduction without opening limitation. US of both joints was performed in closed and open-mouth positions. The linear array transducer of 38 mm (14MHz) was vertically placed around the tragus, perpendicular to the zygomatic arch and parallel to the mandible ramus. A magnetic resonance image (MRI) was obtained as a gold standard. The US images showed the articular surface of the mandibular condyle and the articular capsule as hyperechoic structures and the articular disc as a central hyperechogenic surrounded by a hypoechoic linear image. The joint space in the closed-mouth on the right side was 0,5mm and left side was 0,6mm; in the open-mouth the respective values were 0,4mm and 0,3mm. These measurements indicated a narrowed or thickened disc resulting from reactive arthritic or traumatic changes. Irregularities of the condylar surface were observed indicating advanced destruction of cartilaginous and osseous structures. Magnetic resonance confirmed the joint diagnosis. US allowed visualization of the anatomical structures of the TMJ and confirmed the clinical diagnosis by DC/TMD and MRI.

019 Electromyographic evaluation of rectus abdominis muscle during pilates exercise using different supporting bases.

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Background: Pilates exercise is basically aimed at the core muscles — rectus abdominis, internal oblique, and transverse abdominal muscles — which are partially responsible for spinal stability. The core is an integrated unit composed of 29 pairs of muscles that support the hip-pelvic-lumbar complex. It is directly related to the Pilates method, whose exercises aim to improve the strength and dynamic control of such muscles. Aim: To evaluate the electromyographic (EMG) activity of the rectus abdominis (RA) muscle during Pilates exercise on different trunk supporting bases. Methodology: Ten women (Pilates students) participated in the study. The EMG evaluation of the RA muscle was carried out during the double leg stretch (DLS) exercise on three different supporting bases. The data were normalized by the RMS value obtained from the peak torque of the maximal voluntary isometric contraction (MVIC). One-way repeated-measured analysis of variance (ANOVA) and Bonferroni tests were used to compare data concerning the supporting bases ($p < 0.05$). Results: statistically different %MVIC values among the mat and short box, regarding RA ($p < 0.05$). Conclusions: The short box increased the activity of the rectus abdominis (RA) muscle during Pilates exercise. The DLS exercise was able to challenge the stability of the trunk.

020 Comparative analysis of the elasticity modulus from winstar rats with osteoporosis.

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The osteoporosis is a degenerative disease characterized by the bone mass reduction and the bone microarchitecture deterioration, which rise the bone fragility and rises the fracture risk. This disease has more prevalence in fifty-year-old women. The study aim was described the mechanical characteristics of the bone from Wistar rat healthy and with osteoporosis. It was used 18 female rats (Rattus norvegicus albinus), from Wistar lineage, divided in two groups: SHAM, control group with 6 rats submitted in placebo surgery; OVX, experimental group with induced osteoporosis with 12 rats submitted in ovariectomy surgery. After the rats' maturation until the adult age, those was euthanized, and the right femur was removed. The collected material was submitted at 3 points flexion mechanical test at the bone diaphysis and the compression test at femur head in universal test machine Instron 4411. At macroscopic view, the fracture pattern of healthy bone was complete with elasticity modulus of 4.8 GPa while the fracture pattern of the osteoporotic bone was "fresh-brunch" with a elasticity module of 2.8 GPa; it was performed the Student's t test that showed the significative difference (p=0.00322). The osteoporotic bone is more fragile, that was need less energy to break with a elasticity modulus of 2.8GPa.

021 Long-term evaluation of botulinum toxin type A for aesthetic treatment.

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Background: Botulinum Toxin Type A (Botox) is one among the many procedures developed for facial aesthetic treatment, however, probably the most famous. Aim: Evaluate the long-term (6 months) effect of Botox in different facial aesthetic treatments. Methodology: This study was an aleatory, longitudinal and randomized clinical trial with 6 month follow-up. A total of 84 volunteers, 77 women (mean age ± 45) and 7 men (mean age ± 34.2) were assessed by self-report questionnaires. Patient satisfaction responses were recorded at since its first application on day 0, and after 14, 30, 60, 90 and 186 days. Results: The long-term evaluation indicated the most efficient duration for aesthetic treatments with Botox is up to 2 and at 3 months, independently of the muscle. The Kruskal-Wallis test presented statistical difference between 90 and 186 days by ($P<0.0001$), indicating reduction of effect after that time. However, the Kaplan-Meier log-rank test ($P<0.05$) demonstrated that aesthetic treatment with Botox has durability up to 186 days/6 months. Conclusions: Botox is a good choice for the aesthetic treatment. However, regardless of the muscle has effect up to 6 months.

022 3D morphometry of the mandibular canal for sex determination.

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Background: Sex determination is highly significant in human identification and some anatomical structures have important value in this search. The mandible, being the strongest bone of the skull and best preserved after death, is one of the most useful anatomical resources for estimating ancestry, sex, age and stature in fragmented human skeletal remains. Aim: to evaluate the sexual dimorphism in Mandibular Canal (MC) volume in Computed Tomography (CT). Methodology: We used 125 CT from adults dried human mandibles selected at random ranging in age from 19 to 100 years (48 females and 77 males). Software Mimics ® 17.0 was used to image segmentation and to create three-dimensional (3D) reconstruction to obtain the volume of the mandibular canal. Statistical tests used were: unpaired Wilcoxon-Mann-Whitney comparative test, considering the right and left mandibular canals separately. Results: showed no significant difference between the sides, $p>0.05$. The male distribution of the mandibular canal data was not parametric, considering the right canal separately. There was a statistically significant difference p-value of $1.26 \times 10\text{-}9$, showing that the volume of the mandibular canal presented sexual dimorphism. In conclusion, the volume is a parameter for sex determination.

023 Effect of high fluoride dentifrice on enamel demineralization adjacent to orthodontic brackets - in situ study.

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Background: Orthodontic patients are considered to be at high risk for developing dental caries and high fluoride dentifrice could be indicated for its prevention. Aim: This in situ study evaluated effect of high fluoride dentifrice (5,000 µg F/g) and fluoride-containing bonding material on enamel demineralization adjacent to orthodontic brackets. Methodology: In 120 bovine enamel specimens, brackets were bonded with OrthoCem® or Natural Ortho®, placed in palatal appliances with 1 mm of recess and worn by 10 volunteers. Plastic mesh was placed on specimens to promote biofilm accumulation. In three phases of 14 days each, three products were tested: dentifrice non-fluoridated, 1,100 µg F/g, and 5,000 µg F/g. Cariogenic challenge was established by sucrose drip 20% 8x/day. At the end of each phase, cross-sectional hardness analysis of specimens was performed. Statistical analysis was performed using two-way ANOVA and Tukey poshoc test and p set at 5%. Results: Lower lesion area in the specimens were observed for dentifrice 5,000 µg F/g ($p<0.05$). There was no significant difference for the other treatments ($p>0.05$). The results suggest that the bonding material did not influence the enamel demineralization. Conclusions: Dentifrice 5,000 µg F/g was effective in reducing enamel demineralization adjacent to orthodontic brackets.

024 Chemical characterization, antifungal and anti-inflammatory activities of brazilian organic propolis profile 6.

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Aim: To evaluated the Brazilian organic propolis 6 (BOP6) anti-inflammatory and antifungal activities; and chemical profile. Methodology: BOP6 were evaluated on: Anti-inflammatory assays (in vitro cytotoxicity, NF-κB activation and TNF-α release on RAW264.7 macrophages; and in vivo neutrophil migration and TNF-α release on mice); Antifungal assay (in vitro MIC on Candida albicans (MYA 2876), C. tropicalis (ATCC 750), C. glabrata (ATCC 90030) and C. parapsilosis (ATCC 22019); Chemical profile (total polyphenol and flavonoid contents and volatile compounds by GC-MS). Results: BOP6 was not toxic up to 100 µg/mL; and reduced the NF-κB activation and TNF-α release at 10 µg/mL in vitro. BOP6 was also effective in vivo, reducing the neutrophil migration and TNF-α release at 10 and 30 mg/Kg. BOP6 obtained lower MIC values on Candida species (100 µg/mL for C. albicans, C. parapsilosis and C. glabrata; and 200 µg/mL for C. tropicalis). Chemical evaluation showed that BOP6 exhibited a low amount of total phenolics when compared to other types of Brazilian propolis (17.59±0.77 mg GAE/g) and no flavonoids contents. GC-MS identified 22 terpenes (gama-muroleno, alfa-pineno, delta candineno and others), the sesquiterpene alcohol alpha-bisabolol, the phenolic compound p-hydroxybenzoic acid, 2 fatty acids (palmitic acid and oleic acid) and 3 aldehydes (hexanal, nonanal and pentanal). Conclusions: BOP6 has anti-inflammatory properties by reducing the NF-κB activation and TNF-α release, culminating in reduced neutrophil migration. BOP6 already has antifungal properties with lower MIC values on Candida species. These anti-inflammatory and antifungal activities may be attributed to the presence of terpenes and phenolic compounds.

025 Antioxidant and anti-inflammatory activities from super brazilian native fruit.

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Background:The Brazilian Atlantic rainforest (threatened by deforestation) is one of the richest in biodiversity in the planet, in which there is a large number of native fruit species which possess a high biological potential as a source of anti-inflammatory and antioxidant compounds due to their rich polyphenol content. Aim:We perform a screening with 11 unexplored Brazilian native fruits (BNF) in order to select the best one targeting the anti-inflammatory and antioxidant activities and the profile polyphenolic. Methodology:Hydroethanolic extract of 11 BNF were submitted to NF-κB activation in macrophage and neutrophil migration assays (n=6,CEUA#4371-1). Since the best BNF selected, we evaluated the cytotoxicity(MTT) and antioxidant activity for ABTS, peroxyl radical(ROO•) and hypochlorous acid(HOCl) radical scavenging capacity and deactivation of reactive nitrogen specie(NO•). Total phenolic content was measured and identified by LC-ESI-QTOF-MS. Results:From 11 BNF, the Eugenia neonitida (pitangatuba) was selected due promising anti-inflammatory and antioxidant activities. The E. neonitida extract(EnE) did not affect the cell viability and reduced the NF-κB activation($P<0.05$). EnE decreased the neutrophil migration at 10mg/kg($P<0.05$). As antioxidant activity, EnE showed 132.8±32.1µmol/gTE(ABTS•+), 15.2±3.0µg/mL(NO•), 86.4±9.7µmol/gTE(ROO•) and 10.4±0.6µg/mL(HOCl). The total phenolic content was 13.6±1.0mgGAE/g(Gallic-acid equivalent/miligram) and exhibited 21 phenolic compounds as flavonoids, ellagitannins, hidroxicinamics acids and derivates by LC-ESI-QTOF-MS. Conclusions:EnE inhibited the neutrophil migration through reduction of NF-κB activation, which may be related with the capacity of scavenging and deactivation of free radicals stemming the phenolic compounds composition. EnE is an important source of bioactive compounds acting in a selective target for inflammatory disease.

026 Antimicrobial and antibiofilm activities of organic honeys from the brazilian atlantic forest against oral streptococci.

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Background: Honey is a functional food that has been present in human diet since antiquity. Antimicrobial activity, antibiofilm, anti-inflammatory, tissue growth stimulation, deodorizing action and wounds debridement have been reported to honey. However, there are few studies of antimicrobial activity and no antibiofilm study on oral microorganisms. Aim: To evaluate the antimicrobial activity of eight samples of organic honeys from the Brazilian Atlantic Forest (named MO-1 to MO-8) against oral streptococci. Methodology: Honey was diluted in Mueller-Hinton medium (concentration ranging from 1-60%, w/v) and sterilized by filtration. The antimicrobial activity was evaluated by the microdilution technique in broth against Streptococcus mutans ATCC 700610, Streptococcus mitis NCTC 12261, Streptococcus oralis ATCC 10557, Streptococcus salivarus ATCC 7073, Streptococcus gordoni Challis, and Streptococcus sanguinis 3K36. The antibiofilm activity was evaluated in mature Streptococcus mutans biofilm, formed in a 96-well plate, in BHI with 1% sucrose. Results: All honey samples showed antimicrobial activity against all microorganisms. The most promising honeys were MO-1, MO-2, MO-3 and MO-7, exhibiting MIC and CBM at concentrations below 25%. For antibiofilm activity, the best results were for MO-1, MO-2 and MO-7, which caused total cell death at concentration 2x MIC. Conclusions: Organic honeys present promising antimicrobial and antibiofilm activities against oral streptococci, specially the varieties MO-1, MO-2 and MO-7. Chemical studies and mechanism of action evaluation are necessary to determine the antimicrobial potential of the components of organic honeys on oral streptococci.

027 Anti-fungal action of baccharis trimera (carqueja-amarga) essential oil on standard strains of candida spp.

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BACKGROUND: The increase of fungal infections associated with the selection of resistant fungi has led researchers to look for new bioactive substances or components as therapeutic alternatives. Based on the literature, medicinal plants of the genus Baccharis are promising in regard to new therapeutic alternatives, since it has been used in the treatment of several infections, including those caused by fungi. AIM: To evaluate the antifungal activity of Baccharis trimera essential oil against standard strains of Candida spp. METHODOLOGY: Minimal Inhibitory Concentration (MIC) and Minimum Fungicidal Concentration (MFC) were determined using standard protocols using the broth microdilution technique (CLSI M27-A2, 2008). RESULTS: Essential oil of B. trimera was effective against the tested strains, exhibiting MICs of 0.0625 up to 2 mg/mL, being the best antifungal effect found for C. krusei, C.rugosa and C. dubliniensis. The MFCs ranged from 0.25 to 2 mg/ml exhibiting fungicidal profile to 90% of the strains tested by relation to MICs. CONCLUSIONS: Baccharis trimera essential oil is biologically active against the Candida spp. strains tested, developed perpectives in the researches for bioative compounds for the control of fungic growth.

028 Antifungal activity of essential oils from eucalyptus spp.

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Background: The use of medicinal plants is an age-old practice where man sought to use natural resources to improve his health. The application of phytotherapy in dentistry has grown in recent years, aiming to obtaining products with higher therapeutic activity, lower toxicity, and biocompatibility. The incidence of resistance to antifungal treatment of Candida spp. has increased in the last decades, being a concern for health professionals. Resistance to antifungals makes treatment difficult, becoming a serious public health problem, which justifies the search for new alternatives with antifungal potential. Aim: The objective of this work was to evaluate the antifungal activity of the essential oils of Eucalyptus citriodora and Eucalyptus globulus against sixteen standard strains of Candida spp. Methodology: The minimum inhibitory concentration (MIC) of the essential oils was determined by the microdilution method in broth M27-A3 (CLSI, 2008) and the minimum fungicidal concentration was determined by the Gullo protocol (2012). Results: Both oils tested showed inhibitory activity on the planktonic cells of Candida spp. showing Inhibitory activities of up to 8 mg/mL, and inhibitory concentrations ranged from 0.125 mg/mL to 0.5 mg/mL for Eucalyptus citriodora essential oil and 1 mg/mL to 8 mg/mL for essential oil of Eucalyptus globulus. Conclusions: The essential oils from Eucalyptus citriodora and Eucalyptus globulus leaves are biologically active in a dose dependent manner against Candida species in their planktonic form tests opening new perspectives of researches on this field.

029 Effects of glucose on candida albicans biofilms during tissue invasion.

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Diabetic patients have higher prevalence of oral candidiasis than non-diabetic patients and have increased levels of salivary glucose, regardless if they are controlled or not. The study aimed to evaluate, in vitro, the effects of two glucose concentrations (0.1 mM glucose concentration in saliva under health conditions and 1 mM, glucose concentration in saliva of diabetic patients) on a Candida albicans biofilm grown on an epithelial monolayer. The experiment was conducted with four groups: GE (epithelial monolayer inoculated with C. albicans supplemented with 1 mM glucose), GC (epithelial monolayer inoculated with C. albicans, supplemented with 0.1 mM glucose), GCN (epithelial monolayer inoculated with C. albicans), and GCE (epithelial monolayer). It was analyzed the release of lactate dehydrogenase's (LDH), proinflammatory cytokines (IL-1α, IL-1β, GM-CSF, G-CSF and IL-6) and biofilm architecture by laser confocal microscopy. The data were statistically analyzed using the variance test and the Tukey-Kramer test. The level of significance was set at 5%. The release of LDH was not altered by the presence of glucose. For all cytokines the GC group was statistically higher than GCE. However, the GE and CG groups showed no difference between them. For IL-1α and IL6 the GE, GC and GCN groups were higher than GCE, demonstrating that the presence of the fungus was more important than glucose on the release of these cytokines. In the confocal analysis, GC presented denser biofilm compared to the other groups. Glucose does not seem to affect directly the behavior of C. albicans biofilm during tissue invasion.

