

# *ABSTRACTS*

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A PATHWAY ANALYSIS BASED ON RELATIONSHIP BETWEEN PERIODONTITIS AND HYPERGLYCEMIA IN KIDNEY TRANSPLANT RECIPIENTS  
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Aim: Periodontal disease can be associated with worsening of graft function and the occurrence of adverse cardiovascular events after kidney transplantation (KTx), and different factors can be associated with hyperglycemia in this population.

Method: A theoretical model was formulated to analyze the impact of periodontal status on hyperglycemia, adjusted for age, prior diabetes mellitus, cardiovascular disease and smoking history. A cross-sectional study was conducted with 44 KTx patients. The periodontal evaluation was performed using clinical attachment level (CAL), probing depth (PD), gingival bleeding index (BOP), and the visible plaque index (VPI). Fasting blood glucose (FBG) was measured, and hyperglycemia was analyzed at different FBG cutoff points. Statistical analysis included multivariable logistic regression and pathway analysis.

Results: The analysis showed that patients with periodontitis had increased odds of hyperglycemia from 120 mg/dL FBG cutoff, even after adjustment for potential confounders (OR = 29.38, 95% CI: 2.09 – 413.0). In addition, severe periodontitis was positively associated with FBG level ( $\beta=0.323$ , SE = 0.127,  $P=0.011$ ).

Conclusion: The findings suggest that periodontitis may increase hyperglycemia and FBG levels in KTx patients. Clinicians and patients should be aware of the potential benefit of periodontal care for better glycemic control management which should be confirmed in a well-designed clinical trial.

ACCURACY OF LINEAR MEASUREMENTS IN THREE-DIMENSIONAL MODELS DERIVED FROM MANDIBLE SEGMENTATION  
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Aim: Evaluate the reproducibility of linear measurements, performed in three-dimensional surface models, obtained from the segmentation of volumes acquired by different tomographs, with different acquisition parameters, and by a laser surface scanner.

Method: To perform this, a totally edentulous dry jaw was submitted to five tomographic acquisitions that were acquired in three different tomographs with different acquisition protocols, to make three-dimensional models based on semi-automatic segmentation using ITK-SNAP software. A laser scanner was used to obtain a three-dimensional model considered gold standard. Four measurements were made on each model, by three experienced examiners.

Results: Intra-examiner agreement was high (-0.52 to 4.53) and the mean difference between them ranged from 0.14 to 0.27 mm, being statistically significant for only one examiner ( $p=0.028$ ). Inter-examiner agreement was also high with no statistically significant differences ( $p=0.905$ ). When analyzing the means evaluated by the tested method, compared to the gold standard, the confidence interval ranged from -2.56 to 2.53 and standard deviation from 0.6 to 1.0 showing a high agreement.

Conclusion: The results of the present study confirmed that the measurements made in three-dimensional models are reproducible, and that the variation in acquisition parameters did not interfere the reproducibility of linear measurements.

ALTERATION OF COLOR AND RUGOSITY OF INFILTRATED ENAMEL WITH LOW VISCOSITY RESIN AFTER USE WHITENING DENTIFRICES  
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Aim: Evaluate the surface roughness, the morphology and the alteration of the enamel infiltrated with low viscosity resin Icon, subjected to brushing cycles with toothpaste with whitening action

Method: The specimens of human teeth had the enamel surfaces demineralized and infiltrated with Icon, according to the manufacturer's recommendations. The specimens were subjected to 30,000 brushing cycles with a soft brush, using as positive control three different toothpastes with whitening action and a toothpaste without whitening action. The specimens were evaluated for morphology, using scanning electron microscopy, surface roughness using a rugosimeter and color, using a spectrophotometer, using the CIE Lab system, in 2 different moments: initial (baseline) and after the brushing cycle.

Results: After brushing, the surface roughness decreased significantly with all dentifrices. There was no significant difference between groups treated with toothpaste. The morphological analysis showed that the infiltrated and brushed groups with toothpaste showed similarity when analyzing the surface between them and a change in their morphology, when compared to the enamel infiltrated before brushing cycles. For color change, all groups were similar

Conclusion: Regardless of the type of toothpaste used, there was a reduction in the surface roughness of the infiltrant. All treatment groups had E above the levels of acceptability and perceptibility and there was no difference in E between the groups tested. The qualitative assessment of the surfaces performed was similar to the roughness assessment, proving their findings.

ANALYSIS OF APICAL DEVIATION IN THE MESIAL CHANNELS OF LOWER MOLARS INSTRUMENTED WITH PROTAPER NEXT BY MICRO-CT  
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Aim: The objective of this research was to evaluate by means of computerized microtomography (micro-CT) the mesial channels of lower molars regarding the apical deviation after instrumentation with Protaper Next®.

Method: For this research we selected 20 lower molars with mesial roots with severe curvature between 20° and 40° according to Schneider's method, absence of previous endodontic treatment, intraradicular pins, calcifications and internal or external resorptions. The mesial channels were instrumented with Protaper Next® up to the X2 file, and then were submitted to analysis with micro-CT for evaluation of apical deviation. The collected data were analyzed

and the means and standard deviations were performed with the application of the ANOVA test, with a significance level of 5%.

Results: As a result it was verified that there was apical deviation in mesiobuccal and mesiolingual channels  $p=0.6359$  ( $p>0.05$ ).

Conclusion: It can be concluded that Protaper Next®, despite its heat treatment (M-Wire) was able to produce apical deviation in the mesial channels of lower molars with severe curvature.

ANALYSIS OF HEALTH LITERACY AND ORAL CLINICAL CONDITION IN SUS USERS WITH CHRONIC NON-COMMUNICABLE DISEASES  
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Aim: The objective of this research was to analyze the association of health literacy (HL) with clinical and behavioral conditions in patients with chronic non-communicable diseases (NCDs) users of the Unified Health System.

Method: For this purpose, a cross-sectional study was conducted, from July to December 2019, with 238 adult users, in a random sample of 10 Basic Health Units, in Piracicaba-SP, Brazil. A questionnaire was applied to obtain socioeconomic, behavioral, and HL data (HLS-14). The outcome was HL (high, medium and low) and the independent variables: NCDs (diabetes, systemic blood pressure), clinical conditions (pressure, tooth loss, pain, visible plaque and insertion loss), behaviors (brushing, use of dental floss), determinants (type and frequency of use of health services) and self-perception in health. Based on the conceptual model adapted for HL, a descriptive statistical analysis was performed, using the Chi-Square test (significance 5%).

Results: Among the users, 69.3% were women, the average age of users was 63 years old, white, earning above 1 minimum wage. Low HL and 35.3% ( $n=84$ ) were found in 35.3% ( $n=84$ ). Low HL was associated with older individuals, less education, less frequency of brushing and flossing, irregular use of dental services, edentulism, pain, loss of insertion, negative self-perception of oral health and quality of life, and better index systolic blood pressure ( $p<0.05$ ).

Conclusion: The association of HL with behavioral and clinical factors has shown an important role in the health-disease process in this population. HL should be considered in health promotion policies in future studies.

ANALYSIS OF THE BIOLOGICAL CHANGES OF PULP AND DENTAL ENAMEL SURFACE FOR DIFFERENT TYPES OF WHITE IN RAT TEETH  
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Aim: Evaluate possible damage to the enamel surface and pulp response in rats after using a new bleaching gel, initially called Active O8#8322; based on the design and structuring of niobium at nanometric levels, comparing with products based on active hydrogen peroxide available on the market.

Method: To evaluate the pulp response in rats, odontoblasts were counted on the slides obtained by cutting the molars of rats after applying the different bleaching gels. In order to analyze the possible damage to the enamel surface, a Scanning Electron Microscopy (SEM) study was carried out on the surface of the teeth under test. The tests were carried out with the authorization of the Ethics Committee for the Use of Animals (Protocol number 217/2018).

Results: The data found showed that Active O8#8322; did not cause aggression to the pulp and did not significantly alter the enamel surface of rats compared to gels with hydrogen peroxide.

Conclusion: Sufficient data were obtained to file the patent application at the National Institute of Industrial Property (INPI) via the Technological Transfer and Innovation Coordination (CTIT / UFMG) in conjunction with the private initiative of the company OdontoTech, which financed the studies. And, for the evolution of studies with this new material, it is now necessary to attest its efficiency in humans.

ANALYSIS OF THE PHYSICOCHEMICAL PROPERTIES OF EXPERIMENTAL BLEACHING GELS AFTER ACCELERATED STABILITY TEST  
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Aim: The aim of this study was to evaluate the physicochemical properties (weight, pH, hydrogen peroxide (H2O2) quantification) and mechanical properties (texture profile) of at-home bleaching gels based on carbamide peroxide (CP) with the addition of bioadhesive polymer (Aristoflex®), after being submitted to accelerated stability test.

Method: Three hundred syringes of bleaching gels were divided into 5 groups according to their composition ( $n=60$ ): Whiteness perfect® 10% - FGM (WP); PC 10% com aristoflex (PCa); PC 10% com carbopol (PCc); Aristoflex (A); Carbopol (C). Each group was submitted to the accelerated stability test at the following times: baseline, 1 month, 3 months, and 6 months at the temperature of 40°C and humidity of 75%. The variables analyzed for each gel, in each time, were: weight ( $n=15$ ); pH ( $n=5$ ); quantification of H2O2 ( $n=5$ ) and texture profile ( $n=5$ ). After an exploratory analysis of the data, most appropriate statistical tests for the design and distribution of each variable were defined ( $\alpha=0.05$ ).

Results: PCa and PCc groups presented the highest pH values when compared to the others. After 3 months of storage, there was a reduction in PCa and PCc weight ( $p<0.05$ ). WP presented the highest values for H2O2 over time ( $p<0.0001$ ), only showing significant loss from the third month on. PCa and PCc showed a reduction in H2O2 from the first month on.

Conclusion: Temperature and humidity directly influenced the active content and properties of the bleaching gels. The presence of other components besides the thickeners in the commercial gels, such as stabilizers, allowed greater stability of these gels over time.

ANOREXIA AND BULIMIA NERVOSA: BODY DICTATORSHIP  
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Aim: To address, among eating disorders, anorexia and bulimia nervosa: characteristics, etiological factors and risk factors.

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Method: This is a bibliographic review, with a survey of articles indexed in the Scielo and Google academic databases, using the following descriptors: eating disorders, anorexia, and bulimia.

Results: Anorexia and bulimia are eating disorders clinically characterized by a pattern of altered eating behavior, pathological control of body weight and disorders of body perception. Anorexia nervosa is generally marked by restrictive behaviors in relation to food due to the fear of gaining weight. Bulimia nervosa is characterized by episodes of binge eating followed by regret, which ends in forced vomiting. In both anorexia and bulimia, intense and rapid weight loss may involve forced vomiting, use of laxatives, excessive use of caffeine and / or inadequate diets and medications (antidepressants). They have multifactorial etiological factors and significant degrees of morbidity and mortality. They are more prevalent in women. It is pointed out that among the risk factors for these eating disorders are emotional and behavioral changes, the media (cult of thinness) and the social and family environments. Conclusion: Anorexia and bulimia are characterized by abnormal patterns of eating behavior, pathological control of body weight and disorders of body perception. Its risk factors involve emotional and behavioral changes, the media (cult of thinness) and social and family environments.

ANTIMICROBIAL AND CYTOTOXIC EFFECT OF MOUTHWASH AND CITRONELLA OIL ON BIOFILM IN PROTOCOL TYPE PROSTHESIS MATERIALS  
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Aim: To evaluate, in vitro, the cytotoxicity and efficacy of two solutions based on citronella oil (CN) on monospecies biofilms of *S. aureus* and *C. albicans* on thermally activated acrylic resin (TAAR) and nickel-chromium alloy (ANC) in comparison with two commercial mouthwashes. Method: For this, the minimum bactericidal/fungicide concentration of CN was determined against strains of *S. aureus* and *C. albicans*. Then, two solutions containing CN at concentrations of 5x and 10x at CBM/CFM were prepared by microdilution. After contamination of TAAR and ANC surfaces with these microorganisms, mouthwashes solutions were evaluated. The mouthwash simulation was performed for 1 minute, in two moments. To quantify the biofilm, the counting of colony forming units (UFCs) was performed. The cytotoxicity assay of the solutions was performed in HaCat epithelial cells and quantified by the MTT method.