030 Effects of paclitaxel and cisplatin on the viability of cancer stems cells in oral squamous cell carcinoma lines: preliminary results.

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Background: The most important malignancies of the oral cavity are squamous cell carcinomas (OSCC) that correspond to more than 90% of cases and the most common site is the tongue. OSCC treatment is surgery combined with radiation and/or chemotherapy, depending on the disease stage. Common chemotherapics used for advanced OSCC include taxanes (paclitaxel), anthracyclines, platinums (cisplatin), and antimetabolites. During the last decade, chemoresistence has been associated with the selection of more quiescent malignant cells identified as cancer stem cells (CSCs). Aim: Select the dose of Paclitaxel and Cisplatin to be treat two OSCC cell lines (SCC-9 ZsGreen and SCC-9 ZsGreen LN-1). Methodology: cell viability was determined by the standard MTT assay for paclitaxel and cisplatin in both cell lines. After serum starvation for 24 hours, cytotoxicity assays were performed with increasing micromolar concentrations individually tested for Cisplatin and Paclitaxel in each cell line for 48 hours. As controls were used cell culture media without any drug and media with the diluents (NaCl for Cisplatin and DMSO for Paclitaxel). Results: The inhibitory concentration to achieve 50% cell death IC (50) was determined for each compound in each cell line. The IC (50) ranged from 10.27μM and 12.3μM for cisplatin in SCC-9 Zsgreen and SCC-9 Zsgreen LN-1 respectively. Paclitaxel also reduced cell viability of both cell lines, however, not in a dose-dependent pattern. Conclusion: Our results demonstrate the efficacy of paclitaxel, cisplatin and orlistat for the studied OSCC cell lines, which will be determinant for CSC selection and characterization.

031 FGF-2 and FGFR-1 expression in oral epithelial dysplasia and tongue squamous cell carcinoma.

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Background: fibroblast growth factor-2 (FGF-2) and Fibroblast growth factor receptor-1 (FGFR-1) are associated with tumour invasiveness, cell proliferation, angiogenesis and metastasis potential in different types of cancer. Aim: to investigate FGF-2 and FGFR-1 expression in oral epithelial dysplasia (OED) and tongue squamous cell carcinoma (TSCC). Methodology: one hundred and sixty-seven cases were retrospectively selected, including 85 surgical specimens of patients with TSCC, and 46 incisional biopsies of TSCC and 36 OED. Tissue sections were submitted to immunohistochemical staining for FGF-2 and FGFR-1 and correlated with clinical data and patients' outcome. Results: FGF-2 and FGFR-1 were more expressed in high-grade OED than in low-grade OED. FGF-2 positivity in the inflammatory and mesenchymal cells of the stroma was associated with vascular invasion and worse prognosis, either in the overall survival (OS) and in the disease-free survival (DFS) analyses, in the univariate and multivariate models. FGFR-1 positivity in the stroma was correlated with lymph node metastasis and distant metastasis. FGFR-1 expression either in the malignant cells or in the stroma are strongly correlated with higher risks of death and local recurrence. Conclusions: taken together, our findings demonstrate that FGF-2 and FGFR-1 play an important role in OED and TSCC, and these proteins are associated with the presence of metastasis, local recurrence and survival rate.

032 Comparison of the effects of different fasn inhibitors on the cell cycle, apoptosis and morphology of scc-9 cells.

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Background: The fatty acid synthase (FASN) enzyme has emerged as a promising therapeutic target for the cancer treatment due to the differential expression between normal and neoplastic human cells. Aim: The aim of this study was to compare the effect of pharmacological inhibition of three diferente catalytic domains of FASN on the cell cycle and apoptosis and associate with the morphological alterations in SCC-9 cells . Methodology : SCC-9 cells were treated with C75, TCS and ORL (inhibitors of KS, ER and TE domains of FASN) for 24-48h and analyzed by flow cytometry and phase contrast microscopy. Results: FASN inhibition with C75, TCS and ORL, induced different effects on the morphology of SCC-9 cells. Cells treated with ORL showed a fusiform pattern. Instead, TCS induced the formation of cytoplasmic granules and C75 promoted a decrease of cell area. Also, the treatments reduced the number of cells in the S phase and increased the number of cells in the G0/G1 phase. Also, we observed an increase of apoptotic cells and a decrease of viable cells, which was observed in three different concentrations of all the drugs. However, TCS showed higher effectiveness in the apoptosis of SCC-9 cells. Conclusion : The morphological changes of each inhibitor was linked not only to the specific inhibition of FASN activity but also could be due to adverse effects caused by the drugs.

033 Incorporating compounds in restorative materials that modify streptococcus mutans virulence.

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This study evaluated the effect of Apigenin (A) and tt-Farnesol (T) on the resin composites (CO), resin cements (CE), and adhesives (Clearfil S3 Bond Plus - CS3; OptiBond S - OPT) properties; and on Streptococcus mutans virulence. A/T were added separately or in combination into CS3, OPT, CO and CE; and combined with fluoride into CO and CE. Dry-weight (DW), bacterial viability (BV), alkali soluble (ASP) and intracellular (IPS) polysaccharides were determined from S. mutans biofilms grown for five days. The effects were analyzed by flexural strength (FS) and modulus (FM) of CO and CE, dentin bond strength (BS) of CS3 and OPT (24h or 1 year of water storage), curing kinetics (CK) and polymerization rate (PR). The DW, IPS and ASP decreased when A, AT and ATF were added to CO and CE compared to the control group. DW decreased when A or AT were added to CS3 and when A or T were added to OPT. ASP decreased with the addition of A to CS3 and T to OPT. A or AT into CS3 decreased the IPS. No difference was observed for BV, except when ATF was added to CE. No addition interfered with BS, FS, FM, CK and PR. Addition of A and T to CO and CE significantly decrease the amount of DW and polysaccharides of S. mutans biofilm, which may impair S. mutans virulence. Addition of A or AT to CS3 showed better results, comparing to OPT, regarding the reduction of S. mutans biofilm virulence.

034 Evaluation of exposure to cigarette smoke and different toothpaste as modulator agents in enamel erosion.

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Objetive: Evaluate in vitro the effect of different toothpastes on dental enamel subjected to the erosion cycle after exposure to cigarette smoke or not. Methods: Bovine enamel specimens were allocated into twelve groups (n=12). For the in vitro simulation of smoking, half of the groups underwent an exposure cycle of 20 cigarettes per day for 5 days. Afterwards, all groups were submitted to a 5-day erosion cycle intercalated 4 demineralization (1min, 1% citric acid, pH=3.5) and remineralization (2min in toothpaste slurry) according to the group: NaF; SnF2; F/Sn/Chitosan; F/CaSiO3/Na3PO4; F/bioactive glass. Control group was immersed in distilled water. Surface microhardness (SMH) was measured initially, after exposure to cigarette smoke, and after the erosive cycle. At the end of the experimental cycle, surface roughness, profilometry and atomic force microscopy (AFM) were performed. Results: SMH increased in groups exposed to cigarette smoke ($p<0.05$). For SMH and roughness, according to the toothpaste used, there was no difference between the exposure or not the smoke of the cigarette ($p>0.05$). The F/Sn/Chitosan and F/CaSiO3/Na3PO4 groups presented the highest values of SMH ($p<0.05$). For profilometry and roughness, the lowest values were for the groups treated with SnF2 and F/Sn/Chitosan ($p<0.05$). AFM showed a lower demineralization pattern and depth of mineral loss for the F/CaSiO3/Na3PO4 and F/Sn/Chitosan. Conclusion: Cigarette smoke increase the enamel SMH but not decrease demineralization of the tooth enamel submitted to the erosion cycle. Smoking did not interfere with the action and effectiveness of toothpastes. The F/Sn/Chitosan toothpaste showed the best results against erosion.

035 Comparison of conventional and individualization bulk fill thecnique of fiber post by push-out bond strength: an in vitro study.

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Aim:The objective of this study was to evaluate the adhesion of fiberglass posts individualized with incrementally composite resin inside the root canal on the shear strength by push-out, through a controlled and randomized experimental study. Methodology: A hundred bovine incisors, sectioned, endodontically treated and separated between the treatment groups for the glass post cementation: G1- post + Scoth Bond Multi-Purpose (SBMP) + RelyX ARC (ARC) dual resin cement; G2- individual post by reline (Filtek Z250) + SBMP + ARC; G3- individual post by increments (Filtek Z250) + SBMP; G4- individual post by increments (Filtek Bulk Fill) + SBMP; G5- individual post by increments (Filtek Bulk Fill Flow) + SBMP. Each group contained 20 representative samples. The 10 samples for immediate test were subjected to shear resistance by push-out in a universal test machine, and the other 10 samples were subjected to the same test after the process of artificial aging (groups 6-10, respectively). The samples were analyzed under optical microscopy to classify fault patterns. The data was tabulated and ANOVA, chi- square and quantitative nanoleakage tests were performed. Results: Groups 2, 5 and 7 presented the best results in the mechanical test. The artificial aging process decreased the resistance of samples using composite resins. Group 2 and 5 presented a statistical difference between the other groups in the quantitative nanoleakage analysis. Conclusion: The fiber post cementation by bulk fill flow resin composite could be a promising technique compared to convention, but they present less longetivity.

036 Association of bleaching techniques in traumatized tooth treatment: 2-years of follow-up.

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The question of esthetics is a major concern in dentistry today. The color of the teeth is the most important factor in this balance, since the color harmony is perceived more immediately and quickly than other cosmetic anomalies. The single discolored tooth can be a challenge in obtaining an esthetic outcome in the anterior region. The aim of this clinical case report was to describe the association of bleaching techniques in a color changed tooth that was endodontically treated after dental trauma. A 30-year-old male patient sought the dental service of FOP/UNICAMP complaining about a darkened tooth with trauma history. After clinical examination and radiographic evaluation, it was verified that the 21 tooth presented a diffuse darkeness, and an atresic root canal. Initially, the endodontic treatment of the tooth was performed, and after 7 days, six sessions of internal bleaching were performed by using the Walking bleach technique, with an admixture of sodium perborate and distilled water. Subsequently, three external bleaching sessions were made on all teeth, using a 35% based hydrogen peroxide bleaching gel. Clinical and radiographic follow-up of 2 years and maintenance of external bleaching with 35% hydrogen peroxide were performed. Regarding color, a slight yellowing of the endodontically treated tooth was observed, which changed from B1 to B2 according to the Vita scale, however a bleaching session with 35% hydrogen peroxide was sufficient to restore smile harmony. In this case report this combined approach provided successful results attending the patient's expectations without causing any dental sensitivity.

037 Effect of thickness, shade and translucency of lithium disilicate ceramic on irradiance and knoop hardness of a light curing luting resin cement.

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Aim: To evaluate the influence of thickness, shade and translucency of a prenssable ceramic in the transmitted irradiance directly or through ceramic and Knoop microhardness (KHN) of a light-cured resin cement (RC) at different depths through or without ceramic restoration. Methods: Forty-five discs of IPS e.max Press (Ivoclar-Vivadent) with 0.5 mm, 1.5 mm and 2.0 mm thickness were obtained and assigned into 3 groups, according to translucency: HT, LT and MO in shades: BL2, A1 and A3,5 (n=5). One side of the ceramic disc surface was finished, polished and glazed simulating clinical situation. The irradiance (mW/cm^2) of Valo Cordless (Ultradent) light curing unit was evaluated with the potentiometer Ophir 10^a-V2-SH (Ophir Optronics) without (control) or by interposition of ceramic discs. The KHN of Variolink Esthetic (Ivoclar-Vivadent) was evaluated after 24 h of storage at two depths 100 µm and 700 µm (n=5), obtaining an average for sample/depth. Results: Data were submitted to ANOVA followed by Tukey's test ($\alpha=0.05$). The mean values were significantly influenced by the thickness ($p<0.0001$), shade ($p<0.001$), and translucency ($p<0.0001$) for irradiance and KHN and depth ($p<0.0001$) for KHN. Conclusion: Different thicknesses, shades and translucencies of ceramic reduce significantly the irradiance compared with control groups. The interposition of ceramic and increased thickness reduced significantly the KHN of RC. The 700 µm depth showed significantly reduced KHN for all variables tested compared to 100 µm. The increased ceramic opacity reduced the KHN values of the RC for thickness, shade and depth. Keywords: Ceramics, Prosthodontics, Resin Cements, Hardness Tests.

038 Surface degradation by s.mutans on high viscosity bulk fill composites.

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The aim of this study was to evaluate the influence of the degradation by S. Mutans biofilm on the surface properties: gloss (GU) and Flexural Strenght (FS) of high viscosity Bulk Fill composites. The composites used in this study were: Filtek Bulk-Fill (FBF), Tetric Evo-Ceram Bulk-Fill (TEC), X-traFil (XF) and Filtek Z350. 40 specimens with 10 mm x 2 mm were used for GU evaluation and 80 specimes (40 for initial assays and 40 for final assays) with 25mmx2mmx2mm for FS. After 24 hours, specimens of GU were polished and initial assay of GU (n=40), and FS (n=40) performed. All specimens were sterilized in ethylene oxide. The same specimens from GU (n=40) and new specimens from FS (n=40) were subjected to biological degradation by S. mutans for 7 days and GU and FS again measured. Data were submitted to axb factorial ANOVA with repeated measures (GU), axb factorial ANOVA (FS) and Tukey test ($p < 0.05$). There was significant interaction between the factors (material x biodegradation) related to FS, although for GU there was not significant. Biodegradation provided a significant decreased GU for all materials. The highest GU values were observed for Filtek Z350 (71.7;62) and FBF (69.0;64.6) and the lowest for TEC (61.4; 53.3) and XF (58.5;53.5). Concerning FS,degradation provided a significant decreased value for Z350. After Biodegradation XF showed the highest values compared with TEC and FBF, but only Filtek Z350 presented reduction of FS final values. Biodegradation decreased GU for all composites and decreased FS for Filtek Z350.

039 Influence of curing-light tip design on microhardness of bulk fill composites.

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Background: LED curing units may produce light in different wavelengths, and energy levels. There is concern about the lack of homogeneity of the light that irradiates the materials, due to photo-initiators, that may not be properly activated by an specific wavelength. Aim: To evaluate the effect of curing-light tip desing on microhardness of two bulk-fill composites. Methodology: The influence of two curing-light tip designs (Regular tip, RT, 680mW total output, and Homogenizer tip, HT, 592mW total output) of a Bluephase Style (9.3mm optical diameter at tip, Ivoclar-Vivadent) was tested using two bulk fill composites: SonicFill (SOF, Kerr Corp.) and Tetric EvoCeram BulkFill (TEC, Ivoclar-Vivadent). Composites disks (4mm thick, 10mm diameter) were prepared using silicone molds and light activated for 10s through a 0.5mm thick glass slide. The curing unit was always in the same position. Knoop microhardness (KHN) was measured at the specimen top and bottom surfaces, three times on the irradiance spot of each LED: two blue (456nm) and one violet (409nm). KHN of each composite was analyzed by 3-way ANOVA and Student´s test (α=0.05). Results: HT increased KHN of SOF at the violet LED on on the bottom surface, and for TEC at the top surface of all LEDs. KHN was significantly higher at the top than at the bottom for both composites. With both tips, the violet-light irradiated position showed lower KHN. Conclusions: Tip design may affect KHN of composites, especially for SOF. Non-homogeneity of light irradiation influenced KHN at the top and bottom surfaces.

040 Antibacterial activity and bonding ability of an orthodontic adhesive containing a functionalized monomer with triclosan.

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Background: The placement of fixed orthodontic appliances is still linked with a high risk of developing white-spot lesions. In order to reduce demineralization around brackets an antibacterial monomer (Triclosan metacrilate - TM) was incorporated to an experimental orthodontic adhesive (OA). Aim: The objectives of this study were to develop an experimental OA containing TM, to evaluate the influence of the addition of TM on shear bond strength (SBS), its ability to inhibit bacterial growth and the effect of the addition on enamel demineralization around orthodontics brackets in vitro. Methodology: Two experimental OA based on BISGMA/TEGDMA were synthetized: Control (OA without TM) and TMO (OA with TM). SBS of metal brackets bonded to bovine enamel surface was assessed after 1500 thermal cycles. Antibacterial activity against S. mutans was performed by colony counting. Enamel demineralization around brackets was evaluated by cross-sectional microhardness in enamel bovine blocks. Indentations were made under the bracket, at the bracket edge cementing-limit and 100 and 200 µm away from the edge. Indentations were also made in the enamel surface previously protect with nail varnish. In all of these positions, 6 indentations were made at depths of 10 to 90 mm from the enamel surface. Results: Clinically acceptable SBS values were found and the SBS was maintained after thermocycling. TMO significantly reduced bacterial growth. Significant difference in the demineralization around the brackets between Control and TMO was observed in some positions. Conclusion: The incorporation of TM in an OA added antimicrobial properties, inhibited caries in vitro, without altering the mechanical properties.

041 Modification of filler-matrix interphase of dental composites using reactive nanogels.

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Aim: To create an interphase between filler and resin matrix by nanogel addition to modulate shrinkage stress development. Methodology: Nanogels with different molecular weight (Mw) and glass transition temperatures (Tg) were synthesized and characterized by gel permeation chromatography and dynamic mechanical analysis. Fillers were treated with vinyltrimethoxy-silane and reacted with nanogels. Surface treatment was assessed by diffuse reflectance spectroscopy (DFTIR) and thermogravimetric analysis (TGA). Fillers treated with conventional methacryloxypropyltrimethoxy-silane were used as control. Composites (60wt% fillers) were formulated using nanogel-functionalized fillers and/or a similar nanogel freely dispersed in the resin (15wt%). Polymerization kinetics, rheological properties, volumetric shrinkage, stress and mechanical properties were evaluated. Results: Mw and Tg for Ng 1 (17.8kg/mol; 49oC), Ng 2 (182.3kg/mol; 65oC) and Ng 3 (19.3kg/mol; 28oC). Nanogel deposited on filler surface was estimated as 3±1wt% by TGA and verified by DFTIR assessing presence of methacrylate carbonyl and multiple aliphatic peaks. Viscosity was affected the most when higher Mw and Tg nanogel is used. All nanogels were able to significantly reduce volumetric shrinkage and stress, while degree of conversion and mechanical properties were kept similar to control. Nanogel functionalized fillers or nanogel additives in the resin reduced stress in 25±5% magnitude, and when both strategies were combined stress reduction was up to 40%. Conclusions: A nanogel interphase between filler and matrix significantly reduced stress. This approach can be combined with free nanogel additives in the resin phase to lower volumetric shrinkage and reduce overall stress of composites.

042 Membrane proteome characterization of periodontal ligament cell sets from deciduous and permanent teeth.

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Background: Physiological roles for the periodontal ligament (PDL) include tooth eruption and anchorage, force absorption, and provision of proprioceptive information. Despite the advances in understanding the biology of PDL cells, there is a lack of information regarding the molecular signature of deciduous (DecPDL) and permanent (PermPDL) PDL tissues. Aim: The present study was designed to characterize the membrane proteome of DecPDL and PermPDL cells. Methodology: Primary PDL cells were obtained (n=6) and a label-free quantitative proteome of cell membrane components was performed. Proteome findings were validated by qPCR and Western blot assays in fresh human tissues (n=8) and primary cell cultures (n=6). In addition, confocal microscopy was used to verify the expression of target factors in the PDL cell cultures. Results: Comparative GO enrichment analysis evidenced that most stickling differences involved "Endomembrane system" (PICALM, STX4 and LRP10), "Hydrolase activity" (NCSTN and XRCC6), "Protein binding" (PICALM, STX4, GPNMB, VASP, ESYT2 and LRRC15), and "Isomerase activity" (FKBP8). At the transcript level, PICALM, ESYT2 and LRRC15 were found to reproduce the proteome findings, whereas PICALM was confirmed in fresh PDL tissues. Furthermore, Western blot analysis confirmed increased levels of PICALM, LRRC15 and ESYT2 in cells and/or fresh tissues, and confocal microscopy confirmed the trends for PICALM and LRRC15 expression in PDL cells. Conclusions: We report the first comprehensive characterization of the membrane protein machinery of DecPDL and PermPDL cells, and together, our findings identified a distinct molecular signature for these cell populations.

043 Importance of patient compliance on success of rehabilitation treatment in primary dentition: a case report.

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An important component in maintaining dental health and reducing caries-risk is the practice of preventive measures. Dental caries is a biofilm-sugar dependent disease that causes progressive destruction of mineral content of teeth and presents a multifactorial etiology. It becomes crucial the patient's compliance and the relationship with the dentist to apply the information and reverse and control the disease. This case report describes the importance of patient compliance on success of treatment in 6-year-old male patient who looked for pediatric dentistry clinic of the Piracicaba Dental School. The treatment started in 2015 and during the anamnesis it was reported frequently nighttime bottle feeding with chocolate and brushing absence. After clinical and radiographic examination, the treatment plan included oral hygiene instruction, diet control and restorative treatment including pulpectomy with indirect restoration (55, 65, 75 and 84), teeth extractions (54, 52 and 62) with placement of space maintainer and direct restorations (74 and 63) and acetate crown (61 and 51). It was planned the patient's control but due to personal issues, it was left unattended for a year and a half. When the patient returned it was observed the presence of new active caries lesions, loss of the device and the need for a new treatment that included extractions of three teeth endodontically treated, a space maintainer and replacing the restorations of 61 and 51 teeth. The treatment was conducted and it was concluded that the patient/caregivers compliance is the most important factor to caries risk reverse and control the disease.

044 The relationship between anterior guidances and joint noises.

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Background: The attempt to associate joint noises and occlusion requires an understanding of their dynamics, the role of anterior guidances and their effects on musculature and joint. Aim: To evaluate the prevalence of anterior guidances (incisal and canine) and joint noises, associating them. Methodology: A total of 228 volunteers, aged 18-80 years (with complete dentition or belonging to Kennedy classifications III and IV), were selected from the screening service of the Piracicaba Dental School , UNICAMP. The volunteers were submitted to anamnestic evaluation and physical examination to investigate the presence of joint noises (through digital palpation and auscultation, performed with a conventional stethoscope) and the presence of incisal and canine guidances. Statistical analysis was performed using the Chi-square test with a significance level of 5%. Results: The prevalence of noise presented a statistically significant difference ($p < 0.0001$) when detected by palpation ($n = 161$) and by auscultation ($n = 205$). The incisal guidance was absent in 75% of the volunteers, there was no association between incisal guidance and joint noise. The bilateral absence of canine guidance was found in 81.14% of the volunteers, the unilateral presence of canine guidance in 13.16% and the bilateral presence in 5.70%. The canine guidances, considered together, showed a significant association ($p < 0.0001$) with joint noise. Conclusions: The use of different methods to detect joint noises revealed different results. The unilateral presence of the canine guidance was the condition that presented higher percentages of noise, while the bilateral presence, the smaller percentages.

045 Crown individualization as an alternative to fixed total prostheses implant-supported - hybrid protocol clinical case report.

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Background: edentulous patients rehabilitation with Brånemark protocol prostheses is traditionally acrylic resin based, which favors biofilm buildup and tooth wear, teeth individualization with ceramic crowns being an alternative towards these problems. Aim: describe a total fixed preparation implant-supported rehabilitation with individual crowns. Clinical case: female patient, 63 years old, showed aging signs on total fixed prosthesis in the acrylic resin protocol-type implants structures. In addition, the patient also presented an excessive biofilm accumulation. The replacement of the prosthetic portion for individual metal ceramics crowns for each dental element was performed. Subsequently, the total prosthesis diagnostic wax-up was performed with casting and transfers union were built using rigid metal rods united using Pattern (GC) resin. The diagnostic wax-up proof was realized along with the mini-pillar copings and the maxillomandibular register. In sequence, metal bar with preparations for the unitary crowns was made and tested. Artificial gingiva characterization was made with acrylic resin and the unitary metal ceramic crowns were made using STG system. The hybrid protocol was installed and finalized with individual crowns conventional cementation. Conclusion: rehabilitation with individual metal ceramic crowns presented better results when compared to the initial acrylic resin rehabilitation. The patient's smile esthetic and harmonization were improved, moreover the ceramic has better mechanical, chemical properties and reduces biofilm buildup.

046 Interrelation of signs and symptoms of temporomandibular disorders.

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Background : Temporomandibular disorder is a pathological condition that affects temporomandibular joints (TMJ) and masticatory muscles characterized by signs and symptoms associated with functional and structural disorders of the masticatory system. Aim : The objective of this study is to evaluate the relationship between TMD signs and symptoms, in volunteers who finished prosthetic treatment at the Dental Prosthesis Specialization Course Clinic at Piracicaba Dental School, University of Campinas. Methodology: The data were obtained by consulting 176 clinical records, randomly selected. All clinical records contained anamnestic, clinical and physical evaluations foreseen in the Center of Study and Treatment of the Stomatognathic System Disorders (CETASE) clinical record. The data were analyzed through one-dimensional contingency table complemented by the chi-square test. Results: The results showed a high association rate between all signs and symptoms of TMD studied ($p \leq 0.05$). Conclusion: Difficulty opening the mouth, TMJ pain, fatigue on awakening, fatigue on chewing, spontaneous pain in the masseter muscle, pain on palpation in the temporal muscle, pain on palpation in the masseter muscle, pain on palpation in the sternocleidomastoid muscle were the signs and symptoms with the highest association rate ($p \leq 0.000$).

047 Marginal fit of lithium disilicate crowns fabricated by milled wax pattern.

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Background: Different processing methods of a same material as lithium disilicate, are presented nowadays. Each method can show advantages or disadvantages in certain aspect as marginal fit, one of the most concerns in the clinical practice. Aim: This study compared the marginal fit of CAD/CAM lithium disilicate crowns and heat-pressed crowns fabricated by milled wax pattern. Methodology: From a virtual mandibular first molar CAD, sixteen crowns were milled, eight directly from lithium disilicate blocks and eight from a wax block. The milled wax patterns were afterwards invested and heat-pressed with a lithium disilicate ingot. The milled crowns were positioned in a universal abutment and had its marginal fit measured in its four faces; buccal, lingual, mesial and distal. Results: The mean misfit for the heat-press group was 37.64+-15.66 µm, statistically different ($p = 0.0068$) from the CAD/CAM group that presented a mean of 64.99+-18.73 µm. Conclusion: The milling of wax patterns for subsequent inclusion and obtaining of heat-pressed crowns is an option to obtain restorations with excellent marginal fit. Although this technique has surpassed direct milling in ceramic blocks, the latter could also be used with safety.

048 Evaluation of the quality and adaptation of metal frameworks for removable partial dentures obtained by additive manufacturing and conventional methods.

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Background: Additive manufacturing (AM) has been presented as a process to fabricate complex geometry parts with minimal waste production. Aim: The aim of this study was to evaluate the final adaptation of the removable partial denture (RPD) metal framework and the quality of two different additive manufacturing (Mix Group or Vat Polymerization) n=6; (Additive Group or Powder Bed Fusion) n=6 compared to the traditional method (Control group or lost wax technique) n=6. Methodology: A Kennedy Class III, subclass 2, partial edentulous mandible arch was used as the master model. For the Control Group, the manufacture of the frameworks followed the steps of a traditional technique. For Experimental Groups, the frameworks were manufactured by scanning stone casts and design followed by the additive process. The three techniques were evaluated by radiographic analyses of the different radiopacity areas and the adaptation was evaluated by photographs observing the gaps between the framework and the surface of the teeth. Results: An average of the sum of the areas of different radiopacity did not differ statistically between the techniques of fabrication of the framework ($p>0,05$, One way ANOVA, Turkey post test). The mean of the sum of the areas of miss adaptation was higher in the posterior area and lower in the anterior, independent of the manufacturing technique ($p<0,05$, Unpaired Test t). Conclusions: Based on the results of this in vitro study, the quality and the adaptation of metal frameworks produced by AM are similar of those structures produced by the traditional technique.

049 Friction coefficient of bone-titanium interface affect short implant biomechanics.

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Background: Short implants biomechanical analysis in studies using finite element analysis (FEA) was evaluated according arbitrary values of friction coefficient (FC). Different bone types and titanium surface treatments can alter the FC on the bone-implant interface. Aim: Determine bone-titanium interface FC and analyze influence on short implants biomechanics with different surface treatments under immediate loading. Methodology: Bovine cortical and Cancellous bone and titanium as counterpart, with different surface treatments (MAC = machined; SB = sandblasted and SB + AE = sandblasted followed by acid attack) were used as tribological pairs ($n = 13$). A load of 10N is applied on counterpart during the horizontal displacement (1 mm/sec). Then, a short implant model was simulated. The FC results simulate short implants biomechanical behavior with different surfaces in immediate loading. The force applied was 49N on oclusal of the crown. The values were evaluated according to shear stress and maximum principal strain to the bone and Von Mises forces for implants. Results: The surface SB + AE were larger (0.415) than surface SB (0.358) and MAC (0.0314) for both bones. The surface roughness shown the values of SB and SB + AE without statistical difference. The surface SB + AE showed a greater compression and wear, but in deformation and tension was lowest compared surface SB in cortical bone. In Cancellous bone, the surface SB + AE presented lowest in all evaluations. Conclusion: Different surfaces treatments alters FC on implant-bone interface and different FC can affect short implants Biomechanics under immediate loading.

050 The direct iris painting technique and vinyl acetate as a sealant material lower the mirroring index of prosthetic eyes.

Raíra de Brito Silva*; Bruna Gabriela Araújo Ximenes; Thaís Cristina Sousa Emídio; Celia Marisa Rizzatti Barbosa.
FOP - UNICAMP

Background: The aesthetic impact of ocular reabilitation depends on the disguise obtained with artificial íris Aim: The shortage of detailed analysis of ocular prosthesis's "mirroring and sealant" got us to test, through an in vitro study, whether iris painting technique and sealant material affect the mirroring of prosthetic eyes Methodology: Sixty specimens were tested by these groups (n = 10): DS (direct paint technique / vinyl acetate sealing); DM (direct painting technique / sealing with monopoli; DC (direct painting technique / cyanoacrylate and polymer sealing); IS (indirect painting technique / vinyl acetate sealing); IM (painting technique direct / sealing with monopoli), IC (indirect painting technique / cyanoacrylate and polymer sealing). The quantitative analysis for the mirroring was performed by a stereomicroscope and by the software "Image J". The qualitative analysis was carried out in the scanning electron microscope to show the behavior between the resin/ink/seal layers of each study group, previously cut in half Results: The mean of mirroring as function of sealing material and painting technique for direct technique (9.75mm^2) was better than the indirect (13,87mm^2). Among the sealing materials, DS group was the best because had no mirroring (0mm^2). The qualitative data showed the most harmonic and crack-free relationship between the acrylic cap and the paint and with the sealant material and the scleral resin for the DS Group. Conclusions: The direct technique with acrylic paint and vinyl acetate as a sealant material presented the lowest indexes of mirroring, so it is the best results for clinical application.