Results: All tested solutions inhibited the growth of biofilms in the formation of *S. aureus* and *C. albicans*. For the biofilms formed, all solutions showed an inhibitory activity against *S. aureus* and *C. albicans*. All tested solutions showed toxic effect on epithelial cells. Conclusion: The citronella solutions tested showed lower cytotoxic effect and greater action on biofilm of *S. aureus* and *C. albicans*.

APEXIFICATION OF TRAUMATIZED IMMATURE PERMANENT TEETH WITH CROWN-ROOT FRACTURE: CASE REPORT  
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Aim: Dental trauma is a health problem with high frequency in children and young adults. They are associated to psychological, functional and aesthetics consequences. Pulp necrosis is one of the main consequences after a dental trauma and implies failure in the root development of newly erupted permanent teeth, which therefore remain thin walls and open apex. The objective of this study was to describe a treatment option that allows the development of the root apex and the strengthening of the apical walls in immature teeth that present pulp necrosis after trauma.

Case Report: This case report describes the treatment of a necrotic immature permanent central incisor (11) with crown-root fracture, was used apexification with a single application of calcium hydroxide. On a subsequent visit after 60 days, was showed absence of clinical signs and symptoms such as spontaneous pain, tenderness to pressure or percussion, loss of function, mobility, or probing depths and radiographically reduction in the size of the periapical lesion. The tooth was accessed, calcium hydroxide was removed, obturated the canal with gutta-percha points and sealer and an prosthetic restoration with fiber post.

Conclusion: This study concluded that calcium hydroxide apexification is a low cost alternative, easily applicable in the clinical routine and that presents high success rates in the treatment of immature traumatized teeth.

ARTICULAR DISC TEXTURE ASSESSMENT AS TOOL IN STUDY OF TEMPOROMANDIBULAR DISORDERS  
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Aim: The aim of this study was to evaluate the articular disc texture, relating it to its morphology and displacement.

Method: Magnetic Resonance images of the temporomandibular joint of 48 individuals were selected and evaluated for the presence of symptoms for temporomandibular disorders. Then, segmentation of the disks was performed, initially using Mazda software followed by quantification of the number of voxels within each segmented region. Finally, obtained volumes, clinical data of the individuals, and image diagnosis (disc displacement, morphology, and texture), were subjected to statistical analysis and T-test between groups and correlation tests with continuous variables: correlat, contrast, entropy, sum entropy, sum of variance, and angular second moment.

Results: The results showed that is possible to evidence and quantify whether the articular disc presents changes.

Conclusion: Therefore, these analyzes proved to be a tool to show the early stages of disc pathologies.

ARTIFACT EXPRESSION AND MECHANICAL RESISTANCE OF A NANOCOMPOSITE OF POLYLACTIC ACID / HYDROXYAPATITE / GRAPHENE OXIDE  
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Aim: This pilot study aimed to evaluate the artifacts expression of a new biomaterial - polylactic acid (PLA)/hydroxyapatite (HA)/graphene oxide (GO) - and to compare it with that of commonly used dental materials, in cone beam computed tomography (CBCT). The nanocomposite's mechanical resistance was also tested.

Method: Cylinders of gutta-percha, amalgam alloy, titanium, and PLA/HA/GO were individually positioned in the center of an acrylic phantom. Three images of each set "phantom + material", and of a control group (empty phantom), were acquired with a Picasso Trio CBCT unit. Eight regions of interest were established in each resulting scan to assess the standard deviation (S.D.) of gray values, using the ImageJ software. Additionally, the compressive strength of specimens of each material was tested, using an Instron 4411 machine. Statistical analysis was performed with significance level set at 5%.

Results: There was no significant difference in the S.D. between the PLA/HA/GO and control images (p=0.712), and both of them showed fewer artifacts than the other tested materials (p<0.05). All materials differed from each other regarding compressive strength (p<0.05). Titanium had the highest compressive strength (799.86 MPa), followed by amalgam alloy (165.9 MPa), PLA/HA/GO (83.67 MPa), and gutta-percha (4.81 MPa).

Conclusion: In conclusion, the PLA/HA/GO nanocomposite produced fewer artifacts and better-quality images than the other tested materials. However, the compressive strength of this nanocomposite is still lower than that of other dental materials, requiring improvements in its composition for future use in some specific areas in Dentistry.

ASSESSMENT OF LOCAL ANESTHETICS FOR REMOVAL OF LOWER THIRD MOLARS: SYSTEMATIC REVIEW AND NETWORK META-ANALYSIS  
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Aim: This study aimed to perform a systematic review of the literature to assess the effectiveness of anesthetic solutions for pain control immediately after the extraction surgery of lower third molars.

Method: The review followed the PRISMA recommendations. Nine databases were used as search sources, including the "grey literature". Only randomized clinical trials were included. The "JBI Critical Appraisal Checklist for Randomized Controlled Trials" assessed the risk of bias in the studies. The network meta-analysis was performed to compare, directly and indirectly, the effectiveness of different anesthetics for pain control immediately after the extraction of lower third molar, using the standardized mean difference (SMD) as the effect estimate. The GRADE tool was used to assess the level of evidence.

Results: The search presented 13,739 initial results, from which 50 were included in the qualitative synthesis. 22 studies presented low risk of bias and 28 studies presented moderate risk of bias. 12 studies were included in the meta-analysis with a sample of 514 patients. The 2% lidocaine + clonidine presented the lowest pain scores compared to 4% articaine + adrenaline, followed by 0.5% bupivacaine + adrenaline. The anesthetic with the highest pain scores was 1% ropivacaine. The certainty of evidence varied between moderate and very low. Conclusion: 2% lidocaine + clonidine and 0.5% bupivacaine + adrenaline were the anesthetics with the highest probability to control the pain immediately after the lower third molars extractions. However, 0.5% bupivacaine + adrenaline was the treatment that presented the highest certainty of evidence.

ASSESSMENT OF TENSION AND TORQUE RESISTANCE OF SCREWS RETENTION SYSTEMS FOR HEARING PROSTHESIS IMPLANTS: A LITERATURE REVIEW  
ISABELLA VIEIRA AGUIAR SILVA; ALINE ÚRSULA ROCHA FERNANDES; JOSUÉ MIGUEL DE OLIVEIRA; MATEUS VEPPA DOS SANTOS  
EURO AMERICAN UNIVERSITY CENTER

Aim: The objective of this study was to evaluate, from a literature review, the methods for fixing maxillofacial prostheses, which can be obtained through mechanical means, adhesives or osseointegrated extraoral implants.

Method: The descriptors "Auricular Prosthesis AND Retention" and "Maxillofacial Prosthesis" were used in the PubMed (64), Lilacs (7) and Scielo (10) databases, totaling 81 articles, published between 2004 and 2020 in English, Portuguese and Spanish. Studies were excluded which, after analyzing the title and abstract, did not answer the research question, with 12 articles eligible for the study.

Results: There are several methods for fixing auricular prostheses, but the results are not as expected by patients, due to the limitations of some methods. Thus, although there are few studies that evaluate the retention systems of implanted auricular prostheses, this presents itself as an excellent choice for rehabilitation using an auricular prosthesis, with the objective of improving prosthesis retention.

Conclusion: Emphasis is placed on the need for laboratory studies and clinical trials, with the objective of evaluating the effectiveness of different types of implants, in the retention of auricular prostheses. In this way, we would be able to assess important factors for ear prosthesis longevity and better quality of life for the patient.

ASSESSMENT OF THE IMPACT OF TOOTHACHE, UNTREATED CARIES AND ITS CONSEQUENCES ON THE QUALITY OF LIFE AMONG POOR CHILDREN  
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Aim: This study's aim was to evaluate the impact of dental pain and the consequences of untreated dental caries on the quality of life in children of low social-economic status aged from 8 to 10 years old.

Method: In this cross-sectional study, 230 children were submitted to a clinical examination in which the caries-pufa ratio was measured, afterwards they answered to two questionnaires: one about their quality of life (CPQ8-10) and the other about dental pain. Data was statistically analyzed through Chi square, Mann-Whitney or Kruskal-Wallis tests to evaluate the association between the variables with impact on children's OHRQoL. To establish the existence of risk factors among variables and impact on OHRQoL a Poisson Regression model was applied.

Results: Dental caries (p = 0.003; PR 2.39; 95% CI 1.04 - 1.56), severity of untreated caries (p = 0.008; PR 2.86; 95% CI 1.13 - 2.00), toothache (p < 0.001; PR 2.31; 95% CI 1.64 - 3.27) and PUFA/pufa (p < 0.023; PR 2.68; 95% CI 1.10 - 1.87) were associated with and were a predictor factor for impact on overall OHRQoL. All of these variables also had effect over the social welfare subscale (p &#8804; 0.001), whereas caries presence was also statistically

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linked with the emotional wellbeing subscale ( $p = 0.008$ ) and dental pain with all four subscales ( $p \leq 0.001$ ).

Conclusion: Untreated dental caries' clinical consequences and dental pain exert a negative influence on the quality of life of schoolchildren analyzed. Keywords: Quality of life; Toothache; Dental caries; Pediatric Dentistry.

**ASSOCIATION BETWEEN BLEACHING TECHNIQUES FOR THE TREATMENT OF TEETH WITH CHROMATIC ALTERATION - CASE REPORT**  
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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The objective of this article is to describe the clinical case of a 24-year-old patient who attended the Postgraduate Program in Dental Practice at the Faculty of Dentistry of Piracicaba - FOP / UNICAMP, whose main complaint was tooth darkening after trauma in the childhood . Case Report: The internal whitening of a dental element was performed with sodium perborate and distilled water associated with the external whitening in the office with 37% hydrogen peroxide to provide a more harmonious smile to the patient.

Conclusion: The association of whitening techniques is an alternative widely recommended, especially in young people, and quite effective in cases where a conservative treatment and maintenance of the integrity of dental elements is desired, avoiding more invasive restorative procedures, resulting in patient satisfaction.

**ASSOCIATION BETWEEN HYPOSALIVATION AND THE TYPE OF ANTINEOPLASTIC TREATMENT IN SURVIVORS OF ORAL OROPHARYNGEAL CANCER**  
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Aim: Some studies have shown that treatment with radiotherapy and concomitant chemotherapy has been associated with a higher prevalence of hyposalivation in patients with head and neck cancer, but there is a controversy in the literature. Thus, the objective of this cross-sectional study was to evaluate the association between the type of antineoplastic treatment and hyposalivation in oral and oropharyngeal cancer survivors.

Method: The sample consisted of 50 patients who were treated with radiotherapy with or without chemotherapy. For statistical analysis, the sample was dichotomized between patients who received chemotherapy and patients who did not receive chemotherapy. The measurement of the stimulated salivary flow was made using the Spitting method proposed by Navazesh and Kumar. Stimulated salivary flow less than 0.5 mL/min was considered hyposalivation.

Results: The prevalence of hyposalivation was 82% and the mean stimulated salivary flow was 0.43 mL/min ( $\pm 0.78$ ). Patients who were treated with radiotherapy associated with chemotherapy had a higher prevalence of hyposalivation ( $p = 0.043$ ). There was no association of hyposalivation with other clinical variables, such as total radiation dose received and tumor staging. All tests were performed with  $p < 0.05$ .

Conclusion: From the observed results, it was concluded that hyposalivation exhibited a high prevalence in patients irradiated in the head and neck. The treatment modality that associated radiotherapy with chemotherapy seemed to have an additive effect on the damage to salivary glands, leading to a higher prevalence of hyposalivation.