051 Masticatory efficiency and patient satisfaction with treatment of elderly people with single-implant overdentures.

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Background: Nowadays, the development of simple and low-cost implant therapies for edentulous elderly has been the goal of dental research community. Aim: This paired clinical study evaluated masticatory efficiency and patient satisfaction with treatment in endentulous elderly before and after rehabilitation by a single-implant overdenture (SIO). Methodology: Twelve elderly (mean age, 68.66 ± 5.22 years) with reabsorbed residual mandibular ridges were included. Subjects received new upper and lower conventional complete denture (CD). After two months of patient adaptation to the new CD, variables were measured. Masticatory efficiency was measured by the sieving method with a silicone-based artificial test food. Satisfaction with the new CD was verified by applying a visual analogue scale to answer a validated questionnaire. Thus, each participant received one osseointegrated implant, which was placed in the symphysis region. After three months of implant osseointegration, the CD was transitioned to a mandibular SIO. Subjects used the SIO for two months and then variables were reevaluated. Student t-test and Wilcoxon were used to analyse data. Results: Transition to the SIO greatly increased masticatory efficiency (P < .0001). Participants reported increased satisfaction with retention after SIO treatment. Conclusions: the SIO improved masticatory function compared to the conventional CD in elderly individuals with reabsorbed residual ridges.

052 Influence of sleep bruxism on the oral health-related quality of life and sleep quality.

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Background: SB prevalence is correlated with high anxiety and severe stress, which have an important role in quality of life, affecting daily activities and sleep patterns. Aim: This study aimed to evaluate the oral health-related quality of life (OHRQoL) and sleep quality of bruxers and non-bruxers. Methodology: Sixty volunteers were selected and diagnosed as with or without sleep bruxism (SB). SB diagnosis was clinically performed and also confirmed by the Bruxoff portable device. The Oral Health Impact Profile (OHIP-14) was used to access the OHRQoL. Sleep quality was obtained by the Pittsburg Sleep Quality Index (PSQI) and Epworth Sleepiness Scale (ESS) questionnaires. Data were analyzed by one-way ANOVA, with a significance level of 5%. Results: The mean OHRQoL of bruxers was four times worse than controls (p = 0.003), with an effect size (ES) of 1.58. In addition, volunteers with SB showed the highest PSQI scores (p = 0.002) and excessive daytime sleepiness (p = 0.013), compared to controls. Conclusions: SB may be associated with a negative impact on OHRQoL and sleep quality.

053 Influence of frailty phenotype on mastication and oral sensory function.

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FOP - UNICAMP

Background: Frailty is a syndrome characterized by loss of muscle mass and reduction in elders resistance, which may affect the functional capacity of the masticatory muscles. Aim: To investigate the maximum bite force (MBF), masticatory performance (MP) and oral sensory function (OSF) in elders presenting or not frailty phenotype (FP). Methodology: Twenty elders were divided into two groups: experimental (with FP, n = 10) and control (without FP, n = 10), diagnosed by Fried criteria. All volunteers received new complete dentures (CDs) and after 2 months of adaptation the variables were evaluated. The MBF was measured by means of pressure sensors positioned bilaterally on the occlusal surface of the artificial first molars; MP was obtained by the sieving method and expressed as the median particle size (X50); and the OSF was evaluated by using the oral stereognosis test. Data were submitted to exploratory analysis, and comparisons between groups were performed by one-way ANOVA, Likelihood ratio chi-square and Student T-test. Results: Frail elderly people showed reduced MBF (p = 0.008) and higher X50 (p = 0.006). There was no difference in the OSF of frail and non-frail elders (p = 0.807). Conclusions: Frailty phenotype decreases the MBF and MP, but has no influence on OSF in elders.

054 Biomechanical evaluation of different implant-supported system: reliability between photoelasticity and finite element analysis.

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BACKGROUND: The combination of photoelastic and finite element analyses for the investigation of biomechanical behavior of implant-supported system is recommended in the literature; however, a comparison between both under the same simulation is warranted. AIM: To evaluate the reliability of both methodologies in the effect of different marginal misfit levels on the stresses generated on two different implant-supported systems. METHODOLOGY: Two photoelastic models were obtained: model C (two conventional implants, 4.1×11 mm); and model S (a conventional and a short implant, 5×6 mm). Ten three-unit CoCr frameworks were fabricated simulating a superior first pre-molar (P) to first molar (M) fixed dental prosthesis. Different levels of misfit (μm) were selected based on the misfit average of them obtained by the single-screw test protocol: low (<20), medium (>20 and <40) and high (>40). Stress levels and distribution were measured by photoelastic analysis. In the in silico analysis, maximum and minimum principal strain were recorded numerically and color-coded for the models. Von Mises Stress was obtained for the components. RESULTS: Photoelasticity and FE analyses showed similar tendency where the increase of misfit generates higher stress levels despite of the implant design. The short implant showed lower von Mises stress values; however, it presented stresses around its full length for both analysis. Model S showed higher μstrain values for all simulated misfit levels. The type of implant did not affect the stresses around pillar P. CONCLUSION: Photoelasticity and FEA are reliable methodologies presenting similarity for the investigation of the biomechanical behavior of implant-supported rehabilitations.

055 Citric acid reduces oral biofilm and does not favor bacterial recolonization of titanium: an in situ and in vitro study.

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BACKGROUND: Citric acid (CA) has been considered an effective antimicrobial agent against biofilms formed on titanium. However, CA treatment can affect the material topography facilitating new bacterial adhesion. AIM: This study evaluated the antimicrobial action of citric acid (AC) on the biofilm formed in the oral cavity and investigated its effect on new bacterial adhesion. MATERIALS AND METHODS: In the in situ study, volunteers wore a palatal appliance containing titanium discs to reproduce biofilms formed in the oral environment. The discs were exposed to the following treatments: immersion in 0.9% NaCl solution (control); 40% CA immersion; and 40% CA rubbing. Afterwards, the discs were exposed to new bacterial adhesion with Streptococus sanguinis. Colony-forming units (CFU) counts and scanning electron microscopy were conducted. Discs without biofilm formation but exposed to the treatments were characterized by profilometry and 3D laser scanning confocal microscopy. One-way ANOVA followed by Tukey's HSD test was used to compare all groups (α=0.05). RESULTS: The CA groups showed a significant reduction (≈ 5-log reduction) in the biofilm formed in situ compared with the control group (p<0.05), but no difference was found between CA application methods (p=0.680). The acid treatment statistically increased the surface roughness (p<0.05), however this physical change did not favor the re-colonization of bacteria (p=0.629). CONCLUSION: Citric acid seems to be an effective clinical alternative for the removal of biofilm, the main etiologic factor in dental implant failure, without favoring new recolonization of bacteria.

056 Biofunctional coating for a TiZr alloy: surface, electrochemical, and biological characterizations.

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BACKGROUND: New implant materials and surfaces have been designed in recent years to achieve greater osseointegration and treatment success. Plasma electrolytic oxidation (PEO) is one of the most promising biofunctional treatments. AIM: To synthesize a biofunctional coating for a Ti15Zr alloy to improve the surface characteristics, the electrochemical behavior, and the biological properties of this implant material. METHODOLOGY: Ti15Zr discs (15 mm in diameter x 1 mm thickness) were obtained in three versions: machined, SLA®-treated (control groups), and modified by PEO (experimental group). Surface features such as topography, composition, surface roughness, surface free energy, and hardness were assessed. Electrochemical tests were conducted with body fluid solution (pH 7.4). The albumin protein adsorption was measured by the bicinchoninic acid method, and the adhesion of Streptococcus sanguinis was determined. RESULTS: The surface treatments modified the material's topography. SLA promoted surface roughness higher than that of the other groups (P<.05), whereas PEO surfaces presented the highest values of hardness and surface free energy (P<.05). PEO increased the polarization resistance and the corrosion potential, and decreased capacitance and corrosion current density values (P<.05). In addition, plasma treatment improved the albumin adsorption (P<.05) without being favorable to biofilm adhesion. CONCLUSION: PEO appears to be the most promising alternative for Ti15Zr alloys, since it improved surface characteristics and electrochemical behavior, as well as enhancing the adsorption of albumin on the TiZr material surface with fewer tendencies to bacterial adhesion.

057 Influence of spark erosion on the marginal misfit of fixed complete denture frameworks veenered with two resin materials.

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Spark erosion is a fit corrective technology that can be used even after the veneering material has been applied. The framework does not require sectioning, thus preserving its mechanical resistance. The aim of this in vitro study was to evaluate whether spark erosion is effective in improving marginal fit on screw-retained CoCr fixed complete denture (FCD) frameworks veneered with two resin materials. Twenty CoCr frameworks of FCD were fabricated and divided in two groups (n=10): HR (heat-polymerized resin) and LR (light-polymerized resin). The marginal misfit was measured by single-screw test protocol, with aid of 1-mm precision microscope at ×120 magnification. The measurements were performed at 3 different periods: after framework fabrication (baseline), after veneer application, and after spark erosion. The results were submitted to a 2-way ANOVA and Tukey test (α =0.05). Marginal misfit values of HR and LR groups exhibit significant difference after veenering application and after spark erosion (p<0,001). The spark erosion process was effective in improving the fit for all groups (HR: p<0,001; LR: p=0,036). The spark erosion is a sucessful fit corrective procedure to improve biomechanical behavior independently of the veneering material used.

058 Biomechanical behavior of two and single implant-retained mandibular overdentures with conventional or mini implants.

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Background: Alternative designs of overdentures have emerged such as the mini implants and the single implant retained mandibular overdentures. Understanding their biomechanical behavior compared to the two conventional implants retained mandibular overdentures, may provide important information to guide researchers and clinicians. Purpose: The aim of this study was to investigate the biomechanical behavior of two and single implant-retained mandibular overdentures with conventional or mini implants by finite element analysis. Methodology: Four 3-D finite element models were constructed with the following designs of mandibular overdentures: two (group 2-C) and single (group 1-C) conventional external hexagon implants with ball/O-ring attachment and two (group 2-M) and single (group 1-M) one-piece mini implants. A 150-N axial load was applied bilaterally on the first molar. Overdenture displacement, von Mises equivalent stress, and maximum principal stresses were recorded numerically, and then color-coded and compared among the groups. Results: The overdenture displacement was higher for the 1-M and 2-M groups when compared to 1-C and 2-C. Irrespective of the type of implant, single implant groups presented higher values of stress on the implants than the two implant groups, ball attachment, housing/O-ring, and peri-implant cortical bone. Mini implant overdentures presented lower stress values on the implants, housing/O-ring, and peri-implant bone than the conventional implant overdentures, independent of the number of implants. Conclusions: Two implants exhibited better biomechanical behavior than single implant-retained overdentures, irrespective of the type of implant. The mini implants demonstrated higher overdenture displacement and lower stresses than conventional implant overdentures for single- and two-implants retained overdentures.

059 Development and electrochemical behavior of a quaternary titanium alloy with biomimetic coating for dental implants.

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β-titanium (Ti) alloys with non-toxic elements, such as niobium (Nb), zirconium (Zr) and tantalum (Ta), have been highlighted as a novel potential implant material for clinical application. Surface functionalization has been shown to be an excellent method to improve Ti and its alloys properties. AIM: To evaluate the microstructural, mechanical, chemical and electrochemical properties of the experimental Ti-35Nb-7Zr-5Ta (in wt%) alloy, presenting two surface features: machined and treated with Plasma Electrolytic Oxidation (PEO). METHODOLOGY: Ti-35Nb-7Zr-5Ta (in wt%) alloy was developed by melting pure metals and machined in discs (10x2 mm). Commercially-pure Ti (cpTi) and Ti-6Al-4V were used as controls. The surface characterization was assessed by topography, chemical composition, crystallography, roughness, surface free energy, hardness and elastic modulus analyzes. Electrochemical tests were conducted using a 3-electrode system in a body fluid solution (pH 7.4). Data were analyzed by two-way ANOVA and Tukey Test (α=.05). RESULTS: The experimental alloy was successfully synthesized and exhibited β microstructure, with lowest hardness and elastic modulus (p<.05) for the machined surfaces, besides electrochemical behavior similar to that of the other materials. Porous and bioactive surfaces containing calcium and phosphorous were created by PEO treatment with statistically significant increase of roughness, surface free energy, hardness and electrochemical stability (p<.05). cpTi and TiAlV PEO surfaces presented Ti crystalline phases, while the experimental alloy exhibited an amorphous phase. CONCLUSION: The TiNbZrTa alloy is a good option for dental implants manufacturing, since it presents low elastic modulus and surface properties, and is suitable for PEO application with remarkable electrochemical stability.

060 Effects of lower complete dentures use on masticatory muscles and chewing function.

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FOP - UNICAMP

Background: Total edentulism can alter masticatory function heading to facial muscles changes due to a modified food pattern, described as poor in fibrous and consistency. Aim: To assess whether the non-use of lower complete dentures (CD) affects chewing function and masseter muscles thickness of edentulous subjects. Methodology: Fifteen completely edentulous elderly who wore only the upper CD were selected at Piracicaba Dental School/ Unicamp. All variables were analyzed before (baseline) and after (1, 3 and 6 months) the adaptation to the new upper and lower CD. The masticatory function was analyzed by means of masticatory performance calculation (X50), performed after Optocal grinding for 40 cycles and analysis of the material by the sieving system. The thickness of masseter muscles in relaxed and maximal voluntary contraction states was measured by ultrasound equipment. Data were submitted to the Shapiro-Wilk normality test and submitted to repeated measures ANOVA and Tukey-Kramer post-hoc tests, with a significance level of 5%. Results: The X50 values decreased after 1 month of new CD use, evidencing a rise on masticatory performance (p <0.05) if compared to baseline assessments. Besides, masseter thickness (p <0.05) increased during relaxed states after 3 months using the new CD, while for maximum voluntary contraction, the thickness raised just after 1 month of insertion of the new CD. Conclusions: The use of new upper and lower CD improves masticatory function and increases masseter thickness of edentulous elderly who did not use the lower CD.

061 Influence of adhesive debonding simulation for intra-radicular post stress analysis.

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Background: Adhesion loss between tooth and restoration precedes the catastrophic failure in vitro. So, the understanding of this behavior in computational studies could be necessary for better correlation to experimental data. Aim: Elucidate the influence of debonding on stress distribution for intra-radicular restorations. Methodology: Five intra-radicular restorations were analyzed by finite element analysis (FEA): MP=metallic post; GP=glass fiber post; PP=pre-fabricated metallic post; RE=resin endocrowns; CE=single piece ceramic endocrown. Two cervical preparations were considered: no ferule (f0) and 2mm ferule (f1). Contact friction and separation between interfaces was modeled where bond failure occurred. Mohr-coulomb stress ratios (σMC ratio) and fatigue safety factors (SF) for dentin structure were compared with published strength values, fatigue life, and fracture patterns of teeth with intra-radicular restorations. Results: The σMC ratio showed no differences among models at first step. The second step increased σMC ratio at the ferule compared to step 1. At the third step, the σMC ratio and SF for f0 models were highly influenced by post material. CE and RE models had the highest values for σMC ratio and lower SF. MP had the lowest σMC ratio and higher SF. The f1 models showed no relevant differences among them at the third step. Conclusion: FEA most closely predicted failure performance of intra-radicular posts when frictional contact was modeled. Results of analyses where all interfaces are assumed to be perfectly bonded should be considered with caution.

062 Bite force and self-perception of oral health of elderly rehabilitated by single-implant mandibular overdentures.

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Background: The conventional mandibular dentures are frequent target of complaint of patients with reabsorbed alveolar ridge, due to insufficient retention and stability. An option to improve these factors is the association with dental implants, making them implant-supported overdentures. Aim: This paired clinic study compared the maximum bite force (MBF) and the self-perception of oral health of elderly rehabilitated by conventional complete dentures (CD) and single-implant mandibular overdentures (SIO). Methodology: Initially, 12 edentulous elderly with residual ridge reabsorbed were selected (mean age=68.66 ± 5.22 years). A set of new CD was installed and after, the conventional mandibular denture was transformed into a SIO, installing one osseointegrated implant in the mandibular midline region. After two months using each prosthetic treatment, the evaluation of MBF and the self-perception of oral health were performed. The MBF was evaluated by pressure sensors and the self-perception of oral health by application of Geriatric Oral Health Assessment Index (GOHAI). Data of MBF were analyzed by Student's t test and data of self-perception of oral health were analyzed by Friedman, Tukey and Qui-square tests. Results: A statistical difference was found in MBF (P= 0.0005) and the total score of GOHAI (P=0.0011) between CD and SIO. Conclusion: Thus, the edentulous elderly had higher MBF using SIO than mandibular CD and, analyzing in a general way, the prosthetic treatment with implant influenced positively the self-perception of oral health of these patients.

063 Accuracy between virtual surgical planning and actual outcomes in orthognathic surgery by ICP algorithm and color maps.

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Aim: To evaluate the accuracy between actual outcomes and virtual surgical planning (VSP) in orthognathic surgery regarding the use of three-dimensional (3D) surface models for registration using ICP algorithm and generation color maps. Methods: Construction of planning and postoperative 3D models in STL files format (M0 and M1) from CBCTs of 25 subjects who had been submitted to orthognathic surgery was performed. The M0 and M1 were sent to Geomagic Wrap Software in automatic alignment surface meshes order of M0 and M1 for registration using the ICP algorithm to calculate mean deviation (MD, MD+, MD-, SD) and root mean square (RMS). Color maps were generated to assess qualitative congruence between M0 and M1. From deviation analysis, RMSs were defined as 3D Error which behaved as a measurement indicator of accuracy. To evaluate the reproducibility of this method, workflow was performed by two evaluators multiple times. t tests were used to assess whether all means of MD, MD+, MD-, SD and 3D Error values would be ≤ - 2 mm and ≥ 2 mm. Results: High intra and inter evaluators correlation were found, supporting the reproducibility of the workflow in Geomagic Wrap. t tests proved that all MDs and 3D Error values were > - 2 mm and < 2 mm. Conclusions: This study showed 3D error mean (1,27 mm) within the standards of clinical success lower than 2 mm. ICP algorithm in Geomagic Wrap provided a reproducible method of alignment between 3D models and generated color maps to evaluate 3D congruence.

064 Does the use of mouthguard prevent dento-alveolar trauma among athletes? A systematic review and meta-analysis.

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Background/Aim: This systematic review and meta-analysis (MA), evalueted the impact of mouthguard (MG) on the prevalence of dento-alveolar trauma (DT) among athletes. Methodology: The study was recorded in the Prospero database (CRD42016048405) and a PECO strategy was applied. Systematic searches were performed at Medline, Scopus, Web of Science, Lilacs, Cochrane Library and SIGLE without restriction of language or publication date. After the application of elegibity criteria, the quality assessment was performed according to Fowkes and Fulton (1991) . In RevMan software, two meta-analyzes, grouping (MA1) and subgroup by sport modality (MA2), using a DT prevalence (events) and total number of athletes for each group (use of MG and non-use of MG) was used for calculation of odds ratio (α=5%). Results: 256 articles were identified, after the application of elegibity criteria, 14 studies were maintained for qualitative synthesis and 11 for quantitative synthesis. The MA showed that 73% (MA1) and 83% (MA2) of mouthguard users have a lower prevalence of DT. In MA1 (11 studies), a prevalence of DT among MG users was 8.86% (n = 253), while it was not evaluated in 39.12% (n = 1270) (OR = 0.27, 95% CI = 0.07-1.01,p = 0.051). In MA2 (5 studies), a prevalence of DT among users of MG was 7.85% (n = 177), while the prevalence among users was not 38% (n = 777) (OR = 0.17, 95% CI 95 % = 0.04-0.80,p = 0.02). Conclusion: The use of mouthguards contributes to a lower prevalence of dento-alveolar trauma among athletes.

065 Evaluation of failed implants by metallographic and energy dispersive X-ray analysis.

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Background: Dental implants are used to replace natural teeth with high success rates. Despite advances in implant dentistry the understanding of implant failures is still a challenge. Aim: To evaluate the microscopic structure and chemical composition of titanium dental implants removed from patients with implant failure. Methodology: Thirty-eight dental implants removed from 29 patients between January 2012 and September 2014 were studied by metallographic analysis, and 7 of these implants were also studied by energy-dispersive x-ray (EDX) analysis. Medical records of these patients were examined. Results: Dental implants were removed in a median of 54.6 ± 88.1 weeks after insertion. The lack of osseointegration without symptomatology or signs of infection was the main reason for implant failure (55.17%). Seventeen patients presented implant failure in the maxilla and 12 patients in the mandible. Metallographic analysis revealed that all the dental implants were manufactured from commercially pure titanium, presenting microscopic uniform appearance, with no "alpha case". The implants studied by EDX analysis presented between 99.85% and 99.87% of titanium and 0.13% and 0.15% of iron by mass. All the implants evaluated were within the ASTM specifications in both analyses. Conclusion: There was no relationship between dental implant failure and the microscopic structure and chemical composition of these devices.

066 Comparative analisys of two schemes pharmacological influence in inflammatory signs and symptoms after third molars extraction.

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Background: The study of protocols that minimize patient discomfort after exodontias of impacted teeth is an important demand. Aim: To compare the influence of two pharmacological regimens, on inflammatory signs and symptoms induced by exodontia of impacted third molars. Methodology: Twenty volunteers aged 18-30 years comprised the sample. A regimen included the use of oral dexamethasone (4 mg) 1 hour before surgery and every 24 hours for 3 days. After 14 days, surgical tooth removal was performed contralaterally, and the other regimen (oral nimesulide 100 mg 1 hour before surgery and every 12 hours for 3 days) was used instead. Presence of pain, swelling and mouth opening limitation, as well as salivary PGE2 levels were the dependent variables. Measurements were taken preoperatively, 72 hours and 7 days, and saliva samples were collected preoperatively, immediately after surgery, then 72 hours and 7 days after surgery. Pain was assessed using a Numerical Eleven Point Box Scale (BS-11) Visual Analogue Scale. Results: The results showed higher pain in the treatment with dexamethasone in the period of 2 hours. Analysis of limitation of mouth opening and edema showed no significant differences between treatments. The evaluation of the PGE2 concentration revealed no significant differences between the two groups in any of the analysed period and that for the treatment with nimesulide there was a significant increase at 7 days compared to the third day. Conclusions: Both pharmacological protocols were effective in controlling pain, swelling and limited mouth opening.

067 Effect of three different surgical techniques on the primary stability of dental implants placed in poor bone quality. In Vitro Study.

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Background: The posterior region of maxilla presents a poor bone quality, therefore, different drilling protocols have been proposed to obtain an adequate primary stability (PS) in dental implant (DI)installation. Aim: The aim of this study was to compare the effect on PS of DI installed in poor bone quality analyzed by Micro-CT, using three types of drilling protocols. Methodology: 30 Fresh porcine bone ribs fragments of 3 cm each one were analyzed using Micro-CT. Thirty dental implants (3,75 x 9 mm Titamax Cone morse EX, Neodent®)were installed individually using three different drilling protocols: Group 1 Manufacturer drilling protocol; Group 2 Underpreparation and Group 3: Stepped osteotomy. Drilling was performed using a surgical hand-piece speed reducer which was linked to an Instrom 4411 mechanical testing machine. To assess PS, the final insertion torque values (FIT) and Implant stability quotient (ISQ) in two directions: Mesio-distal (MD) and Posterior-anterior (PA) were registered. Statistical tests included One-way ANOVA with Tukey post-hoc tests with significance level of 5%. Pearson and Spearman correlations were also used. Results: Group 3 obtained the highest values of FIT, but it was not statistical significant. In regards to ISQ-PA values, group 1 had higher values than group 3, with significant statistical difference (p=0.038). Pearson and Spearman's correlations do not indicate a strong correlation between FIT and MD-ISQ and PA-ISQ. Conclusions: The Stepped osteotomy showed better values of FIT, the manufacturer protocol drilling provided and adequate ISQ values and it was not possible to correlate FIT and ISQ values.

069 Alveolar socket preservation through placement of dense PTFE mebrane.

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Objetive: Evaluate the preservation of the alveolar ridge using d-PTFE membrane, after exodontia. Materials and methods: Fifteen patients underwent surgical exodontia procedure. Computed tomography of the patients before the surgical procedure was performed to measure the height and thickness of the alveolar ridge prior to the exodontia, using Dolphing 3D software. Dense PTFE membrane was used on the post-extraction socket, no type of material was used to fill the defect to be repaired. The patients were submitted to 3-month postoperative tomography to measure the bone crest remodeling and the vertical and horizontal preservation that had been achieved with the placement of a concomitant dental implant. Results: The results confirmed satisfactory vertical and horizontal preservation in all cases. The use of dense PTFE membrane was feasible. Conclusion:The use of PTFE membrane as a barrier of guided bone regeneration proved to be effective in preserving the height and thickness of the alveolar ridge after extraction, without the use of any type of filling material in the empty socket.

070 Evaluation of the influence of diabetes mellitus in the dental implants loss.

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Background: The literature associates the success of osseointegration with some variables. The presence of systemic comorbidities, such as diabetes mellitus has been considered a risk factor for the success of dental implants, for to promote physiological changes that may alter the mechanisms of bone repair Aim: The objective of this study was to evaluate the influence of diabetes mellitus on the loss of dental implants. Methodology: The study consisted of a retrospective longitudinal evaluation of patients' medical records that were treated by the Oral and Maxillofacial Surgery Department from Piracicaba Dental School/UNICAMP with dental implants in the period of July 1999 to March 2016. Data regarding patients, implants and complications that resulted in implant loss were collected in order to seek a relationship between implant loss and the presence of diabetes mellitus. Results: Of the total of 2661 implants installed, 71 were lost. Of the 40 implants installed in diabetic patients, 5 were lost, which was statistically significant ($p < 0.0007$). The risk analysis indicated that there is an elevated risk for implant loss in 5.5 times when performed in a diabetic patient. Despite this positive association between diabetes and implant failure, the overall implant success rate in this study corroborated with the current literature, corresponding to 97.4%. Conclusion: Within the limitations of the study, it can be affirmed that success with dental implants in diabetic patients can be reached in the same way as in non-diabetic patients; as long as there is control of this comorbidity.

071 New technologies in oral and maxillofacial surgery - case report and literature review.

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Background: The search for improvements and updates aiming planning and treatments in the oral and maxillofacial surgery field has generated many research and development of new digital technologies. The surgical planning associated with the correct surgical technique are essential for the treatment success. The orthognathic virtual planning is quickly emerging in this field. In the implantology field, the popularization of the cone beam computerized tomography for dental use provided resources for software-based treatment plan with surgical templates leading less invasive surgical procedures without incisions, and precise positioning of the dental implants. Aim: The aiming of this study is demonstrate the application of these new technologies through case reports of orthognathic and dental implants surgeries by software-based treatment plan. Methodology: In the case of guided implant surgery, a total edentulous patient was selected aiming maxillary and mandibulary implant-supported prosthesis following Brånemark protocol. In the case of orthognathic surgery, a patient with dento-skeletal class III malocclusion with laterognathia was selected, the surgical templates were obtained after the virtual surgical planning of both cases. Conclusions: The new technologies used in oral and maxillofacial surgery lead a greater predictability to the treatments, leading to patients both functional and aesthetic benefits, being an effective option for planning and execution of treatments.

072 Clinical-epidemiological evaluation of patients using bisphosphonates submitted to osseointegrated implants: case series.

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Background: Bisphosphonates are used on various bone pathologies due to antireabsorbing propertys. Despite clinical advantages, this drugs can promote jaws necrosis. Due to the above, discusses in the literature on the installation of implants in patients using this medicines. Aim: To report the epidemiological and clinical data of patients with osseointegrated implants using oral bisphosphonates. Methodology: Retrospective study of the series of cases with clinical and radiographic postoperative evaluation. Results: Up to the moment of the evaluation, 10 patients from patients submitted to treatment and who underwent the installation of osseointegrated implants. Of these, 9 patients are female (90%) and 1 male patient (10%). The mean age of the patients was 58.5 years, ranging from 43 to 75 years. At the medical evaluation, patients were being treated for osteoporosis / osteopenia. Among the patients studied, 5 were submitted to implants in the maxilla (50%), and the others to implants in the mandible (50%). Concerning complications related to the use of bisphosphonates, 2 bone exposures (80%) were found, all in mandibular implants (40%), but without implants loss. Conclusion: Despite the alterations in bone metabolism related to these drugs, the study found that oral use did not promote the loss of implants.

073 Comparative analisys of steroidal pharmacological regimens influence in inflammatory signs and symptoms after third molars extraction.

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Background: The oral and maxillofacial surgery causes, as well any other surgical procedure, a known discomfort to patients because of the post - operative inflammatory process. This process must be controlled, but not be suppressed. The use of corticosteroid in Piracicaba Dental School is pioneer, when it was introduced as routine by Prof. Eduardo Dias de Andrade in the 80´s decade. Third molar´s extraction is a good model to evaluate the efficiency of drugs, been the patient as control and treatment, with the same physiologic response. Although there are many medicine protocols, there is a need to search for drugs and protocols to lead to the best post - operative. Aim: The aim of this study is to compare the influence of steroidal pharmacological regimens, on inflammatory signs and symptoms such as pain, edema, mouth opening limitation, as well to do a literature review of the possible complications on the use of corticosteroids. Methodology: Volunteers of both genders, aged 18-30 years and who had third molars that required ostectomies and tooth sectioning comprise the sample. Results: the partial results of this work will be presented as well as a review of the literature that indicates possible complications with the use of corticosteroids. Conclusion: different times of administration and dose of corticosteroids cause different effects in the control of signs and symptoms of inflammation. The current classification does not present potential complications of short-term use of corticosteroids.

074 Evaluation of complications in orthognathic surgery.

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Background: Orthognathic surgery is a set of techniques, in the main safe and versatile, that resolve important functional and esthetic alterations Aim: To analyze the presence of complications related to orthognathic surgery performed by surgeons in train. Methodology: A retrospective study was conducted between 2005 and 2014, analyzing the clinical records of patients treated in the authors' Department. Patients who underwent orthognathic surgery were included, under a bidimensional analysis and with the conventional orthosurgical sequence; intraoperative complications were identified, such as the occurrence of a bad split, bleeding, tissue injury, among others and postoperative variables such as impaired sensation, infection, and alterations in the osteosynthesis systems. A statistical analysis was done using χ and Student t tests, considering a statistical significance when $P<0.05$. Results: Two hundred fifty patients were included with an average follow-up of 13 months; 62.8% were women and 37.2% were men; 18.8% of the subjects presented some type of intraoperative or postoperative complication; excluding relapse and complications due to loss of bonding of the orthodontic device, a 12.4% complication rate was observed; intraoperative complications were 8% and postoperative complications 10.4%. Only the sensorineural alterations were associated with the mandibular surgery ($P<0.05$). Conclusion: Finally, orthognathic surgery is relatively safe and produces a low number of complications when it is performed by surgeons in train.

075 Selective endodontic retreatment using CBCT for root canal location - case report.

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Aim: Selective endodontic retreatment consists in management of only the diseased dental root, without completely remove the endodontic filling. This case report presents a retreatment with selective approach in mesiolingual (ML) root canal missed in the first approach. Case Report: Patient related acute diffuse pain. The radiographic showed a 7-month endodontic treatment associated to an apical periodontitis (AP). A cone beam computed tomography (CBCT) exam showed an extensive AP associated to the mesial root. Axial cuts showed a missed mesiolingual root canal after the first endodontic treatment. The retreatment was performed in the ML root canal. Root canal was irrigated using 2% chlorhexidine gel and saline solution. After instrumentation until an ISO 45 diameter, passive ultrasonic irrigation (PUI) was performed using saline solution for 15 seconds for four times and positioned 2-mm short the apex. A flush of 1 mL EDTA 17% solution and 5 mL saline solution finished root canal preparation. Obturation used vertical hydraulic condensation combined with AH Plus. Immediate tooth restoration provided coronal sealing. Postoperative did not include antibiotics. 7day Follow-up: Pain symptoms gradually ceased after procedure. Conclusions: Selective endodontic retreatment is viable when properly diagnosed. Anatomically, second molar have two roots with one distal root canal (90%) and two mesial root canals (70%). Missed root canal due to inappropriate crown access causes 4.38 times more AP. Our case showed a fast-developing AP abscess diagnosed using CBCT to identify the specific problem within the complex anatomy. Case follow-up is advisable to observe bone reestablishment and tooth longevity.

076 Antimicrobial susceptibility of black-pigmented bacteria isolated from acute periapical abscesses with or without use of systemic antibiotic previously endodontic treatment.