**ASSOCIATION BETWEEN PERIODONTAL DISEASE AND METABOLIC SYNDROME**  
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Aim: The present review aims to identify the main pathomechanisms and related molecules between PD and SM.

Method: The present report is a bibliographic review of articles published between 2008-2020, including meta-analyses and critical and systematic reviews, using the keywords "metabolic syndrome" AND "periodontitis" in the MENDELEY database, in English.

Results: Metabolic Syndrome (MS) and Periodontal Disease (PD) promote inflammation and are risk factors for cardio-cerebrovascular disease and type 2 diabetes. The literature shows changes in inflammatory mediators of the gingival fluid, produced by adipose tissue, in obesity, with increase in pro-inflammatory adipokines such as visfatin (related to periodontal destruction), leptin (loss of clinical insertion), resistin (insulin resistance) and reduction of adiponectin, which is anti-inflammatory. Hyperglycemia contributes to PD with advanced glycation products, inducing inflammatory molecules. In obesity, there is an increase in IL-1 beta, IL-6 and TNF alpha, recruiting inflammatory cells and generating bone resorption. Periodontal bacteria and inflammatory mediators can damage the endothelium, promote atherogenesis, thrombosis and hypertension. Hypertension, on the other hand, alters blood vessels due to endothelial dysfunction, interfering with the immune response.

Conclusion: Given the above, bidirectionality is identified between the constituents of SM and PD. Periodontal therapy is able to reduce inflammatory markers from systemic diseases and interdisciplinary treatment is recommended for MS and PD.

**ASSOCIATION OF MINIMALLY INVASIVE TECHNIQUES FOR AESTHETIC TREATMENT OF ENAMEL FLUOROSIS: A CASE REPORT 2 YEARS FOLLOW-UP**

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Aim: Describe the treatment of dental fluorotic spots with the association of minimally invasive techniques, through a clinical case with a two-year follow-up.

Case Report: Fluorosis is caused by intrinsic factors due to excessive fluoride intake during the development phase of the teeth, leading to changes in the chromaticity of the tooth. Initially, macroabrasion of dental enamel with an extra-fine granulation diamond tip (N° 3195 FF) was performed to remove the superficial enamel, followed by the use of a chemical compound for enamel microabrasion (Opalustre - Ultradent Products Inc), in the same session. From these techniques, it was possible to remove most of the superficial stains present in the enamel. However, it was not enough to satisfy the aesthetic desired by the patient. Therefore, with an interval of 1 week, the treatment was complemented with supervised tooth bleaching with 22% carbamide peroxide (Power Bleaching BM4) for 1 hour daily, over 15 days.

Conclusion: The correct diagnosis, planning, and association of the proposed techniques allowed the uniformization of the remaining white spots with the smile, achieving the

aesthetics desired by the patient, without the presence of dental sensitivity symptoms and with long-term result stability.

**ASSOCIATIONS BETWEEN LEVES OF GENERAL HEALTH LITERACY AND SELF-RATED ORAL HEALTH**  
BEATRIZ LOUREIRO SANTOS; FABIO LUIZ MIALHE  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: Health Literacy (HL) indicates the extent to which individuals obtain, process, and understand basic health information and services necessary to make appropriate health decisions. However, few studies in Brazil evaluated the levels of general HL (GHL) in population that uses public health services and associations with oral outcomes. This study evaluated the levels of GHL and self-rated oral health among users of primary health care.

Method: 667 users randomly selected from 10 Primary Health Units (PHU) in the city of Piracicaba (SP) participated. GHL was measured with Health Literacy Survey short-short form (HSL-06). A questionnaire evaluating socioeconomic and oral health outcomes was applied. Simple logistic regression models were estimated between each independent variable and the outcome. Variables with  $p < 0.20$  in the crude analyzes were tested in multiple logistic regression models. Variables with  $p \leq 0.05$  remained in the final model after adjusting for the other variables. From the regression models, the gross odds ratios were estimated and adjusted with the 95% confidence intervals.

Results: Of the total sample, 35.4% consider their oral health to be regular or poor. Participants with a long-term health problem, with tooth extraction due to caries, who brush their teeth up to twice a day and with a lower GHL score have, respectively, 1.84 (95% CI: 1.25-2.72), 3.58 (95% CI: 2.49-5.15), 1.96 (95% CI: 1.38-2.78) and 1.67 (95% CI: 1.11-2.52) times more likely to rate their oral health as worse, ( $p < 0.05$ ).

Conclusion: GHL have an important impact on oral self-rated oral health and should be integrated in primary health team assessments.

**ATTENTION TO HIV/AIDS PEOPLE BY THE DENTISTRY PROFESSIONAL**  
JOÃO PAULO CHILES NETO; DAGMAR DE PAULA QUELUZ  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: To know the importance of care for HIV/AIDS patients by dentistry professional.

Method: This is a literature review, in the Google Scholar and Scientific Electronic Library Online (SciELO) databases.

Results: One of the interfaces evidenced by the HIV epidemic is the fact that people living with HIV/AIDS have a specific demand for oral health care. Despite the low risk of contamination, studies report anxiety among dentistry professional regarding HIV/AIDS, causing some ethical precepts to be violated. The unpreparedness of these professionals in the field of human relations, especially in terms of welcoming and respecting diversity, seems to distance patients. Attention to oral health is recognized as one of the pillars for maintaining the general health of the individual and, in particular, of people with a compromised immune system, subject to various opportunistic diseases in the oral cavity. Thus, the importance of the dentist's role in a multidisciplinary HIV/AIDS care team is emphasized and, considering this context, it is essential to build oral health care for this population.

Conclusion: It is necessary that the dentistry professional is informed about the disease and actively works on his behavior and emotional instances, so that the acquired knowledge is put into practice.

**AYURVEDA A DIFFERENT INTEGRATIVE THERAPY**  
MARIA ANGELA ADAMOLI DE MORAIS ROSSETTO; DAGMAR DE PAULA QUELUZ  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: To describe Ayurveda - integrative and complementary therapy as an alternative for prevention, promotion and treatment for chronic or degenerative diseases.

Method: Bibliographic review of integrative and complementary Ayurveda therapy, laws and ordinances of the Ministry of Health.

Results: The WHO describes Ayurveda as preventing and curing diseases as well as being a therapeutic system as well as a way of life. For Ayurveda, the human body is composed of five elements (ether, air, fire, water and earth) that make up the organism, the energetic and emotional states, and in imbalance, diseases can occur. The diagnosis is made by assessing doshas (considering body tissues - affected dhatus, moods, location of the disease, resistance and vitality, daily routine, eating habits, severity of clinical conditions, digestion condition, personal, social, economic and environmental status). Ayurvedic treatments consider the uniqueness of each person and use relaxation techniques, massages, medicinal plants, minerals, body postures (asanas), breathing techniques (pranayama), positions and exercises (mudras) and dietary care. In Ayurveda the healthy individual is one who has a balanced dosha (issues with proper nutrition, excretions - suitcases - disposed of properly) with the presence of joy and satisfaction in the mind and spirit.

Conclusion: Because it is a recent integrative and complementary therapy in Brazil, the importance of studies that can prove its effectiveness for new public health policies in the prevention, promotion and treatment of chronic and / or degenerative diseases.

**BEHAVIOR MANAGEMENT IN PEDIATRIC DENTISTRY DURING COVID-19 PANDEMIC**  
LETICIA MARTINS PEREIRA; ALINE ROGÉRIA FREIRE DE CASTILHO; CAMILLA KAROLINE DE CARVALHO BECKMAN; CAMILA RIBEIRO SILVA; REGINA MARIA PUPPIN RONTANI  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The fast spread of SARS-CoV-2 has brought new challenges to the pediatric dentistry. Since behavior management is the key point in pediatric dental routine, but also there is a need to prevent the viral spread, this study aimed to evaluate the impact of COVID-19 pandemic and the new attire on child's behavior management.

Method: An online survey was administered, over a 3-week period, through social networking sites, using Google Forms, to pediatric dentists living in Brazil.

Results: A total of 377 dentists who practice pediatric dentistry, 265 (70.3%) wore costumes or colorful gowns during dental practice before the surge of SARS-Cov-2, but only 139 (37%) kept this practice during the pandemic. Also, 154 (40.85%) respondents believed that the lack of costume during COVID-19 pandemic had influenced the children's behavior in the dental office. However, the majority of them reported that the new vestments have affected children's behavior and management (230/61.01%). The dental visits during COVID-19 pandemic did not increase the experiences of fear (261/69.23%) or anxiety (216/57.29%) in children. Tell-show-do and the positive reinforcement were the most used behavior techniques. No increased need for the use of non-pharmacological (255/67.64%) or pharmacological (348/92.31%) behavior management was observed.

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Conclusion: The new attire recommended for dental practice during the COVID-19 pandemic and the lack of costumes negatively impacted the children's behavior and management.

**BIMAXILLARY ORTHOGNATHIC SURGERY AND FEMINIZATION OF THE FACE**  
GABRIELY FERREIRA; MARCELO SILVA MONNAZZI  
ARARAQUARA DENTAL SCHOOL - UNESP

Aim: This study aimed to report the case of a 23-year-old female patient, non-syndromic, with the main complaint of maxillomandibular discrepancy and a face with few female features.  
Case Report: During facial analysis, bilateral Class III malocclusion was observed, long face, midline deviation of 1.5 mm to the left of the maxilla, and 2.5 mm to the right of the mandible. The proposed planning was Le Fort I osteotomy for maxillary advancement of 5 mm and posterior impaction of 2 mm, bilateral sagittal osteotomy for the mandibular retreat of 2 mm with an hourly rotation of the occlusal plane, and chin repair to reduce the lower third of the face and the width of the face. I lie. Osteosynthesis was performed with 2.0 mm system plates and screws and in the mandible, the hybrid fixation technique was used. Patient with 10 months of follow-up, stable occlusion, and orthodontic completion. The main difficulty of this treatment was to resolve the patient's aesthetic complaint.  
Conclusion: The vertical and lateral reduction of the chin was the procedure performed to decrease the lower third of the face, in addition to making the patient's face more curved, with smooth and delicate lines, characteristics that are predominantly feminine. Dental facial deformities often end up giving the patient undesirable aesthetic characteristics, making it necessary, in addition to restoring function, to correct these characteristics to obtain a more harmonious face.

**BIOACTIVE MATERIALS IN DENTIFRICES: A LITERATURE REVIEW**

ANDRE DE CASTRO YAMASHIRO; DANIELLE FERREIRA SOBRAL DE SOUZA; DÉBORA ALVES NUNES LEITE LIMA  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: Perform a literature review on different biomaterials in dentifrices.

Method: The search was carried out in the Pubmed, Scielo, and Periódicos Capes databases, covering the period from 2015 to 2020 years.

Results: Biomaterials are any natural or synthetic substances used as a system's part that treats, increases, or replaces an organ, tissue, or body function. They are subdivided into metals, polymers, or ceramic materials, being found in dentifrices under different compositions, such as bioactive glass (BG), hydroxyapatite (HA), tricalcium phosphate (TCP), and phosphopeptide casein-amorphous calcium phosphate (CPP-ACP). BG can prevent demineralization and assist the enamel remineralization by the hydroxycarbonated apatite layer formation with the aqueous solutions interaction. When combined with fluoride present in a dentifrice, forming a fluoridated apatite, assisting in the remineralization of early enamel carious lesions, and desensitizing vital teeth with exposed dentin. CPP-ACP found in MI Paste Plus can remineralize and inhibit demineralization, with better efficiency in tooth enamel mineralization, mainly in naturally occurring initial white spot lesions and in patients after orthodontic treatment. HA and TCP in recent in vitro studies showed a capacity for remineralization and inhibition of demineralization, in addition to occluding dentinal tubules.

Conclusion: Several biomaterials are available in dentifrices. Therefore, clinical studies are needed to evaluate their effects in the medium and long term, in addition to knowledge of their chemical, physical, and biological differences for the correct indication of use.

**BIOCOMPATIBILITY AND BIOMINERALIZATION OF EXPERIMENTAL INTRACANAL PASTES BASED ON GLASS AND GLASS-CERAMIC MATERIALS**

PEDRO AUGUSTO MONTEIRO DELGADO; JULIANA MARIA DE ARAÚJO LOPES; ALEXANDRE HENRIQUE DOS REIS-PRADO; MARINA TREVILIN SOUZA; EDILSON EVOLINO; EDGAR DUTRA ZANOTTO; LUCIANO TAVARES ANGELO CINTRA; FRANCINE BENETTI

SCHOOL OF DENTISTRY, UNIVERSIDADE FEDERAL DE MINAS GERAIS

Aim: This study evaluated the biocompatibility and induction of mineralization of experimental intracanal pastes based on glass and glass-ceramic materials. Calcium hydroxide (Ca(OH)<sub>2</sub>) paste was used as the positive control.

Method: The glass-ceramic powder [two-phased Biosilicate (BS-2P)] and F18 bioactive glass were mixed with distilled water (ratio 2:1), inserted in polyethylene tubes and implanted in the subcutaneous tissues of 16 rats. Empty tubes were used as negative control. After 7 and 30 days (n = 8), the rats were euthanized for hematoxylin-eosin, von Kossa, polarized light and osteopontin (OPN) immunolabeling analyses. Data were submitted to the Kruskal-Wallis and Dunn tests (P < 0.05).

Results: At 7 days, most specimens of control, BS-2P and Ca(OH)<sub>2</sub> groups exhibited moderate inflammation, whilst F18 exhibited moderate to severe inflammation (P > 0.05). At 30 days, most specimens of control, F18 and BS-2P groups had mild inflammation, and Ca(OH)<sub>2</sub> exhibited mild to moderate inflammation (P > 0.05). The fibrous capsule was thick at 7 days, becoming thin at 30 days. All pastes induced von Kossa-positive structures and were birefringent to polarized light. At 7 days, the BS-2P group had significantly more OPN immunolabeling compared to the control and Ca(OH)<sub>2</sub> groups (P < 0.05). At 30 days, the F18 group had significantly more OPN immunolabeling compared to the control and Ca(OH)<sub>2</sub> groups (P < 0.05).

Conclusion: In conclusion, experimental BS-2P and F18 pastes were biocompatible, stimulated biomineralization and induced significant OPN immunolabeling compared to Ca(OH)<sub>2</sub>.

**BIOCOMPATIBILITY OF THE BIOCERAMIC MTA, HIGH-PLASTICITY MTA, AND BIDENTINE IS INFLUENCED BY ARTERIAL HYPERTENSION** GIULIANA FAZOLIN; JOÃO EDUARDO GOMES-FILHO; RENAN DAL-FABBRO; FERNANDA DE LIMA PONTES; GABRIELLE CABRAL MELVILLE DE SOUZA TENÓRIO; DANIEL PINTO DE OLIVEIRA; LUCIANO TAVARES ANGELO CINTRA; LEOPOLDO COSME SILVA  
FEDERAL UNIVERSITY OF ALAGOAS (UFAL)

Aim: The biocompatibility of the bioceramic MTA, High-plasticity MTA, and Biodentine is influenced by arterial hypertension: histological study. This study evaluated the effect of AH on the inflammatory response and on the biomineralization of the white mineral trioxide aggregate (MTA), high plasticity MTA (MTA HP) and Biodentine® (BDT) in rats.

Method: Polyethylene tubes filled with MTA, MTA HP, BDT and the control group (empty tubes) were placed in the dorsal subcutaneous tissue of 32 male rats (16 normotensive (NT) and 16 hypertensive rats - 8 per group). After 7 and 30 days, the polyethylene tubes surrounded by connective tissue were removed, fixed and included in histological resin. The average number of inflammatory cells was estimated in HE-stained sections, biomineralization was quantified

as area (µm<sup>2</sup>) by Kossa staining (VK) and examination by polarized light microscopy (LP) was performed. The data were evaluated statistically (p < 0.05).

Results: The inflammatory process for MTA, MTA HP and BDT was greater in hypertensive rats than in NT rats (p < 0.05). Positive VK staining in MTA and BDT was more pronounced in NT rats at 7 and 30 days (p < 0.05). Birefringent structures in LP for MTA, MTA HP and BDT were more pronounced in NT rats in 7 days (p < 0.05).

Conclusion: In rats, AH was able to increase the inflammatory infiltrate and decrease the biomineralization of the tested materials.

**BIOFILM OF AGGRESSIVE AND CHRONIC PERIODONTITIS PRESENTS DISTINCT GENE EXPRESSION PROFILE**

HELVIS ENRI DE SOUSA PAZ; CAMILA SCHMIDT STOLF; THIAGO PEREZ RANGEL; MABELLE DE FREITAS MONTEIRO; ANTÔNIO PEDRO RICOMINI FILHO; ENILSON ANTONIO SALLUM; MÁRCIO ZAFFALON CASATI; RENATO CORRÊA VIANA CASARIN  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: This study evaluated whether there are differences in biofilm gene expression profile in patients with aggressive and chronic periodontitis using transcriptomic analysis.

Method: Fifteen patients with aggressive periodontitis (AgP) and fifteen patients with chronic periodontitis (CrP) were selected to compose the two groups. The subgingival biofilm was collected in six sites per patient. RNA was extracted, treated and sequenced (RNAseq, Illumina HiSeq n=3/group) and the genes were validated by RT-qPCR (n=15/group). The bioinformatics and statistical analysis were performed with a significance level of 5%.

Results: The results demonstrated significant differences in virulence mechanisms and functional activities between groups. The AgP group presented a higher expression of MFS superfamily, L-arginine, elastin, protease I, NarL, bacterioferritin B and glycine/proline. CrP group, on the other hand, presented a higher expression of glycosyltransferase, porin, LrP/AsnC, GABA, Flad, LPS and B-lactamase.

Conclusion: AgP and CrP presented different biofilm transcriptomic profiles and the bacterial function pattern could explain the pathogenicity and the clinical differences observed in aggressive and chronic periodontitis.

**BIOLOGICAL ASSESSMENT OF BIO-C REPAIR, MTA REPAIR HIGH-PLASTICITY AND WHITE MTA-ANGELUS**

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Aim: This study evaluated the cytotoxicity, biocompatibility and biomineralization of Bio-C Repair compared with MTA Repair High-Plasticity (MTA-HP) and white MTA-Angelus (MTA-Ang).

Method: L929 fibroblasts were cultivated and exposed to undiluted and diluted material extracts (½ and ¼ dilutions) at 6, 24 and 48h. Polyethylene tubes with or without (control) the materials were implanted in the subcutaneous tissue of 16 male Wistar rats. At 7 and 30 days (n = 8), the rats were killed, and specimens were prepared for analysis using hematoxylin-eosin, von Kossa and polarized light. Cytotoxicity data were statistically analyzed by two-way ANOVA, and biocompatibility data by Kruskal-Wallis and Dunn tests (P<0.05).

Results: Cell viability was increased in the cells exposed to the materials at most of the periods compared with control (P<0.05). The undiluted and ½ dilutions of MTA-HP extract showed more cytocompatibility than Bio-C Repair at 6 h, and with the ¼ dilution at 24 h (P<0.05); the white MTA-Ang showed a higher cell viability than Bio-C Repair at most of periods (P<0.05). The undiluted white MTA-Ang extract had higher cytocompatibility at 6 and 24h than MTA-HP, and with ½ dilution at 24h (P<0.05). The cytocompatibility of the materials was similar at 48h for most dilutions (P>0.05). At 7 and 30 days, the groups exhibited moderate and mild inflammation, respectively (P>0.05). All materials showed positive structures for von Kossa and polarized light.

Conclusion: In conclusion, Bio-C Repair had similar cytocompatibility, biocompatibility and biomineralization compared to MTA-based materials.

**BIOMECHANICAL BEHAVIOR OF EXPERIMENTAL AND COMMERCIAL INFILTRANTS** JULIANA MINTO BOLDIERI; PRISCILA REGIS MATOS PEDREIRA; MARIANA DIAS FLOR RIBEIRO; JANAINA EMANUELA DAMASCENO; FLÁVIO HENRIQUE BAGGIO AGUIAR; GISELLE MARIA MARCHI BARON  
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Aim: To evaluate the surface roughness after mechanical brushing of experimental infiltrants containing iodine salt and chitosan in comparison with the commercial infiltrant Icon®.

Method: Nine experimental infiltrants were prepared containing TEGDMA and BisEMA in a proportion of 75 and 25% by weight, respectively; 0.5 mol% of camphorquinone and 1 mol% of ethyl 4-dimethylaminobenzoate (EDAB), varying the concentration of iodine salt (DFI) (0; 0.5; 1 mol%) and chitosan (0; 0.12 and 0.25% - by weight) were compared with the commercial infiltrant Icon. The surface roughness was evaluated in the roughness meter in three times: After carious lesion induction (T0), after infiltration (T1) and after tooth brushing simulation (T2). Analysis of a generalized linear model for repeated measures over time was performed in the R program, considering the significance level of 5%.

Results: After infiltration, a significant increase in the roughness of all groups was observed, with G3 (0.25% chitosan) being the one with the greatest roughness (p < 0.05). After brushing simulation, there was a significant decrease in the roughness of groups G3 and G4 (0.5% DFI) (p < 0.05). In this final time, the G10 (Icon) showed significantly lower roughness than the others (p < 0.05) and there was no significant difference between the other groups (p > 0.05).

Conclusion: The addition of only 0.25% chitosan led to greater surface roughness both after infiltration and after mechanical brushing. And the Icon® group showed less roughness when compared to the other groups.

**BIO SAFETY APPLIED TO DENTISTRY IN COVID-19 TIMES.**

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Aim: To disseminate biosafety applied in Dentistry in times of COVID-19.

Method: This is a literature review, in the Scielo and Google Scholar databases.

Results: We live in a time of global pandemic caused by COVID-19. It is known that it is the responsibility of dentists to adopt infection prevention and control measures to prevent or reduce the transmission of microorganisms as much as possible during any dental procedure. Biosafety measures are essential to prevent the transmission of microorganisms to/by all

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patients and by the entire auxiliary team; in order to prevent cross infections. Standard precautions are preventive procedures that should be used regardless of a confirmed or presumed diagnosis of a communicable infectious disease in the source individual. Although biosafety is already part of the dentist's routine, the context of a pandemic presupposes the need to revisit the guiding principles of this practice and to know the particularities imposed by a hitherto unknown virus. The protective measures aim to avoid or reduce procedures that produce droplets or aerosols and include the preparation of the oral health team, adjustments in personal protective equipment, recommendations for cleaning and disinfecting surfaces, reorganizing the work process; in addition to the routine protocols recommended for controlling the COVID-19, it is essential to ensure safe working environments. Conclusion: It is understood that the changes imposed by the COVID-19 pandemic will serve to increase the rigidity with biosafety, which is of high importance in Dentistry. Protecting professionals and patients is crucial to stop the spread of disease-causing microorganisms.

## BOND STRENGTH BETWEEN 3D PRINTED DENTURE BASE RESIN AND ARTIFICIAL TEETH

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Aim: This study evaluated the bond strength between artificial teeth obtained by the 3D printing technique (Cosmos TEMP) or polymethyl methacrylate (PMMA) prefabricated teeth (Biotone) and 3D printed denture base resin (Cosmos Denture) using different treatments [Duralay self-curing acrylic resin, 3D printing Cosmos TEMP resin and methacrylate methyl monomer (MMA) + 3D printing Cosmos TEMP resin].