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Root canals with necrotic pulp tissue present a complex and adequate ecological niche for the development of polymicrobial infections, which might extend to the periapical tissues forming acute apical abscesses (AAA). Black-pigmented bacteria (BPB) display a wide variety of virulence factors that may be pertinent to acute endodontic infections. The objective of this study was to determine the microbial prevalence and susceptibility of BPB isolated from AAA of patients who used/ or not antimicrobial agents prior to treatment. Therefore, 20 microbiological samples collected from the abscesses were divided into 2 groups: G1- with antibiotic (n=10) and G2- without antibiotic (n=0). The samples were cultured, isolated and the colonies phenotypically classified as BPB had their identification confirmed by using the 16S rRNA gene sequencing technique. E-test was used to investigate the antimicrobial susceptibility of BPB strains confirmed by genetic sequencing. The following antimicrobial agents were tested: benzylpenicillin, amoxicillin, amoxicillin+clavulanic acid, clindamycin, erythromycin, metronidazole and azithromycin. The results showed that both groups presented similar bacterial prevalence, G1 (25 BPB sequenced) and G2 (24 BPB sequenced), however in G2 it was possible to observe a higher diversity of BPB species. Amoxicillin and amoxicillin+clavulanic acid were the most effective antibiotics in both groups. Azithromycin (G1) and benzylpenicillin/erythromycin (G2) were the least effective antibiotics. It is concluded that the microbiota present in the cases that antibiotics have been used prior to treatment is less diverse than the one in the group without antibiotics. Most of the BPB showed some resistance to all antimicrobial agents tested.

077 Oral site communication in endodontic failure.

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Coronary microleakage is a possible cause of endodontic failure. The objectives of the study were: a) to identify the microbiota of saliva (S), pulp chamber (PC) and root canals (RC) of teeth with endodontic failure; b) quantify endotoxin (LPS) and lipoteichoic acid (LTA) levels; c) correlate bacteria, LPS, LTA and the clinical aspects of patients. S, PC and RC samples were collected from 20 selected teeth. Their DNA was submitted to the checkerboard with probes for 40 target species. LPS and LTA were quantified by the Limulus Amoebocyte Lysate and Enzyme-Linked Immunosorbent Assay methods, respectively. There was a higher prevalence of E. faecium, P. micra, F. nucleatum, E. faecalis, E. saburreum and C. ochracea in the 3 sites investigated simultaneously. In RC, LPS (3.36 EU / mL) and LTA (578.67 pg / mL) were present in 95 and 100% of cases, respectively. Positive associations ($p < 0.05$) occurred between: S. oralis from S and RC, in cases of teeth with microleakage (11/20); levels of four Gram-negative from PC and LPS from S and RC, and levels of Gram-positive of RC and LTA of PC. Positive correlations were also found between LPS from S and fistula; and between LTA of PC and pain at percussion ($p < 0.05$). It was concluded that there is a similarity between the microbiota of the 3 regions studied, with a higher detection of LTA than LPS in RC. Associations between microorganisms present in S, PC and RC suggest possible communication among the oral sites.

078 Interdisciplinary approach between endodontics and orthodontics in avulsed teeth.

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Background: Tooth avulsion is a dentoalveolar injury that occurs when the tooth is completely displaced from the alveolar socket. Treatment of avulsed teeth in patients under 18 years is limited due to incomplete bone development that does not allow the installation of implants or prostheses. Aim: To describe an alternative treatment for avulsed teeth, by installing fixed orthodontic accessories to provide less discomfort during chewing and favor aesthetics. Case report: A 13-year-old male patient attended in the Dental Trauma Service of Piracicaba Dental School two years after suffering a traumatic injury with reimplantation of teeth 11 and 21. On digital radiographic, tooth 11 presented signs of external inflammatory resorption and tooth 21 signs of replacement resorption. After 8 months of treatment in the service, tooth 21 eventually detached as the patient slept. The installation of fixed orthodontic accessories from canine to canine was performed using the crown of the tooth 21 as a suspended aesthetic element. The bonding was made passively, guided by an orthodontic wire, circumvented according to the format of the upper dental arch, so that the wire not induce orthodontic forces. The orthodontic apparatus installed for purposes of splint will be maintained until the patient reaches bone maturity. Conclusions: It is of extreme importance the interdisciplinary integration between the clinical areas for the planning of the temporary treatment of avulsed teeth until it is possible to carry out the definitive intervention, and that provides the least discomfort possible in functional and aesthetic terms.

079 Proinflammatory potential of endodontic contents after chemical-mechanical preparation with different irrigants.

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Endotoxins (LPS) are able to stimulate the production of proinflammatory cytokines, which are related to apical periodontitis. LPS levels that may compromise the healing process of periapical tissues is still unknown and is host-dependent. The objectives of this study were: a) To verify and quantify LPS levels in root canals (RC) of teeth with chronic apical periodontitis; b) To evaluate the effectiveness of the chemical-mechanical preparation (CMP) with 2.5% sodium hypochlorite (NaOCl), 2% chlorhexidine gel (CLX) and saline (SS-control) in the elimination of LPS; c) To evaluate the inflammatory potential of endodontic contents before (C1) and after RC instrumentation (C2) and after the use of 17% EDTA (C3), in culture of macrophage cells for the production of proinflammatory cytokines (IL-1β, TNF-α). Samples were collected of thirty RC with sterile / pyrogenic paper points in C1, C2 and C3. LPS was detected in 100% of the root canals. After CMP, significant LPS reduction was obtained: 2.5% NaOCl + 17% EDTA (99.75%), 2% CLX gel + 17% EDTA (98.27%), SS + 17% EDTA (71%) ($p < 0.05$). IL1-β and TNF-α were produced by macrophages stimulated by endodontic content (C1> C2> C3). It was possible to conclude that: a) LPS were present in all cases investigated; b) The CMP was effective in reducing LPS levels, regardless of irrigant tested; c) The inflammatory potential of endodontic contents was demonstrated by the production of IL-1β and TNF-α, and exerts a greater inflammatory activity against macrophages in the initial samples.

080 Microbiological and endotoxic characterization of combined endo-periodontal lesions.

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Combined endo-periodontal lesions are pathological changes that affect pulp and periodontal tissues. LPS is the main virulence factor of Gram-negative bacteria. Aim: to investigate in root canals and periodontal pockets of teeth affected by CEPL´s: a) the presence of periodontopathogenic microorganisms before (c1) and after chemical-mechanical preparation (CMP) (c2); And after the use of intracanal dressing (ID) (c3); b) the susceptibility of these MO´s to CMP and ID; c) the effect of CMP and ID on endotoxins´ reduction (LPS). Methodology: samples were collected from 14 teeth. The microbiological reduction was evaluated by counting the colony forming units. Nested-PCR was used to detect T.denticola, T.socranskii, G.morbillorum, T.forsythia, A.actinomycetemcomitans, P.endodontalis, P .gingivalis, P.intermedia, P.tannerae, P.nigrescens, F.nucleatum, F.alocis, P.micra. LAL-test was used to quantify LPS. Results: in PP´s the values of CFU´s were higher than in RC´s. Statistically significant reductions of CFU´s were found at moments 2 and 3 in both sites. Pt was the most commonly found specie in RC1; Tf, Pt, Pn and Fn in RC2 and Td, Aa, Pe, Pn and Fn in RC3. Td and Pm in PP1; Fn in PP2; And Tf and Pg in PP3. In PP1 the LPS´ concentration was 648.11 EU/mL, 109.65 EU/mL in PP2 and 36.5 EU/mL in PP3. In PC1, the LPS´ concentration was 15.6 EU/mL; 0.19 EU/mL in RC2; And 0.06 EU/mL in RC3. Conclusions: CMP and ID were effective in the reduction of MO´s and LPS in PP´s and RC´s. ID was effective in the reduction LPS in PP´s.

081 Pulp revascularization in necrotic immature permanent teeth in 15-years-old patient with history of dental trauma: a case report.

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Pulp revascularization is based on root canal decontamination followed by the induction of blood migration with stem cells from the periapical tissues to develop a new vascular and cementum-like tissues in non vital immature teeth. The blood clot act as a scaffold for tissue ingrowth promoting the continued development of the root. Such cases are commonly encountered in children. It has been appreciated in dental trauma literature that the success of the treatment is influenced by age. The aim of this study was to describe a case of pulp revascularization in necrotic immature permanent teeth, with apical periodontits and sinus tract in a 15-year-old patient with history of dental trauma 7 years ago. Methods: Revascularization therapy with passive decontamination of the root canal in addition to intracanal medication with calcium hydroxide and 2% chlorhexidine gel for 21 days. A blood clot was stimulated, collagen fibers were placed on it and then a 3-mm of a calcium hydroxide, chlorhexidine gel 2% and zinc oxide paste forming a barrier was placed. The access opening was double sealed with Coltosol and composite resin. Results: During the follow-up period, the canal showed a progressive increase in root canal thickness, decrease in width, mineralized tissue deposition on root canals walls, and apical closure.There was repair of periapical tissues. Conclusions: Pulp revascularization may be used for the treatment of necrotic immature root canals in adolescent or adult patients.

082 Evaluation of surface changes of materials used as cervical barrier in revascularized immature teeth submitted to different applications of hydrogen peroxide.

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Background: Tooth discoloration induced by materials used in pulp revascularization can be reversed through internal bleaching. However, the effect of bleaching agents such as hydrogen peroxide (HP) on these materials still uncertain. Aim: This study investigated the changes in surface structure and chemical composition of materials used as a cervical barrier after contact with HP. Methodology: Twelve bovine teeth were divided into four groups: Coltosol, MTA, Repair MTA HP, and MTA Flow. The specimens were exposed to 2, 4 and no HP application and analyzed in Scanning Electron Microscope and semi-quantitative analysis in EDS mode. Results: The micrograph analysis showed changes in the surface of all materials, being more evident after 4 HP applications. For all cements, an aggregation of the particles was observed, forming a porous structure with loss of particles. In the semi-quantitative analysis of the chemical elements, Coltosol showed a higher percentage of zinc in the control group. For MTA, MTA HP, and MTA Flow groups, submitted to 2 HP applications, the peaks observed for the calcium ion remained high, however, after 4 applications they showed an increase in the percentage of calcium. In the MTA group, the silicon ion was observed in low percentage, whereas in the MTA HP, this element was not detected in any of the evaluated exposures. Conclusion: The contact with HP altered the surface structure, as well as physical and chemical properties of all materials when used as a cervical barrier during internal bleaching, resulting in damage to the sealing.

083 Evaluation of the presence of microorganisms from root canal of teeth submitted to retreatment due to prosthetic reasons.

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Background Microorganisms and its byproducts were responsible for endodontic infection. Enterococcus faecalis has been frequently isolated from root-filled teeth with apical periodontitis, but there is no investigation regarding its presence in root-filled teeth without apical periodontitis. Aim a) To evaluate the presence of microorganisms in the root canals of teeth without periapical lesion, through culture and Checkerboard DNA-DNA hybridization; b) to identify E. faecalis using PCR and partial 16S rRNA gene sequencing of the previously isolated strains. Methodology Twenty teeth indicated for endodontic retreatment due to prosthetic reasons with absence of periapical lesion were included in this study. Microbial samples were collected from RC thirds using paper points and files. The samples were plated on Fastidious Anaerobe Agar and M-Enterococcus, and analyzed by colony-forming units (CFU/mL). They were analyzed by Checkerboard DNA-DNA hybridization using 40 DNA bacterial probes. After growth, presumptive E. faecalis strains were identified by PCR with species-specific PCR primers and partial 16S rRNA gene sequencing of the previously isolated strains. Results Microorganisms were found in all RCs. The coronal third was more contaminated compared to apical third and root canal samples ($p \leq 0.05$). Seven root canals (35%) showed microbial growth for Enterococcus, identified by molecular technique as Enterococcus faecalis. There was prevalence of Enterococcus hirae (70%) and Enterococcus faecalis (65%) in all thirds and samples. Conclusion Microorganisms were found in all cases indicated to endodontic retreatment due to prosthetic reasons, being Enterococcus spp. the genera most frequently detected.

084 Investigation of virulence genes of enterococcus faecalis strains isolated from teeth indicated to endodontic retreatment with and without apical periodontitis.

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Background: Enterococcus faecalis is a Gram-positive bacterium and one of the most prevalent microorganisms in cases of endodontic treatment failure. Bacteria and their virulence genes may be responsible for injuries to the periradicular tissues. Aim: This study evaluated the presence of virulence genes of E. faecalis strains isolated from root canals of teeth with failure of the endodontic treatment and presence of apical periodontitis (AP) and teeth indicated to endodontic retreatment for prosthetic reasons and no AP. Methodology: The sample consisted of 40 teeth (20 with AP and 20 without AP). E. faecalis strains were isolated from each root canal (40/40) and identified by genetic sequencing. The detection of virulence genes such as collagen-binding protein (ace), hemolysin activator (cylA), endocarditis antigen (efaA), surface protein (esp) and gelatinase (gelE) was performed by polymerase chain reaction (PCR). Results: The virulence gene ace was detected in 100% of the cases with the presence of AP and 84.09% without AP. EfaA was detected in 95% (AP) and 81.81% (no AP), esp 70% (AP) and 54.54% (no AP), gelE 75% (AP) and 97.72% (no AP) and cylA was not detected in cases of endodontic failure with the presence of AP, but it was detected in 2.27% of the cases without AP. Conclusions: It was concluded that E. faecalis strains isolated from teeth with and without apical periodontitis show distinct virulence genes patterns (Supported by grants: FAPESP 2015/23479-5, CNPq 308162/2014-5 and CAPES).

085 Red complex bacteria in combined periodontal and endodontic sites.

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Background: The red complex is part of the climax of the community of microorganisms organized in biofilms and comprises species that are considered periodontal pathogens, related to the increase in pocket depth and the presence of bleeding on probing, named Porphyromonas gingivalis (Pg), Treponema denticola (Td) and Tannerella forsythia (Tf). Aim: This study ivestigated the presence of Pg, Td and Tf in diseased periodontal tissues (DPT) associated with both necrotic pulp (NP) (i.e. combined endoperiodontal lesions) and with vital pulp (VP) (i.e primary periodontal lesions with secondary endodontic involvement); and in healthy periodontal tissues (HPT) associated with VP. Methodology: Microbial samples were collected from 10 teeth with NP and associated DPT, 10 teeth with VP and associated DPT, and 10 teeth with VP and HPT (control group) from the periodontal tissues (PT) and root canals (RC). Samples had their DNA extracted and submitted to the checkerboard analysis. The Fisher exact test was performed to test the frequency and mean of individual bacterial species and the red complex ($\alpha = 5\%$). Results: Pg, Td and Tf were detected in all the periodontal sites investigated. However, the proportions of the red complex were significantly higher in NP associated DPT, than in VP ($p<0.05$), when compared to the control group. Conclusions: It was concluded that the red complex was but more frequently in DPT of teeth with combined endoperiodontal lesions than in teeth with primary periodontal lesions with secondary endodontic involvement, (Supported by FAPESP 2015/23479-5, CNPq 308162 / 2014-5 & CAPES).

086 Bacterial levels analysis of teeth submitted to two therapeutic protocols of pulp revascularization by real-time PCR.

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Background: Novel microbiological studies are needed to understand the etiology and effectiveness of pulp revascularization disinfection protocols. Aim: This study aimed was to evaluate the effectiveness of two therapeutic protocols of pulp revascularization as regards microbial reduction. Methodology: Microbiological samples were collected at three times: before intervention (C1), after decontamination with sodium hypochlorite (NaOCl 6%) (C2) and after 21 days with an intracanal medication (C3). Root canals (n = 20) were divided into two groups: Group 1 (n = 10) - Triple antibiotic paste (ciprofloxacin, metronidazole and minocycline) - and Group 2 (n = 10) - Calcium hydroxide and 2% chlorhexidine gel. Microbiological analysis was performed with Real-Time PCR using 16S rRNA universal primers for bacteria quantification after different treatment steps. We also performed the study of microbial diversity through cloning and sequencing 16S rRNA, before and after pulp revascularization. Results: The presence of Porphyromonas gingivalis was detected in 66.7% of the initial samples (C1), Fusobacterium nucleatum in 46.7% and Enterococcus faecalis in 13%. Mann-Whitney test was applied to compare the amount of bacteria between the groups at each sampling stage. There was a 99.8% reduction in total root canal bacteria after treatment when compared to C1. Conclusions: It was concluded that each step of the protocol, including irrigation and intracanal medication, was effective in the decontamination of root canals. There was no difference between the groups regarding the reduction of the level of bacteria. Therefore, the action of both intracanal medications was similar in reducing specific bacterial species.