Method: The mechanical shear test was performed by EMIC DL 3000 machine with a perpendicular force applied to the bonding area between artificial teeth - denture base resin. The control group was a conventional heat-cured PMMA denture base resin (Lucitone) bonded to the PMMA prefabricated teeth (Biotone). Data were analyzed using 2-way ANOVA test and Bonferroni's multiple comparisons post hoc test ( $\alpha = 0.05$ ).

Results: There was interaction between the factors, showing that the bond strength is dependent on the type of teeth and the type of treatment ( $p < 0.001$ ). The comparison among treatments showed that, for the Biotone teeth, the bond strength was significantly higher for the MMA + Cosmos TEMP treatment (10.04 MPa), and similar to the control (11.84 MPa,  $p = 0.484$ ). For the Cosmos TEMP teeth, the Cosmos TEMP (9.57 MPa) and MMA + Cosmos TEMP (12.72 MPa) treatments were similar to the control (11.84 MPa,  $p = 0.169$  and  $p = 1$ , respectively), but different from each other ( $p = 0.016$ ).

Conclusion: It can be concluded that the most indicate combinations for a 3D printed denture base resin (Cosmos Denture) are Biotone teeth with MMA + Cosmos TEMP treatment and Cosmos TEMP teeth with Cosmos treatment or MMA + Cosmos TEMP treatment.

## BOND STRENGTH OF ADHESIVE SYSTEMS TO ENAMEL AND DENTIN FROM HUMANS WITH AMELOGENESIS IMPERFECTA: SYSTEMATIC REVIEW

CRISTHIAN CAMILO MADRID TROCONIS; MARÍA LUISA REDONDO RICO; DANIELA PALACIO VIVANCO; SAMANTHA MOLINA PEREZ; FRAIDER GUTIÉRREZ MEZA; MARIO FERNANDO DE GOES

SCHOOL OF DENTISTRY - UNIVERSITY OF CARTAGENA

Aim: The aim of this study was to analyze the evidence on the bond strength (BS) of adhesive systems (AS) to enamel and dentin from humans diagnosed with amelogenesis imperfecta (AI).

Method: The Preferred Reported Items for Systematic Reviews and Meta-analysis (PRISMA) guideline was followed. Systematic searches were conducted on PubMed and Scopus databases until July 2020. Main methodological data and BS values of AS were extracted and tabulated. An adapted instrument was used to determine the risk of bias of included evidence.

Results: In total, 7 studies met inclusion criteria, from which 4 (57%) exhibited medium risk of bias. The BS of AS was assessed on enamel ( $n = 2$ ), dentin ( $n = 3$ ) and both substrates ( $n = 2$ ). There was a significant decrease ( $p \leq 0.05$ ) on the BS of AS to enamel and dentin from humans with different types of AI compared to control groups. The BS of AS decreased 47.66% on primary enamel with AI ( $n = 1$ ) but varied from 37.72% to 52.34% on permanent enamel with AI ( $n = 3$ ). Sodium hypochlorite (NaOCl) increased the BS of AS to 17.60% and 50.8% on permanent ( $n = 1$ ) and primary ( $n = 1$ ) teeth with AI, respectively. The performance of AS to primary dentin declined from 15.26% to 45.57% ( $n = 3$ ) in the AI groups. However, on permanent dentin ( $n = 2$ ), the negative effect ranged from 18.8% (etch-and-rinse AS) to 47.7% (self-etch AS).

Conclusion: The limited evidence suggests that AI has a negative impact on the BS of AS to enamel and dentin. Etch-and-rinse AS seem to promote better performance than self-etch AS on permanent dentin from teeth with AI. NaOCl appears to increase the BS of AS to enamel with AI but more studies are needed.

## BOND STRENGTH OF ADHESIVE SYSTEMS TO FLUOROTIC ENAMEL: SYSTEMATIC REVIEW

JOÃO VITOR DO NASCIMENTO SANTOS; SAMANTHA MOLINA PEREZ; STHEFANIE PEREZ PUELLO; MARÍA LUISA REDONDO RICO; DANIELA PALACIO VIVANCO; FRAIDER GUTIÉRREZ MEZA; RENALLY BEZERRA WANDERLEY E LIMA; CRISTHIAN CAMILO MADRID TROCONIS

NOVA ESPERANÇA FACULTY

Aim: The aim of this study was to analyze the literature regarding the bond strength (BS) of adhesive systems (AS) to fluorotic enamel (FE) compared to sound enamel (SE).

Method: Systematic searches were performed in PubMed/Medline, Scopus and EBScoHost databases until May 2020. "Dental fluorosis", "fluorotic enamel", "fluorosed teeth", "fluorosed enamel", "bond strength", "bonding", "adhesion" and "adhesive system" were used as keywords. We included studies that compared BS of AS to FE and SE, published in English language without restriction on publication year. Main methodological data such as journal, sample size, type of teeth, fluorosis severity, groups, surface treatment, bond strength test, ageing and failure mode analysis.

Results: Mean BS values of AS were extracted and mean difference was calculated on individual studies. In addition, the risk of bias of individual studies was determined by two trained authors who used an adapted instrument. In total, 10 articles met inclusion criteria from which 8 articles (80%) showed a significant decrease in BS of AS to FE, 1 article (10%) showed fluorosis dependent effect and 1 article (10%) revealed no negative effect. Most studies (90%) were judged as having medium risk of bias due to aspects such as sample size calculation, single and blinded operators to perform bonding tests were not reported. Overall,

the negative impact on the BS of AS varied from 7.5% to 38.09% (mild fluorosis), 7.59% to 57.15% (moderate fluorosis) and 3.0% to 71.42% (severe fluorosis).

Conclusion: In conclusion, the BS of AS to FE was lower compared to SE. The severity of dental fluorosis has a negative impact on the BS of AS.

## BOND STRENGTH OF SELF-ADHESIVE FLOWABLE RESIN COMPOSITES TO ENAMEL AND DENTIN: A SYSTEMATIC REVIEW

LARYSSA MYLENNIA MADRUGA BARBOSA; SAMANTHA MOLINA PEREZ; FRAIDER GUTIÉRREZ MEZA; MARÍA LUISA REDONDO RICO; DANIELA PALACIO VIVANCO; ROSÁNGELA MARQUES DUARTE; RENALLY BEZERRA WANDERLEY E LIMA; CRISTHIAN CAMILO MADRID TROCONIS

FEDERAL UNIVERSITY OF PARÁIBA

Aim: The aim was to review the literature regarding the bond strength (BS) of self-adhesive flowable resin composites (SAFRCs) to enamel and dentin.

Method: PubMed/Medline, EbscoHost, Scopus and Embase databases were screened using related Medical Subject Headings (MeSH) and free-words. The preferred reported items for systematic reviews and meta-analysis (PRISMA) statements were followed. In vitro studies published in English language comparing the BS of SAFRCs and conventional flowable resin composites (CFRCs) to enamel and/or dentin from primary and/or permanent teeth were included. Methodological data extraction and risk of bias assessment was conducted by two trained researchers.

Results: In total, 20 articles met inclusion criteria, from which 18 studies (90%) exhibited medium risk of bias. The BS of SAFRCs was exclusively assessed in enamel ( $n = 3$ ), dentin ( $n = 11$ ) and both substrates ( $n = 6$  studies). Compared to CFRCs, SAFRCs such as Vertise® Flow and Fusio™ Liquid Dentin presented statistically lower BS to enamel and dentin from permanent teeth. Four studies tested the enamel BS of SAFRCs (etch-and-rinse mode) and CFRCs, reporting similar outcomes in some cases. Only 2 studies evaluated the BS of Constick®, a SAFRC containing 10-methacryloyloxydecyl dihydrogen phosphate (10-MDP) monomer, showing lower enamel BS values compared to CFRCs. Five studies tested the BS of SAFRCs on primary teeth showing lower BS values compared to CFRCs.

Conclusion: In conclusion, SAFRCs used in self-etch mode exhibited low BS to permanent teeth. Further studies on the BS of 10-MDP containing SAFRC as well as other SAFRCs to primary teeth and etched enamel are required.

## BONDING EFFECTIVENESS OF SELF-ADHESIVE RESIN CEMENTS AND PH NEUTRALIZATION ON FIBERGLASS POST CEMENTATION

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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The aim of this study was to evaluate if the pH neutralization behavior of self-adhesive resin cements (SACs) has an influence on the push-out bond strength of fiber glass posts cementation compared to a conventional dual cure resin cement (CRC).

Method: Forty bovine incisors were allocated into 4 cementation groups ( $n = 10$ ): SACs (Maxcem Elite - Kerr; Calibra Universal - Dentsply; Relyx U200 - 3M ESPE) and CRC (RelyX Ultimate - 3M ESPE). After 24h, the samples were subjected to the push-out bond strength test on a universal machine. The failure types were evaluated under a stereomicroscope. pH-values were recorded with a pH-electrode. Data were analyzed by two-way repeated measure ANOVA with Bonferroni test (pH); three-way ANOVA with Bonferroni test (push-out); and Pearson chi-square test (failure mode) ( $\alpha = 5\%$ ).

Results: CRC presented higher push-out bond strength than SACs in all root regions at 24h and after thermocycling. Adhesive and cohesive within resin cement and dentin failures were the most prevalent fractures. All resin cements showed significant difference with an increase of pH-values.

Conclusion: The resin cements proprieties have an influence on the mechanical stability. Among all the SACs tested, Maxcem presented better results, however, CRC are still the best choice.

## BORDERLINE PERSONALITY DISORDER: DO YOU KNOW WHAT IT IS?

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Aim: To know the Borderline Personality Disorder, addressing the etiological factors, prevalence and treatment.

Method: Bibliographic review in Scielo and Google academic databases.

Results: It is a mental disorder characterized by a generalized pattern of instability and hypersensitivity in interpersonal relationships, instability in self-image, extreme fluctuations in mood and impulsivity. It has a multifactorial etiology, where two main factors stand out: adverse genetic and psychosocial. This type of condition has been frequently observed in adolescents and young adults with impulsive and / or self-destructive behavior, drug use and serious identity problems. It appears that it occurs in 2% to 3% of the general population and is by far the most common personality disorder in clinical settings. It is estimated to occur in 11% of non-hospitalized populations, 19% of hospitalized populations and 27% to 63% of populations with personality disorder. It appears to occur approximately three times more in women than in men. Treatment is carried out with psychotherapy and drugs and in the most severe cases, hospitalization; a multidisciplinary approach is advised.

Conclusion: Borderline Personality Disorder has a multifactorial etiology, more frequently seen in adolescents and young adults, and more prevalent in women. Its treatment is carried out with psychotherapy and drugs and, in the most severe cases, hospitalization and a multidisciplinary approach.

## BREASTFEEDING PROFILE AND DELETERIOUS SUCKING HABITS DURING THE COVID-19 PANDEMIC

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Aim: The pandemic of the novel coronavirus (COVID-19) has become a major public health challenge around the world. The World Health Organization announced that the outbreaks of COVID-19 have constituted a public health emergency of international concern. Pregnant and postpartum women are in risk group for the disease. This study analyzed the breastfeeding profile and deleterious sucking habits of babies born during COVID-19 pandemic.

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Method: Ethical approval for this study was obtained from the Research Ethics Committee of the Pedro Ernesto University Hospital (CAAE: 33439320.9.0000.5259, opinion No. 4,095,149). The data were collected through an online questionnaire published on social media. The sample consisted of 1000 women with children up to 6 months old.

Results: It was observed that 77% were on exclusive breastfeeding, 16.9% to mixed breastfeeding and 5.9% reported the occurrence of early weaning. The average age of babies was 2.8 months (SD = 1.8) and their average time period of exclusive breastfeeding was 48.5 days. Although, 70.7% of the women said they had received some incentive to use artificial teats, only 28.4% and 27.9% stated that the child uses a pacifier and a bottle feeding, respectively.

Conclusion: The social isolation may have benefited the exclusive breastfeeding because of the major contact between the puerperal woman and her baby as well as the low frequency of deleterious sucking habits.

#### BREASTFEEDING PROFILE AND THE OCCURRENCE OF MALOCCLUSION IN CHILDREN PARTICIPATING AT BABY CLINIC

DANIELA ALVIM CHRISOSTOMO; MARIELLA PADOVESE; CRISTIANE DUQUE; ROBSON FREDERICO CUNHA  
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Aim: To analyze the influence of the breastfeeding profile on the malocclusion of children who participate in an educational-preventive dental program.

Method: Participated in the research 400 children between 27 and 48 months divided into 2 groups, 200 of them attending the Baby Clinic (BC) and 200 from Schools (S) in Araçatuba (SP). This research consisted of collecting retrospective information about time, type and form of breastfeeding, and non-nutritive sucking habits, through a questionnaire conducted with mothers. A clinical evaluation of the dental occlusion of these children was also performed, using the malocclusion index recommended by WHO. The data were analyzed by chi-square test with a significance level of 0.05%.

Results: It was observed, in both groups, a high percentage of mothers who breastfed their children (90% BC and 84.5% S, with  $p=0.099$ ); high percentage of children with non-nutritive sucking habits (64.5% BC and 57.5% S,  $p=0.151$ ). A high rate of dental malocclusion was found (over 57%), the main one being the anterior open bite. In children from both groups who received exclusive breastfeeding up to 6 months, less malocclusion was observed. When the influence of exclusive or not breastfeeding on the occurrence of malocclusion was evaluated, in children of BC the difference was not statistically significant ( $p=0.052$ ). In the group of children from S the difference was statistically significant ( $p=0.022$ ).

Conclusion: Considering the aspects studied in this research, we found that both groups presented similar results, therefore, there was no influence of participation in the program of the Baby Clinic.

#### BRUSHES DENTAL AS MICRO DISSEMINATION VECTORS

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Aim: The toothbrush is considered one of the most used methods for oral hygiene when handled correctly, promotes activities beneficial to the mouth. However, toothbrushes when not stored and cleaned properly can promote the proliferation of microorganisms, seeing it as a transmitter for the oral cavity, which may cause cross contamination or autoinfection. Some care may reduce the risk of contamination of toothbrushes such as disinfection methods carried out by means of chemical agents such as chlorhexidine 2% sodium hypochlorite 1%, among others. The objective was to discuss the types of microorganisms that can be found on the toothbrush and exemplify ways to promote disinfection on that.

Method: Information was obtained from databases such as Medicine® (BSV), Google Scholar, Pubmed and Scielo.

Results: The study found that the main microorganisms found in toothbrushes are *Staphylococcus aureus*, *Candida albicans*, and the primary settler, the *Streptococcus mutans*, may also suffer parasitological contamination. The substance which is more efficient for reduction of these microorganisms is chlorhexidine because it has the advantage bacteriostatic and bactericidal depending on its concentration, as well as being effective in fighting microbes such as *Enterococcus faecalis* also frequently found on the toothbrush.

Conclusion: With that we as concluding that care during storage, the toothbrush hygiene and use of chemicals are effective to promote the reduction of the proliferation of toothbrushes microorganisms.

#### CAN ARTIFACTS RESULTING FROM METAL POSTS IMPAIR THE THICKNESSES OF BONE AND GINGIVAL TISSUE OBTAINED IN CBCT SCANS?

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Aim: The aim of this study was to evaluate the buccal bone and gingival tissues thicknesses obtained in cone beam computed tomography (CBCT) images of upper anterior teeth with and without metal posts (MP).

Method: Exams with adequate image quality, covering the entire maxilla region and presenting at least one incisor or canine with or without MP in the anterior region were analyzed through a retrospective observational cross-sectional study. To allow visualization of the gingival tissues, all selected images were acquired using a plastic lip retractor. The same CBCT scanner was used with the same acquisition protocol. Eight tomographic measurements, four of bone thickness and four of gingival thickness, were obtained in the most central parasagittal section of each evaluated element, perpendicularly along the long dental axis. These thicknesses were compared using the Mann-Whitney test. For correlation with age and sex, the Spearman coefficient was calculated.

Results: 132 teeth were examined from 57 patients, 38 females and 19 males. The age ranged from 20 to 81 years. Of the 132 teeth, 71 were sound (without MP) and 61 had MP. The presence of MP showed lower values of bone thicknesses and higher values of gingival thicknesses. No statistically significant correlations were obtained between the thickness measurements and the age. Regarding gender, a significantly higher bone thickness was observed in males.

Conclusion: For teeth with MP, there was an alteration in bone and gingival measurements, suggesting a possible interference of metal artifacts arising from MP. Future studies should consider evaluate periodontal parameters before treatment.

#### CAN PHYSICAL THERAPY TREATMENT BASED ON EXERCISES BE AN ALTERNATIVE FOR TEMPOROMANDIBULAR MUSCLE DYSFUNCTION?

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Aim: Physiotherapy is described in the literature as an alternative to complement the treatment of muscle temporomandibular disorder. This case report was made in order to evaluate the effects of an exercise protocol associated with the use of an interocclusal device in the treatment of temporomandibular muscle dysfunction.

Case Report: Female patient, attended the Prosthesis Clinic complaining of jaw pain upon waking. For this, the patient was initially submitted to the Diagnostic Criteria for Research on Temporomandibular Dysfunction (RDC/TMD), Visual Analog Scale (VAS) and Electromyographic Assessment (EMG) for screening and diagnosis. Thus, a physical therapy treatment based on weekly progression exercises performed twice a week was used, including assessments of fatigue time and perceived pain in the first 24 hours and after 4 and 8 weeks after the beginning of the protocol. External load ranged from 20% to 50% CVIM and was controlled by biofeedback software visual Biotrainer (Motec™, Biomedical Equipments). In conjunction with this training, an interocclusal device was used at night for 90 days, with intervals for between dental follow-up appointments for review and occlusal adjustments of the device. At the end of the instituted therapy, the patient was again submitted to RDC/TMD, VAS and EMG. A significant reduction in painful symptoms was found when comparing the values obtained in the pre and post-treatment evaluations (greater than 80%).

Conclusion: The association of dental and physical therapies has shown effectiveness in reducing symptomatic pain, promoting comfort to the patient and greater range of motion of the temporomandibular joint.

#### CAN SYSTEMIC BLOOD PRESSURE INFLUENCE THE PULP CAVITY VOLUME? - A CBCT STUDY

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Aim: This study aimed to compare the pulp volume of individuals with normal and altered arterial blood pressure (BP), using cone beam computed tomography (CBCT) images, to verify if high BP causes dimensional modifications in the pulp space.

Method: To do so, CBCT volumes of 91 patients (49 females and 42 males, 18 to 45 years old - mean age  $31.7 \pm 6.38$  years) who had a healthy upper canine were selected. CBCT scans were acquired with a CS 9000 unit, using a standard protocol (5x5 cm field of view, 0.076 mm³ voxel size, 85 kVp, and 10 mA). Patients' arterial BP was measured at two different dental visits, previously to CBCT acquisition. Then, based on the mean of BP measures, the sample was divided into two groups: normal BP ( $< 130 \times 80$  mmHg; n=49 patients), and altered BP ( $\geq 130 \times 80$  mmHg; n=42 patients). One oral radiologist evaluated the pulp and tooth volume, using volumetric segmentation, and the tooth length of each patient. Statistical analysis was performed with the Student's t-test and logistic regression, with a significance level of 5% ( $p < 0.05$ ).

Results: Pulp volume, and pulp volume/tooth volume and pulp volume/tooth length ratios were significantly greater in the altered BP group ( $p < 0.05$ ). In contrast, there was no significant difference between the groups regarding the tooth volume ( $p > 0.05$ ). A logistic regression model ( $p=0.0002$ ) using pulp volume and age enabled the development of a formula for predicting altered BP, with 68% accuracy.

Conclusion: In conclusion, individuals with altered BP have greater pulp volumes than those with normal BP. The formula developed in this study may indicate the presence of altered BP.

#### CEMENTATION WITH PREHEATED DIRECT COMPOSITE RESIN: A LITERATURE REVIEW

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Aim: The aim of the literature review was to describe the use of preheated direct composite resin as an alternative in the cementation of indirect restorations, as well as reports its clinical efficiency due to the materials already acclaimed in clinical dentistry.

Method: The literature review was characterized by a bibliographic search in electronic data bases: PubMed / Medline, Lilacs, Scielo and academic Google, limiting the search to the period from 2010 to 2020, through the descriptors: Composite Resins, Dental Cements and Dental Veneers.

Results: Through the interpretation of these articles it was observed that thermal energy is able to increase the polymeric conversion, decrease viscosity and increase flowability of the material. Cementation with preheated composite resin has some advantages, such as lower cost, less polymerization shrinkage and marginal degradation. Nevertheless, working time of preheated composite is short and the performance of the preheating resin composite technique depends on material selection.

Conclusion: Therefore, use of preheated restorative resin composite as luting agent for indirect restorations is a viable alternative for the cementation of veneers, inlays or onlays, provided that all conditions are evaluated.

#### CHANGES IN THE PHYSICAL PROPERTIES OF BULK-FILL RESINS AFTER MECHANICAL BRUSHING WITH WHITENING DENTIFRICES

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Aim: This study evaluated the physical properties of a bulk-fill (Aura Bulk Fill, SDI) and a microparticulate composite resin (Aura Esmalte, SDI) after mechanical brushing with different types of whitening toothpaste.

Method: Fifty cylindrical samples of each resin were made (8mm in diameter). The samples were randomly divided into 5 groups (n = 10) for each resin according to the treatment: Control (no treatment); Colgate maximum anti-caries protection (CM); Colgate luminous white advanced (CL); Oral B 3D white perfection (OB); Curaprox black is white (CPB). Before and 24-hour after the tooth brushing the brightness (GU), color by reflectance spectrophotometry ( $\Delta E_{00}$ ), and surface roughness (Ra) analysis were performed. Using the R software, the GU and Ra data were analyzed by mixed models for repeated measures over time, and the  $\Delta E_{00}$  data using generalized linear models ( $\alpha = 5\%$ ).

Results: Regardless of the toothpaste used, all the bulk-fill groups showed a reduction in the GU. While for the microparticulate resin, only the CM group had a GU reduction. For the bulk-

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fill resin, only the CPB group had  $\Delta E_{00}$  unacceptable changes. While perceptible but acceptable  $\Delta E_{00}$  changes were observed on the CM microparticulate group. The rest of the groups had  $\Delta E_{00}$  values that were classified rather as acceptable or unacceptable. After mechanical tooth brushing, only the bulk-fill groups had relevant changes in their roughness. Conclusion: Finally, some whitening dentifrices reduce the brightness, alter the color, and increase the roughness of the bulk-fill resin.

**CHARACTERISTICS OF REIMPLANTED TEETH ATTENDED IN A BRAZILIAN DENTAL TRAUMA SERVICE OVER A 5-YEARS PERIOD**  
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**Aim:** This study aimed to investigate the characteristics of the reimplanted teeth attended in the Dental Trauma Service of Piracicaba Dental School from 2013 to 2018.

**Method:** A retrospective analysis was performed of the dental records of 36 patients with 46 reimplanted teeth. Data included gender, age, etiology, local of trauma, and affected teeth. Management of the reimplanted included: previously emergency treatment, storage media, extra-oral time, the time between the accident and seeking treatment in the dental trauma service, endodontic treatment performed, and outcomes. Data were evaluated using descriptive analysis and chi-squared test ( $p < 0.05$ ).