087 In vitro evaluation of enterococcus faecalis reduction of root canals using Endox® system.

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Different protocols and devices have been studied for reduction of microorganisms from the root canals. This study aimed to evaluate in vitro the disinfection of an electroblasting device, the Endox® Endodontic System (EES), in root canals (RC) contaminated with Enterococcus faecalis, comparing its effectiveness associated or not with the chemical auxiliary substances (CAS) 5.25% sodium hypochlorite (NaOCl) and 2% chlorhexidine gel (CHX). Sixty-five human lower premolars were divided into 6 experimental groups (n = 10): CHX; CHX + EES; NaOCl; NaOCl + EES; Saline solution (SS) and SS + EES. As a positive control, 5 specimens were used. RC samples were collected initially (C1), after EES (C2), after chemical-mechanical preparation (CMP) (C3) and after final EES (C4) to determine colony forming units (CFU / mL). Statistical analysis was performed using the Wilcoxon and Friedman tests; Mann Whitney and Kruskal Wallis tests, supplemented by the Dunn test (α = 0.05). The groups with EES in C2 did not reduce CFU / mL when compared to the initial values (C1 ~ C2, p> 0.05). After CMP (C3), all groups reduced CFU / mL (p <0.05), being the largest reduction in the CHX or NaOCl groups. Groups that received EES after CMP (C4) did not significantly reduce CFU / mL (C3 ~ C4, p> 0.05). We concluded that the use of the Endox System did not show additive effect on the reduction of the bacterial load, however NaOCl and CHX were equally effective in this reduction.

088 Microbial analysis of symptomic primary infections and susceptibility of some anaerobic bacteria.

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This study aimed: a) to characterize the microbial communities from paired sites as the ones present in the root canals (RC) with necrotic pulp tissues and in the acute periapical abscesses (APA), and b) to determine the antimicrobial susceptibility of some isolated anaerobic bacteria using the E-test. Microbial samples collected from 20 RC and from their associated APA were cultured and further processed and characterized using the molecular analysis methods: restriction terminal fragment polymorphism (APFTR), PCR and Nested-PCR. The data were statistically analysed according to their characteristics. RC and APA samples did not differ in the number of microorganisms or diversity of their communities when evaluated through the APFTR technique. Porphyromonas endodontalis, Prevotella nigrescens, Filifactor alocis, Treponema socranskii and Treponema denticola were frequently detected in CR and APA by PCR or Nested-PCR. Enterococcus faecalis was detected in only one sample of RC. In 45% of cases, the presence of at least one strain resistant to one or more antimicrobial agents tested was observed. Amoxicillin, amoxicillin + clavulanic acid and penicillin G were the most effective antibiotics, while higher levels of resistance were observed for erythromycin and azithromycin. In conclusion, the microbial communities presented heterogeneous profiles in samples of root canals and periapical abscesses of the same patient. The microorganisms isolated in both sites showed similar patterns of susceptibility to the most prescribed antimicrobial agents in endodontics.

090 Massive extrusion of calcium hydroxide paste containing barium sulfate during endodontic treatment.

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Background: Barium sulphate (BaSO4) is a radiopaque substance often incorporated in intracanal dressing materials allowing identification of lateral and accessory canals, resorptive defects and root fractures. However, if accidentally extruded, BaSO4 is not easily absorbed by the periapical tissues and may cause injury to the lower alveolar nerve if accidentally. Case Report: A 31-year-old woman was referred for evaluation of persistent numbness on the left site of the lower lip, which initiated during endodontic treatment of the left mandibular first molar. Imaging exams showed a large amount of a radiopaque/hyperdense material spread in the left mandibular body in close proximity with the lower alveolar nerve, in an angiographic distribution. Histological analyzes of the affected area identified birefringent crystalloid foreign bodies widespread through soft tissue and bone leading to a inflammatory foreign body reaction, eventually demonstrated to be rich in barium and sulfur by the means of scanning electron microscopy coupled with energy dispersive X-ray detection. This scenario led to the diagnosis of lower alveolar nerve injury due to accidental extrusion of intracanal dressing material composed of calcium hydroxide (Ca(OH)2) paste incorporated with BaSO4. Results:The parestesia was treated with the combination of Citoneurin and prednisone, but no improvement over nerve sensitivity was noticed after twelve months of follow-up. Conclusions: Clinicians should be aware that injectable Ca(OH)2 systems can cause extrusion and damage of the lower alveolar nerve.

091 Evalluation of the use of controlled release system of doxycycline in the periodontal therapy of smoking patients with chronic periodontitis. A randomized clinical trial.

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Background: Researches point to the need for adjunctive therapies for the treatment of smokers with chronic periodontitis associated with conventional mechanical therapy. Aim: Clinically assess the use of doxycycline (DOX) containing lactic-co-glycolic acid (PLGA) microspheres in periodontal therapy of smokers with chronic periodontitis. Metodology: Forty smoking patients diagnosed with chronic periodontitis were selected and equally divided into 2 groups, who received periodontal debridement associated with local administration of 1 mg PLGA microspheres containing DOX 20% (test group); or 1 mg PLGA microspheres placebo (control group) in four unirradicular teeth with Bleeding on Probing (BoP) and a Probing Depth (PD) ≥ 5 mm. The clinical parameters were evaluated: Plaque Index (PI), Bleeding on Probing (BoP), Relative Gingival Margin Position (RGMP), Probing Depth (PD) and Relative Clinical Attachment Level (RCAL), assessed at baseline, 30 and 90 days after the initial visit. The results obtained were statistically compared using the ANOVA test, with a significance level of 5%. Results: At 30 days, moderate pockets of the test group had a greater reduction of BoP (16.5 ± 27.1%) and RCAL (6.2 ± 1.3mm) compared to the control group (41.3 ± 38,3% and 7.0 ± 1.7 mm, p = 0.04). At 90 days, deep pockets of test group had a greater reduction of RCAL (1.9 ± 1.2 mm) compared to control group (1.0 ± 1.0 mm); p = 0.05. Conclusion: Local release of PLGA microspheres of doxycycline associated with mechanical therapy can bring additional benefits for the periodontal treatment of smokers with chronic periodontitis.

092 RG108 enhances multipotency in bone marrow-derived mesenchymal stem cells through global changes in DNA modifications and OCT4 and NANOG epigenetic activation.

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Backgroud: Human bone marrow-derived mesenchymal stem cells (hBMSCs) are important for tissue regeneration but their epigenetic regulation is not well understood. Aim: To investigate the ability of a non-nucleoside DNA methylation inhibitor, RG108 to induce epigenetic changes at both global and gene-specific levels in order to enhance hBMSCs multipotency. Methodolody: hBMSCs were treated with DMEM, RG108 (50 μM) and DMSO (RG108 vehicle) for three days and subjected to viability and apoptosis assays. DNA, RNA and proteins were extracted. DNA was employed for global and gene-specific methylation/hydroxymethylation quantifications by colorimetric assays and glucosylation/restriction enzyme digestion followed by real-time PCR, respectively. RNA was used for transcript levels' analysis by RT-qPCR. Protein activities of DNMTs/TETs were analysed by colorimetric assays while immunofluorescence was employed for OCT4/NANOG evaluation. Results: RG108, when used at 50 μM is a non-cytotoxic demethylating agent while leading to 75% decrease in DNMTs activity and 42% loss of global DNA methylation levels. All DNMTs' were significantly downregulated while TET1/TET2 were upregulated, potentially contributing to the loss of methylation observed. DMSO showed ability to change global hydroxymethylation levels and demethylases activity. Most importantly, RNA and protein levels for multipotency markers NANOG and OCT4 were significantly upregulated by RG108 (x DMEM/DMSO $p \leq 0.001$) and this correlated with a decrease in DNA methylation and hydroxymethylation at their regulatory elements. Conclusions: We propose that RG108 could be used for epigenetic modulation of hBMSCs without affecting their viability and promoting multipotency gene markers through epigenetic activation. DMSO also has a potential to modulate epigenetic mechanisms.

093 Ultrastructural analysis of cementocytes under experimentally-induced dental cementum apposition.

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Cementocytes share morphological features and common biomarkers with osteocytes. Nevertheless, there is a lack of evidence on the potential role of cementocytes in tissue homeostasis. This study aimed at investigating cementocyte's morphological and ultrastructural changes under dental cementum (DC) continuous apposition. DC apposition was experimentally induced (EIA) in mice to access a potential role of cementocytes in periodontal homeostasis. Mandibular 1st molars were randomly induced to erupt after extracting their opposing maxillary molars (6/21 days), whereas contralateral teeth were used as controls. Transmission and scanning electron microscopy and confocal microscopic analyses were performed. Quantitative data was submitted to two-way ANOVA (α=5%) followed by the Tukey's test (α=5%). Data analysis showed an increased area of DC for the EIA group compared to control at 21 days ($p<0.05$), and therefore, confirmed DC apposition. Intriguingly, as cementocyte's number was not affected by DC apposition, at 21 days a lower cell density was found in the area where DC apposition was induced ($p<0.05$). Cementocyte volume was significantly increased when DC apposition was induced for 21 days ($p<0.05$). TEM analysis showed that, for the EIA group, cementocytes presented larger body and nuclei sizes, and more euchromatin spread in the nuclei than the controls. Furthermore, SEM analysis revealed two patterns at the cellular cementum were either lacunae with cell remnants or empty lacunae, with the present cementocytes occupying lacunae irregularly shaped and unevenly distributed into the matrix. Together, these findings provide new insights on DC biology and reveal cementocytes as potential targets for tissue engineering applications.

094 Transcriptomic profile of human periodontal ligament cell clones in osteoblastic/cementoblastic differentiation.

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Currently the investigation of periodontal tissue formation has gained prominence to develop new therapies to repair the demage caused by Periodontitis and to return not only health but also lost structures. It is already known that remnant cells of the periodontal ligament may present phenotype similar to those of undifferentiated mesenchymal cells. However, the understanding of commitment of periodontal ligament cells to form different tissues still not been fully elucidated. To better define the gene expression in differentiating periodontal cells, here we compared the transcriptomic profile of primary pluripotent cell clones committed to osteoblastic/cementoblastic differentiation (C-O clones) and clones committed to fibroblastic phenotype (C-F clones) using next-generation sequencing technology (RNA-seq) when cultivated under osteogenic differentiation induction condition (OM) in vitro. The genes BMP4, WNT2, WNT5A and WIF1 showed to be differentially expressed between periodontal ligament clones with distinct differentiation commitment potential. The up-regulation of genes related to mesenchymal cell differentiation, regulation of osteoblast differentiation, regulation of ossification, mesenchyme development and vasculature development were significantly overrepresented in C-O clones compared to C-F clones. Therefore biological processes related to mineralization and mesenchymal differentiation are significantly more expressed in clones with greater potential for osteo/cementoblastic differentiation.

095 Effect of automatic exposure compensation on the radiographic diagnosis of proximal caries in the presence of high-density materials.

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Background: The automatic exposure compensation (AEC) is a digital preprocessing that alters the histogram of radiographic images, and is influenced by the density of the X-rayed object. Aim: To assess the influence of the AEC on the radiographic diagnosis of proximal caries lesion in the presence of high-density materials, and the effect of additional image post-processing for this diagnostic task. Methodology: Forty posterior teeth were mounted in pairs on a radiographic phantom composed of six other teeth, and radiographed using the bitewing technique with the Digora Toto and Digora Optime systems. After, one tooth of the phantom was replaced with a titanium implant and prosthetic crown, and radiographed again, generating a total of 80 images. Five oral radiologists assessed the radiographs and indicated the presence of proximal caries lesions using a 5-point scale. This assessment was repeated with the use of image post-processing: brightness and contrast. Proximal caries lesions were confirmed by means of micro-computed tomography. Accuracy, sensitivity, specificity, and predictive values were calculated and compared for each radiographic system using ANOVA test (α=0.05). Results: The presence of high-density material and the use of image post-processing did not influence significantly on the diagnosis of proximal caries lesions ($p \geq 0.05$) for the Digora Toto. For the Digora Optime, image post-processing significantly increased ($p<0.05$) the diagnostic accuracy in the presence of high-density material. Conclusions: In general, the presence of high-density material does not influence the diagnostic accuracy of proximal caries lesions. In specific cases when the accuracy is reduced, image post-processing is recommended.

096 Detection of simulated periapical bone defects in intraoral digital radiography with different brightness and contrast variations.

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Background: Image enhancement resources have been increasingly exploited to improve the performance of radiography analysis, and the tools for adjusting brightness/contrast are among the most used during the interpretation of digital images. Aim: To determine whether the use of different levels of brightness/contrast adjustment in digital radiographic images interferes on the detection of simulated periapical bone defects, as well as to investigate the observers' preference related to subjective image quality for this diagnostic task. Methodology: The sample was composed of 14 dental sockets of dry mandibles and their respective teeth. Images were acquired prior to and after each apical bone defect enlargement. Original images were adjusted in 4 additional brightness/contrast combinations. Five observers evaluated the presence of apical bone defect using a 5-point scale and ordinated subjectively the images from the best to the worst to detect the bone defect. Results: No differences were found between the diagnostic values of the five brightness/contrast variations ($p>0.05$). Low values of area under the ROC curve and sensitivity were found in the detection of bone defects of sizes from 1 to 3, which rose substantially in size 4. For subjective image quality, V2 (-15% brightness/15% contrast) variation was preferred, being classified as "best" in 58% of the cases, followed by V1 (-30% brightness/+30% contrast) variation (32.9% of the cases). Conclusion: Brightness/contrast adjustments did not interfere on the diagnosis of simulated periapical bone defects in digital intraoral radiography. Lower brightness and higher contrast images were preferred for this diagnostic task.

097 Tomographic evaluation of infrazygomatic crest for orthodontic anchorage in different vertical and sagittal skeletal patterns.

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Background: Anchorage control is one of the major challenges in Orthodontics, mainly because of the difficulty in controlling undesired movements in the anchorage units. In this respect, the development of skeletal anchorage has been a major advancement, facilitating and speeding up orthodontic treatment. Aim: The aim of this study was to evaluate the tomographic measurements of the infrazygomatic crest for placement of temporary anchorage devices in individuals with different vertical and sagittal skeletal patterns. Methodology: The measurements were analyzed in four regions in the crest of 67 patients above the maxillary first molar: one slice in the long axis of the mesiobuccal root, two slices passing through the center of the furcation and one slice in the long axis of the distobuccal root. In each of these slices, five measurements of the thickness of the infrazygomatic crest were performed, with a difference of 1 mm between them. The sagittal skeletal pattern was determined by the ANB angle and the vertical skeletal pattern by the SN.GoGn angle. Results: There was a tendency of the infrazygomatic crest to be thicker in the furcation area, decreasing in the apical direction. Class I male patients presented a statistically significant lower thickness in the furcation area in relation to Class II and Class III patients. There was no difference between different vertical skeletal patterns. Conclusion: Male Class I patients require more caution during the insertion of skeletal anchorage devices in order to avoid complications such as maxillary sinus perforation.

098 Effect of brightness and contrast variation for detectability of external root resorption lesions in digital intraoral radiographs.

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Background: External root resorption (ERR) diagnosis represents a challenge in the clinical dentistry practice. It may be originated from an inflammation with a microbial, idiopathic, traumatic or chemical etiology. Imaging exams are essential for the early diagnosis and many manipulation tools are available to dental professionals during their interpretation such as brightness and contrast adjustment which is the most used. No studies that investigated the possible influence of those adjustments on ERR diagnosis in early stages were found in literature. Aim: To evaluate the performance of periapical digital radiography assessed under different radiographic brightness and contrast variations on the accuracy of simulated ERR lesions detection. Methodology: Simulated cavities (small, medium and large sizes) were performed in 15 singled-root extracted human teeth. Digital periapical radiographs were obtained and subsequently adjusted in 4 additional combinations, resulting in 5 brightness and contrast variations (V1 to V5). Images were analyzed by five oral radiologists. The observers' preference on the image quality was also recorded. Results: There were no differences in the accuracy and specificity between the five brightness and contrast variations ($p>0.05$), but the sensitivity values were significantly lower in V4 (+15% brightness and -15% contrast) in the large size ($p<0.05$). The observers classified V2 (-15% brightness and +15% contrast) as having the “best" image quality. Conclusions: The diagnostic accuracy of the simulated ERR lesions was not affected by the brightness and contrast variation. The subjective observers' preference was related to images with a reasonable decrease in brightness and increase in contrast.

099 Influence of brightness and contrast enhancements in digital radiography on the diagnosis of proximal caries lesions.

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Background: Brightness and contrast adjustment tools are among the most used image enhancement features during radiographic evaluations performed in scientific research and clinical practice. Aim: To assess the influence of brightness and contrast enhancements of digital radiographs on the diagnosis of proximal caries lesions, and to compare with observers' preferences for subjective image quality. Methodology: Forty posterior teeth were radiographed using an intraoral digital system (Digora Toto, Soredex, Finland). Initial images and 4 different combinations of brightness and contrast for each radiography were assessed by five observers for presence and extension of caries lesions. Micro-CT images were used as gold standard. Posteriorly, observers were asked which of the radiographs they preferred for the assessment of caries lesions. Results: No differences were found between the original and enhanced radiographic images regarding the area under the receiver operating characteristic curve, sensitivity, and specificity ($p>0.05$). There was a significant difference between the micro-CT and the intraoral radiographs ($p<0.0001$). Images with high brightness and low contrast presented a higher number of true negative cases, but also a decrease in caries detection. On the other hand, there were more cases of overestimation of the presence and extension of caries lesions in images with low brightness and high contrast, which were preferred in the subjective evaluation of image quality. Conclusion: Brightness and contrast enhancements in digital intraoral radiographs do not significantly influence the diagnosis of proximal caries lesions, although lower brightness and higher contrast images were preferable by observers.

100 Morphological evaluation of the incisive canal in patients with different facial profiles and ages by means of cone-beam computed tomography.

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Introduction: Implant placement in the anterior region of the maxilla requires careful evaluation due to the presence of the incisive canal through which the nasopalatine nerve and artery pass. Aim: To evaluate the morphology of the incisive canal in patients with different facial profiles and ages. Methodology: One hundred thirty two images of cone-beam computed tomography (CBCT) were classified according to the facial profile - mesofacial, brachyfacial and dolichofacial - and divided into the following age groups: Group 1 - 21 to 30 years, Group 2 - 31 to 40 years, Group 3 - 41 to 50 years, Group 4 - 51 to 60 years. Linear measurements of the opening region of the incisive and nasopalatine foramens, alveolar bone thickness, region of greater canal constriction, canal length and canal volume were performed. After exploratory and descriptive analysis, data were submitted to two-way analysis of variance (ANOVA) and Tukey test. Results: Statistically significant difference was observed for the volume of the incisive canal, and the volunteers aged over 41 years old presented significantly greater volume than the volunteers aged between 21 to 30 years old, for all facial types ($p \leq 0.05$). Conclusion: Careful is important to determine implant location and insertion orientation in the anterior maxilla, mostly in patients older than 41 years old, as they presented higher volume of the incisive canal.

101 Agreement between two dental specialties and two imaging exams for bifid mandibular canal and additional mental foramen diagnosis.

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Background. Bifid mandibular canal (BMC) and Additional mental foramen (AMF) are anatomical variations that have important clinical implications during oral procedures. Aim. To evaluate the agreement between oral and maxillofacial radiologists (OMFR) and oral and maxillofacial surgeons (OMFS), and between panoramic radiograph (PAN) and cone beam computed tomography (CBCT) in the diagnosis of BMC and AMF. Methodology. 10 OMFRs and 10 OMFSs assessed 30 PANs and, after that, 30 CBCT images from the same patients. To each hemimandible, it was used a 5-point scale for BMC and AMF diagnosis. More two specialists, an OMFR and an OMFS were used as senior examiners. After 2 weeks, 20 exams were reassessed to obtain intra-examiner agreement. Cohen's Kappa and Friedman's test (ICC=95%) were used. Results. For BMC, there was no agreement between OMFRs and OMFSs and neither between the diagnosis in PAN and CBCT ($p=0.1005$). A slight agreement was found between the senior specialists, just for CBCT evaluations ($p=0.0462$). For AMF, OMFRs produced higher kappa values than OMFSs, comparing the CBCT evaluations ($p=0.0106$), but there was no significant difference when PAN method ($p=0.0679$) was employed. For both groups, there were higher kappa values when CBCT was used in the evaluation ($p=0.0176$, OMFS; $p=0.0446$, OMFR). A moderate agreement was found between the senior specialists for CBCT evaluations ($p<0.0001$). Conclusions. OMFRs and OMFSs do not agree between them in the diagnosis of BMC and there was no agreement between the PAN and CBCT evaluations. For AMF, OMFR obtained greater agreement than OMFS, regarding CBCT evaluation.

102 Temporomandibular joint ankylosis: diagnosis by cone beam computed tomography.

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Temporomandibular joint (TMJ) ankylosis can be classified as complete or partial, and may have calcification of the articular components that form the same. It is characterized by being a debilitating condition, which can cause masticatory, aesthetic, swallowing, phonation and oral hygiene to the patient. Trauma is the most common etiological factor, followed by infection. The objective of this study is to report the imaginary findings of TMJ ankylosis by means of a case report. A 63-year-old female patient with a history of facial trauma was referred for serial panoramic radiography of TMJ with complaint of pain on the right side of the face and without limitation of mouth opening. On the radiographic examination, a well-defined radiopaque image of the right TMJ joint space was observed. In this way, cone beam computed tomography was performed for a better evaluation. Multiplanar reconstructions showed a hyperdense image with well defined limits and large proportions connecting the right mandibular condyle to the joint fossa of the temporal bone on the same side, occupying the entire region corresponding to the joint space of the right TMJ. The final diagnosis was partial TMJ ankylosis. The patient was referred for surgical treatment. It is possible to conclude that knowledge of the ankylosis imaginary findings are extremely important for the establishment of the correct diagnosis and treatment plan.

103 Influence of high-density materials on the gray values of radiographic images obtained with three intraoral digital systems: an in-vitro study.

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Background: Automatic exposure compensation (AEC) is an image enhancement based on the smallest and highest gray value that adjusts the histogram to increase contrast of a radiographic image. Aim: To investigate the effect of AEC induced by high-density dental materials on dental tissue-equivalent gray values obtained with three digital radiographic imaging. Methodology: A radiographic phantom was custom made to reproduce radiographic densities of dental tissues: enamel, dentin and pulp. The phantom was X-rayed using the Digora Toto, Digora Optime and VistaScan systems at 0.063 s, 0.10 s and 0.16 s. Radiographic acquisitions were repeated in the presence of high-density materials equivalent to titanium implant and gutta-percha. Mean gray values of the dental tissues were obtained with Image J software, averaged and the standard deviation was calculated. Data were compared between the absence and presence of different high-density materials using ANOVA test ($\alpha = 0.05$). Results: For the Digora Toto, the presence of titanium significantly increased radiographic density of the dental tissues, regardless of the time of exposure. For the Digora Optime, at the exposure time of 0.16s, high-density materials significantly increased the density of the pulp and reduced the density of dentin and enamel. For the VistaScan, dental tissues of lower density were more significantly affected by a reduction of the radiographic density, regardless of the exposure time. Conclusions: In general, the presence of high-density material in digital radiographic image activates AEC and influences gray values regardless of the dental materials and exposure times tested.

104 Magnitude of cone beam computed tomography image artifacts related to zirconium and titanium implants.

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Background: Artifacts in cone beam computed tomography (CBCT) images occur largely due to the presence of high-density materials in the scanned region, which are not limited to its generator area. Aim: To evaluate the magnitude of artifacts related to titanium and zirconium implants at different distances and angulations and their impact on CBCT image quality. Methodology: CBCT images were obtained before and after the insertion of implants in a mandible on Picasso Trio, ProMax 3D and 3D Accuitomo CBCT units. The standard deviation of gray values (SD) and contrast-to-noise ratio (CNR) were obtained for 11 regions of interest (ROI) at 1.5cm, 2.5cm and 3.5cm distances and 65°, 90°, 115° e 140° angulations from implant region. Results: For titanium images, SD values did not differ from those of images without implant in all ROIs; higher SD values were observed in ROIs closer to the implant for Picasso ($p<0.05$). In general, zirconium images showed higher SD values than the others for Picasso and ProMax ($p<0.05$). For ProMax, there were differences even in the farthest ROIs from the implant. CNR values were not influenced by the ROI in Picasso, but presented lower values in ROIs closer to the zirconium implant for ProMax and Accuitomo. Conclusions: The magnitude of artifacts in CBCT are influenced by the implant material and CBCT unit. Although they are more pronounced in regions closer to the implant and located at 90º in relation to the mandibular long axis, they can reach as far as 3.5cm from the artifact-generator object.

105 Radiographic detection of internal root resorption lesions interpreted under different brightness and contrast variations.

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Background: Periapical radiography plays an essential role on the diagnosis of internal root resorption (IRR) lesions. Although image enhancement tools are used to improve image quality and general performance of digital radiography, until now, no studies have investigated the influence of brightness and contrast adjustments on the diagnosis of IRR lesions. Aim: To assess the detection of simulated IRR lesions on digital periapical radiographs under different conditions of brightness and contrast, and to register examiners' preference related to image quality for this diagnostic task. Methodology: Fifteen singled-root teeth were X-rayed prior (control group) and after the simulation of IRR lesions by mechanical and biochemical processes (experimental group). Digital periapical radiographs were obtained using the Digora Toto system and, subsequently, the original images were adjusted in 4 additional combinations, resulting in 5 brightness and contrast variations (V1 to V5). Five oral radiologists assessed the images using a 5-point scale. The preference of the examiners on the subjective image quality was ranked. Results: The diagnostic accuracy, sensitivity and specificity values did not differ significantly ($p>0.05$) between the five brightness and contrast variations tested. The examiners classified the V2 combination (-15% brightness and +15% contrast) as having the "best" image quality for IRR evaluation. Conclusions: Brightness and contrast variations do not affect the radiographic diagnosis of IRR in early stages. The examiners preferred images with reasonable reduction of brightness and increased contrast for the radiographic interpretation of this condition.

106 Comparison between software applications in the assessment of cone beam computed tomography voxel values.

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Software applications are indispensable tools for Cone Beam Computed Tomography (CBCT) image evaluation. The aim of this study was to compare different software applications in the assessment of CBCT voxel values. CBCT acquisitions (Picasso Trio unit, Vatech; adjusted to a 5x5 cm of field of view, exposure time of 24 sec, 3 mA, 90 kVp, voxel 0.2 mm) were taken of a radiographic phantom with 16 polypropylene tubes filled with a homogeneous radiopaque solution. One observer obtained mean voxel values from 16 homogeneous areas of the tubes with four CBCT software applications: OsiriX, Pixmeo Sarl; Ez3D, Vatech; ImageJ, National Institute of Health; OnDemanD, CyberMed. As a way of measure the voxel value variability of each acquisition, the standard deviation was measured. Mean and variability of voxel values were compared separately by analysis of variance (ANOVA) with post-hoc Tukey test between the software applications. The mean voxel values in the ImageJ were significantly lower (p=0.0002) than the others CBCT software applications. The voxel value variability was significantly higher (p=0.017) in the OsiriX, which did not differ significantly (p=0.017) from the OnDemanD. In conclusion, CBCT voxel values are not standardized among different software applications. The use of the same software is recommended for comparison purposes.

107 When to prescribe radiographic exams in orthodontics?

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Background: X ray is a type of ionizing radiation, once it interacts with the atoms of the biological tissue through ionization. For Orthodontics, imaging exams are a useful tool in the course of treatment, once it is well indicated. Aim: The objectives of this study were to highlight the indications and importance of imaging for the orthodontic treatment, as well as its benefits for the patient, and to assist orthodontists when prescribing radiographs. Methodology: It was made a literature review about indications of X ray images in Orthodontics. Results: Intraoral (periapical, bitewings and occlusal) radiographs may be required, in summary, when clinical exam or dental panoramic radiography requires more information. The most commonly used extra-oral radiographs in Orthodontics are the dental panoramic, the cephalometric and the carpal radiographs, which have several indications. In some situations, radiographic monitoring of orthodontic treatment may be necessary, if justifiable. In Orthodontics, CBCT should, in short, be indicated with caution and only in specific conditions, such as finding impacted or retained teeth, ortho-surgical planning, dental anomalies, craniofacial anomalies, and severe bone discrepancies. The replacement of dental panoramic radiography and cephalometric radiography by CBCT is not indicated, since two-dimensional images are usually sufficient to complement orthodontic planning and treatment. Conclusions: Finally, this work emphasized that the imaging exams in Orthodontics must be, despite their discussed relevance, indicated and prescribed upon adequate reasons and clinical evidence.

108 Anatomical variations in the anterior maxilla of individuals with cleft lip and palate: report of two cases.

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Background: The interpretation of images of the anterior region of the maxilla in periapical radiographs may be have difficulties in certain cases, due to the occurrence of anatomical variation of nutrient channels and their overlapping with the teeth. Aim: To present two cases of patients undergoing treatment at the Hospital for the Rehabilitation of Craniofacial Anomalies, male patients who underwent periapical radiographs to evaluate the alveolar bone graft in the cleft lip and palate region (CLP). Methodology / Results: During the interpretation of the images of both cases it was possible to observe a transverse radiolucent line overlying the root of the tooth 21 throughout its mesiodistal path, simulating a radicular fracture image that was also observed in previous radiographs. During the search of other images, a concomitant cone beam computed tomography (CBCT) scan file was previously performed for other reasons, and it is possible to observe the presence of nutrient channels adjacent to the tooth 21. The CBCT has enabled the recognition of the neurovascular variations of these regions contributing to a correct diagnosis. Conclusions: Preoperative identification of the course of nerves and vessels through radiographic evaluation is essential to make surgical procedures safe, especially in patients with CLP, as they have three times more incidental findings in CBCT when compared to patients without CLP. Key words: Cone Beam Computed tomography, anatomy, anatomical variations, cleft lip and palate, neurovascularization of maxillary bone.

109 The role of saliva in the severity of chemo-induced oral mucositis in cancer patients.

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BACKGROUND: Oral mucositis is the main comorbidity of chemotherapy. Knowing the factors related to its aggravation helps in the preventive and therapeutic management. AIM: To evaluate the salivary parameters of pediatric patients before and after chemotherapy and their correlation with severe oral mucositis (SOM). METHODOLOGY: Explanatory, observational and longitudinal study developed in a reference hospital for cancer (Paraíba, Brazil). Patients aged 4 to 18 years (n = 26), with diagnosis of primary câncer, being followed up before and after two, five and ten weeks of induction of chemotherapy. Data on the diagnosis and treatment regimen were obtained from hospital records. The oral mucosa was examined by the Oral Assessment Guide (OAG) by calibrated examiners (κ> 0.70). Samples of unstimulated saliva were collected (2 min) always in the morning, after 1 hour of last brushing and feeding to determine the unstimulated salivary flow - USF, clinical salivary viscosity - CSV and pH. Data were analyzed by the Wilcoxon test and Spearman correlation (α=5%). RESULTS: The patients were predominantly female (n= 15, 57.7%); adolescents (n = 15, 57.7%) and with haematological tumors (n= 21, 80.8%). The SOM was present in all the evaluated periods, being more frequent in the tenth week (n= 7, 28.6%). The USF, CSV and pH were not modified by the institution of chemotherapy (p>0.05). They were positively correlated only to MOG and time (p <0.05). CONCLUSION: The salivary parameters investigated did not influence the severity of oral mucositis in pediatric patients submitted to chemotherapy.