**Results:** The majority of the patients were male (63.9%), under the age of 14 (63.9%). Most of the accidents occurred after a fall (44.4%) in the home (33.3%). The upper central incisors were the most affected teeth (76.1%). In 94.4% of the cases, the emergency treatment was achieved. The dry storage media (37%) and extra-oral time longer than 60 minutes (52.2%) were most observed. Most of the patients took 1 week (26.1%) or 30 days (26.1%) to seek treatment in the service. The intracanal dressing paste was performed in 82.6% of the teeth. The most sequelae observed were sensitivity to percussion (80.4%) and replacement resorption (30.4%), represents an unfavorable outcome (75%), that was not associated with age, emergency treatment, time to seeking treatment, and stage of root development ( $p > 0.05$ ).

**Conclusion:** It was evident from this study that was inadequate reimplantation in many cases. Thus, educational programs should be created to raise awareness about the importance of immediate reimplantation.

**CHEMICAL STABILITY SPECTROSCOPY ANALYSIS OF TRICALCIUM SILICATE ENDODONTIC SEALERS OVER HEATING**

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**Aim:** To investigate the influence of heating on chemical properties of tricalcium silicate-based sealers. The reaction products of sealers in contact with dentin were also evaluated.

**Method:** Tricalcium silicate sealers tested were: EndoSequence BC Sealer HiFlow, BioRoot RCS and Bio-C Sealer. The epoxy resin-based AH Plus was tested as control. The chemical modifications related to increase of temperature (25 to 220°C) were investigated by using Raman spectroscopy, with a heating stage accoupled. The reaction products of sealers after heating at 37 and 100°C, in contact with dentin or not, were assessed by Fourier transform infrared spectroscopy (FTIR).

**Results:** Progressive heating (25°C to 220°C) did not modify the Raman spectra characteristics of all tested sealers. FTIR analysis detected O-H absorption band at 3400 cm<sup>-1</sup> for tricalcium silicate sealers, which was reduced or suppressed after heating, indicating dehydration. No significant chemical changes were found for AH Plus. FTIR spectra of sealers mixed with dentin powder heated at 37 and 100°C did not revealed chemical changes.

**Conclusion:** Temperature variation did not chemically alter the tricalcium silicate sealers EndoSequence BC Sealer HiFlow, BioRoot RCS and Bio-C Sealer and also the epoxy resin based sealer AH Plus, in contact or not with dentin. The results suggest the viability for the use of these sealers in thermoplasticized techniques.

**CHERUBISM: CASE CLINIC REPORT**

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**Aim:** The term Cherubism was reported for the first time in literature by Dr. W.A. Jones in 1933. It is a rare and benign hereditary bone disease, characterized by a bilateral volumetric increase in jaw bones, with a greater predilection for males between three and four years, being maximum development at age nine. Clinically it appears as a volumetric augmentation of the jaw and maxilla, generally painless, firm to palpation and variation in relation to size and extension. The objective of this work was to report a clinical case of this pathology.

**Case Report:** Male patient, 9 years old, was referred to the Bucomaxillofacial Surgery and Traumatology Clinic of the Faculdade de Odontologia de Araçatuba - UNESP, with a suspected of Cherubism and report of positive diagnosis for cherubism in family history. In a clinical examination, an excessive and disproportionate increase in the mandible and bilateral maxilla was observed. The initial differential diagnosis was of a Brown Tumor of Hyperparathyroidism and Central Giant Cell Injury. Tomographic, radiographic and karyotype exams were performed. Although SH3BP2 gene mutation is reported in the literature, the result of the patient's karyotype test was negative.

**Conclusion:** Based on the age group, clinical evolution and imaging and histopathological findings, a definitive diagnosis of cherubism was given. The treatment consisted of monitoring the case and the patient continues to be assisted by the team. Studies report that the disease progression stabilizes and tends to spontaneously recover from puberty.

**CHLORHEXIDINE DIGLUCONATE INHIBITS COMPETENCE FOR GENETIC TRANSFORMATION IN STREPTOCOCCUS MUTANS**

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**Aim:** Competence is a state in which bacteria are able to capture and incorporate exogenous DNA into their genome in the process of genetic transformation. In *Streptococcus mutans*, competence and bacteriocins are activated by CSP or XIP peptides, which may have production affected by sub-inhibitory concentrations of antimicrobials. In this study, we tested

the hypothesis that the oral antimicrobial chlorhexidine digluconate (CHX) in low concentrations could interfere with the competence and transformation in *S. mutans*.

**Method:** Mutant strains of *S. mutans* UA159 with luciferase reporter in the *cipB*, *comS* and *sigX* genes, with and without deletion of the *comS* (XIP) and *comC* (CSP) genes were used. Pre-cultures were distributed in 96-well plates, followed by the addition of D-luciferin for the detection of bioluminescence (Lum), in addition to CSP or XIP and 0, 0.25, 0.5 or 1.0 µg/mL of CHX. The plates were incubated at 37 °C for 12 h in a multidetection reader, with growth (OD600) and Luminescence measured every 30 min. Lum data were normalized by the OD values and the area under the curve (AUC) calculated. Bacterial transformation was evaluated using the kanamycin resistance amplicon (Kan-arJ02) added after 150, 270 or 390 min of growth. Data were analyzed by One-way ANOVA and Tukey's test ( $\alpha = 5\%$ ).

**Results:** CHX inhibited the expression of *cipB*, *comS* and *sigX* at all concentrations tested, reducing the efficiency of genetic transformation at all times analyzed.

**Conclusion:** The results suggest that CHX when used in sub-inhibitory concentrations decreases the ability of *S. mutans* to capture and incorporate exogenous DNA

**CLINICAL EVALUATION OF NON-SURGICAL PERIODONTAL THERAPY IN DIABETIC PATIENTS**

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**Aim:** Disadvantageous systemic conditions leads to a hosts' low resistance to the virulence of the aggressor agent, situation that can end on a quicker evolution of the periodontal disease and can take to a low therapeutic answer. This study evaluated, by clinical periodontal parameters and blood tests, individuals with diabetes and cronical periodontitis submitted to non surgical periodontal treatment.

**Method:** There were included 42 individuals carriers of moderate cronical periodontitis, being 21 of them vectors of Diabetes Mellitus tipe 2 (DG) and 21 systematically healthy (HG), from both genders and age on average of 60.7 years, non smokers and without any other systemic involvement if not Diabetes on DG group. By bucal clinical parameters, fast glycemia blood tests and glycated hemoglobin were evaluated on an initial moment (T1) and after 90 days of the periodontal therapy (T2). The data reached were statistically assessed by tests ANOVA and Qui Quadrado.

**Results:** The periodontal parameters measured showed a statistical difference for probing depth (PD) between groups on T1 revealed higher probing depth on DG group. It was also seen a difference between groups for clinical attachment level on T1 and T2 and on group DG. For plaque index and gingival bleeding index were detected differences between both groups. Blood test showed a significant difference only on group DG.

**Conclusion:** The periodontal therapeutics applied on this study promoted enhancement on clinical parameters in all individuals included on the study, providing improvement on blood parameters on diabetics individuals.

**CLINICAL FACTORS ASSOCIATED WITH DENTAL TRAUMA IN BRAZILIAN CHILDREN AND ADOLESCENTS: A SYSTEMATIC REVIEW**

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**Aim:** The aim of the present study was to investigate the influence of overjet and lip sealing on the prevalence of dental trauma (TD) in Brazilian children and adolescents, through a systematic review and meta-analysis.

**Method:** The systematic review was registered with PROSPERO. The search was carried out in eight databases. Only observational studies conducted in Brazil were included. The risk of study bias was assessed using the tool "JBI Critical Appraisal Tools for Systematic Reviews". A random effect meta-analysis was performed. The heterogeneity between the studies was calculated using the I<sup>2</sup> test. The certainty of the evidence was assessed by GRADE

**Results:** Most studies (90%) had a low risk of bias. The summarized effects identified associations between dental trauma and overjet  $\geq 3$ mm (PR: 2.34; 95% CI: 1.88 - 2.89), and  $\geq 5$ mm (PR: 2.38; 95% CI: 1.85 - 3.06), in addition to inadequate lip sealing (PR: 2.39; 95% CI: 1.83 - 3.11). The certainty of evidence was rated very low for all outcomes

**Conclusion:** Thus, it can be concluded that overjet and inadequate lip sealing influence the likelihood of Brazilian children and adolescents to suffer dental trauma.

**CLINICAL INVESTIGATION OF BACTERIA AND ENDOTOXINS IN TEETH WITH IRREVERSIBLE PULPITIS**

GIOVANNA DORNELAS MANTOVANI; RODRIGO ARRUDA-VASCONCELOS; LIDIANE MENDES LOUZADA; ESDRAS GABRIEL ALVES-SILVA; BEATRIZ ISABEL NOGUEIRA LEMOS; BRENDA PAULA FIGUEIREDO DE ALMEIDA GOMES  
PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** The present study investigated the presence of bacteria and the levels of endotoxins (LPS) in infected dentine (ID) and root canals (RC) at different stages of root canal treatment in teeth with irreversible pulpitis (IP).

**Method:** A total of ten teeth were included. Samples from ID and RC before (S1) and after (S2) chemo-mechanical preparation (CMP), and after intracanal medication (ICM)(S3) were collected using spoon excavators and paper points, respectively. Investigation of bacteria was done by using nested PCR; and the levels of LPS measured by using LAL Pyrogen 500 turbidimetric assay. Statistical analysis was performed with significance level set at 5%.

**Results:** The most prevalent species in ID were *E. faecalis*, *G. morbillorum* and *T. denticola*. In the initial RC samples, *F. nucleatum*, *P. micra*, *T. denticola* and *E. faecalis* predominated. Root canal treatment was effective in microbial reduction; however, resistant species were detected even after ICM. *P. gingivalis* was not detected in ID nor RC. The levels of LPS were higher in ID 42.52 ( $\pm 8.11$ ) EU/mL than in initial RC samples 0.44 ( $\pm 0.03$ ) EU/mL ( $P < 0.05$ ). Significant reduction in the levels of LPS was observed after CMP 0.05 ( $\pm 0.01$ ) EU/mL ( $P < 0.05$ ). ICM did not significantly reduced the levels of LPS compared with S2 ( $P > 0.05$ ).

**Conclusion:** In conclusion, root canal treatment was effective in reducing microbial load and levels of LPS in teeth with irreversible pulpitis. (Supported by: FAPESP 2019/10755-5, 2019/19300-0, 2017/25242-8, 2015/23479-5, CNPq 303852/2019-4, CAPES 001, PIBIC/CNPq).



## All abstracts appear as submitted by the authors without editing

## CLINICAL INVESTIGATION OF INFECTIOUS CONTENT IN TEETH WITH VITAL PULP AND ASSOCIATED PERIODONTAL DISEASE

LIDIANE MENDES LOUZADA; RODRIGO ARRUDA-VASCONCELOS; ADRIANA DE JESUS SOARES; MARINA ANGÉLICA MARCIANO; CAIO CÉZAR RANDI FERRAZ; JOSÉ FLÁVIO AFFONSO DE ALMEIDA; RENATO CORRÊA VIANA CASARIN; BRENDA PAULA FIGUEIREDO DE ALMEIDA GOMES

PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: This study investigated the microbial profile and quantified the levels of endotoxins (LPS) and lipoteichoic acid (LTA) in root canals (RC) and periodontal pockets (PP) of teeth with vital pulp and associated periodontal disease, with no positive response to the periodontal therapy, before and after chemomechanical preparation (CMP) and after intracanal medication (ICM) for 30 days. Clinical parameters were also evaluated.

Method: Ten teeth under periodontal therapy for at least 6 months were included. PP and RC samples were collected by using sterile paper points. The microbiota of PP and RC was characterized by using Nested PCR and Checkerboard DNA-DNA hybridization (CB). Quantification of LPS and LTA was performed by using LAL Pyrogen 5000 and ELISA, respectively. Data were statistically analyzed at a significance level of 5%.

Results: Bacterial DNA was observed in all PP and RC. By Nested PCR, a high prevalence of *E. faecalis* and *F. nucleatum* was detected in PP and RC. By CB, a higher microbial load was detected in PP compared to the RC. The reduction in the levels of LPS was in 31.59% (PP) and in 80% (RC) after CMP; and in 73.38% (PP) and in 90% (RC) after ICM. Levels of LTA were reduced in 34.49% (PP) and 11.55% (RC) after CMP; and in 28.45% (PP) and in 47.93% (RC) after ICM. After 1-year follow-up, tooth mobility was significantly reduced ( $p < 0.05$ ).

Conclusion: In conclusion, the microbiota of PP and RC is polymicrobial. CMP and ICM allowed the reduction of infectious content in both sites. Endodontic treatment favored clinical aspects. (Support: FAPESP 2019/19300-0, 2017/25242-8, 2015/23479-5; CNPq 303852/2019-4; CAPES 001)

## CLINICAL OUTCOMES AND MOLECULAR MICROBIOLOGICAL ANALYSIS OF REGENERATIVE ENDODONTICS IN IMMATURE PERMANENT TEETH

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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The antimicrobial efficacy of regeneration procedures has only been assessed by culture-dependent techniques. This study evaluated the bacterial levels after regenerative endodontic procedures and their correlation with the treatment outcome using molecular microbiology methods.

Method: Root canal samples of necrotic immature teeth were analyzed by quantitative polymerase chain reaction. Bacteria were counted before treatment (S1), after 6% sodium hypochlorite (S2), and after intracanal dressing (S3) using triple antibiotic paste (n=7) or calcium hydroxide (n=8). The Wilcoxon test for related samples and the Mann-Whitney test were used for statistical analysis ( $P < 0.05$ ). After a follow-up period (12 – 48 months), clinical and radiographic findings were correlated with microbiological data using a linear regression model ( $P < 0.05$ ).

Results: All S1 and S2 samples were positive for bacteria, but the number of positive S3 samples decreased to 53.3% ( $P < 0.001$ ). Overall, there was a significant reduction of bacterial levels after each treatment step (S1 – S2,  $P < 0.001$ ; S2 – S3,  $P < 0.02$ ). In the triple antibiotic paste and calcium hydroxide groups, 57.1% and 50% of S3 samples were positive with median numbers of  $6.97 \times 10^3$  and  $3.59 \times 10^4$  bacterial cells, respectively. No difference was found between groups. Periapical healing occurred in all cases despite the presence of low levels of residual bacteria. However, the latter had a negative impact on the thickness of dentinal walls ( $R^2 = 0.0043$ ).

Conclusion: Although the bacterial levels were drastically reduced after the regenerative endodontic procedures, the residual bacteria influenced the thickness of the dentinal walls.

## COMBINED USE OF TWO CBCT SCANS IN THE ASSESSMENT OF VERTICAL ROOT FRACTURE IN TEETH WITH INTRACANAL MATERIAL

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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The purpose of this study was to evaluate the diagnostic accuracy of the combined use of two cone-beam computed tomography (CBCT) volumes obtained with the tooth of interest positioned at different orientations in the detection of vertical root fracture (VRF).

Method: Thirty single-rooted teeth were divided into two main groups (n=15): control and with VRF. The teeth were individually placed in a phantom composed of a human skull and mandible, which was CBCT scanned in two spatial orientations: conventional (with the Frankfurt plane parallel to the floor) and angled acquisition (tilted 90 degrees backward). Also, each tooth was scanned with gutta-percha, metal post, and without any intracanal material. For each tooth, three oral radiologists individually evaluated the images resulting from conventional acquisition and verified the presence or absence of root fracture (conventional CBCT assessment) setting a score on a 5-point scale. Subsequently, the observers evaluated both images resulting from the conventional and angled acquisitions (combined CBCT assessment). The diagnostic values of the conventional and combined assessments were compared using two-way analysis of variance with post-hoc Tukey test. The significance level was set at 5%.

Results: The combined CBCT assessment showed higher accuracy and sensitivity in the VRF diagnosis of teeth filled with gutta-percha, ( $p < 0.05$ ). In teeth with a metal post, all diagnostic values were higher in the combined CBCT assessment ( $p < 0.05$ ).

Conclusion: The CBCT-based diagnosis of VRF in teeth with intracanal material is improved when the assessment combines images obtained at two orientations.

## COMPARATIVE STUDY OF METHODS TO EVALUATE DEPTH OF CURE OF RESTORATIVE COMPOSITES

BEATRIZ DE CÁSSIA ROMANO; JORGE RODRIGO SOTO MONTERO; BEATRIZ CURVELLO DE MENDONÇA; RICHARD BENGTT PRICE; MARCELO GIANNINI

PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The objective of this study was to compare two methods to evaluate the depth of cure (DC) of restorative composites and if the extension of the light-activation time increases the PC of the composite resins.

Method: Two bulk-fill composites were tested (Tetric Evoceram Bulk Fill, Ivoclar Vivadent e Filtek One Bulk Fill, 3M Oral Care) and two conventional composites (Tetric N-Ceram, Ivoclar Vivadent e Filtek Z350 XT, 3M Oral Care). Two methods compared: 1- ISO 4049 test and 2- dissolution with organic solvent (acetone). Cylindrical samples were made by inserting the composites into 5 mm internal diameter and 13 mm high matrices. Composites were light activated with multi-peak curing unit (Bluephase, Ivoclar Vivadent), according to the manufacturer's recommendation (REF) and double the time (DOT). For the ISO 4049 test, the unpolymerized resin was manually removed with a plastic trowel and the length of the samples measured with a digital caliper to calculate the PC. In the other solvent method, the unpolymerized resin was removed manually and the samples were immersed in acetone for 48 hours for further measurement of the PC in the remainder.

Results: It can be observed that DOT of photoactivation produced higher DC of the composite samples when compared to REF. There was difference in measurements between ISO and "organic solvent" methods.

Conclusion: Methods for determining DC need to be standardized. DC can increase with the extension of the light activation time and it is dependent on the type of photoinitiators containing in each material and the light-curing unit used.

## COMPARATIVE STUDY OF REVERSE TRACTION IN CLASS III WITH AND WITHOUT SKELETAL ANCHOR

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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The present study sought to analyze the scientific evidence present in the literature, evaluating and comparing the effects of reverse maxillary traction associated with the use of a circuit breaker with and without skeletal anchorage.

Method: For that, the PubMed database and data were used to search for studies. 185 studies were found, of these 60 studies were read in full and 18 studies were selected in the final sample for review. In order to avoid duplication, Mendeley software was used.

Results: The etiology of skeletal class III malocclusion is hereditary and can occur due to multiple factors. The main objectives of orthopedics in early treatment are: to provide a more favorable environment for growth and to improve the occlusal relationship, correcting crossbite and facial aesthetics. In the literature, there are several different techniques, disjunction and face mask, mask without disjunction, disjunction with bone anchorage and dentoalveolar anchorage. Several evidences demonstrate the effectiveness of the use of the facial mask, although there are still some disagreements regarding the previous execution of the maxillary disjunction in younger patients. Regarding alternate expansion with constriction, studies point to results similar to the protocol without constriction, which would contraindicate the procedure.

Conclusion: It is concluded, therefore, that skeletal anchorage, according to the studies presented, showed an improvement in relation to the described side effects, which may be a viable alternative in certain cases.

## COMPARISON BETWEEN GINGIVAL CONNECTIVE AND ACELLULAR DERMAL MATRIX IN TREATMENT OF PERIODONTAL RECESSIONS

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FEDERAL UNIVERSITY OF MINAS GERAIS

Aim: This work compared the clinical outcomes of treatment of periodontal recessions, using the gingival connective tissue grafts and acellular dermal matrix.

Method: A total of 72 recessions constituted the sample, divided equally into 2 groups. Group 1 was treated with acellular dermal matrix graft (MDA) associated with the displaced, while the coronal flap group 2 (CG) received treatment with gingival connective tissue graft, also associated with the flap offset coronally. We evaluated the clinical parameters of probing depth, insert, clinical periodontal recession towards coronal-apical diameter mesio-distal of recessions, keratinized and mucosa thickness flap and influence of grafts in relation to root coverage. The initial measures were compared to those obtained with 45, 90 and 120 days after surgery.

Results: No statistically significant differences were found between the groups in terms of reduction of periodontal recessions, keratinized and mucosa flap thickness and of grafts in relation to root coverage. The Group 2 (CG) showed statistically significant reduction in the depth of drilling and clinical level of insertion, compared to group 1 (MDA). However, these differences were not clinically relevant.

Conclusion: It was concluded that both the gingival connective tissue graft as the acellular dermal matrix can be used in the treatment of periodontal recessions, with a high predictability of success.

## COMPARISON OF THE PRIMARY STABILITY OF THREE SURGICAL DRILLING TECHNIQUES IN LOW DENSITY BONE: EX-VIVO STUDY

MARIA JÚLIA ASSIS VICENTIN\*; ANDERSON JARA FERREIRA; ANDRÉS CÁCERES-BARRENO; HUGO GAÊTA-ARAÚJO; FRANCISCO HAITER-NETO; LUCIANA ASPRINO

PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: To compare the primary stability of dental implants, using three surgical drilling techniques in low density bone.

Method: The sample consisted of 30 specimens (porcine tibia) divided into three groups according to the drilling technique (Control: conventional, Undersized and Expander-osteotomy). To standardize the substrate, the specimens were analyzed using bone microarchitecture parameters obtained by the Computed Micro-Tomography Analysis and the Shapiro-Wilk Test assessed the normality of the data. Ten implants were installed by each technique and the primary stability (PS) evaluated through final insertion torque (FIT) and resonance frequency analysis (RFA). The data were submitted to statistical tests (one-way ANOVA, Tukey post-hoc test and Pearson correlation).

Results: The undersized surgical technique obtained higher values of final insertion torque ( $p < 0.05$ ) and better results regarding the resonance frequency analysis values ( $p < 0.05$ ). Pearson's correlation test showed a strong correlation between the variables ( $p < 0.05$ ).

Conclusion: According to the methodology employed, the Undersized surgical technique obtained higher values of final insertion torque and Resonance Frequency Analysis, demonstrating to be more advantageous than the other tested techniques when a poor bone quality region is approached.

## All abstracts appear as submitted by the authors without editing

COMPARISON OF TWO TYPES OF GRAFTS ASSOCIATED WITH CORONALLY ADVANCED FLAP IN THE TREATMENT OF SINGLE GINGIVAL RECESSIONS  
LAÍS FERNANDA FERREIRA FERRAZ; AMANDA ROSSATO; MANUELA MARIA VIANA MIGUEL; MANUELA BAFINI FONSECA; CRISTIAN REYNALDO GOMEZ BAUTISTA; ANDRÉA CARVALHO DE MARCO; INGRID FERNANDES MATHIAS-SANTAMARIA; MAURO PEDRINE SANTAMARIA

SÃO PAULO STATE UNIVERSITY - UNESP

**Aim:** The use of biomaterials for root coverage procedures is considered a promising approach in the treatment of gingival recessions. The aim of this study was to compare the effects of using two different grafts, the collagen matrix (CM, Mucograft®) and the xenogeneic acellular dermal matrix (XADM, Mucoderm®), associated with coronally advanced flap technique (CAF) for the treatment of single gingival recessions.

**Method:** Seventy-five patients presenting single gingival recession were selected and divided into three groups: CAF (n=25, CAF technique alone); CAF+CM (n=25, CAF technique associated with CM) and CAF+XADM (n=25, CAF technique associated with XADM). Clinical and patient-centered parameters were assessed at baseline and six months post-procedures. **Results:** At six months, all the groups presented significant percentages of root coverage (78.9 ± 26.2% for CAF, 78.0 ± 28.5% for CAF+CM and 65.6 ± 26.9% for CAF+XADM), without significant difference between them (p>0.05). Complete root coverage was obtained in 52%, 48% and 28% of cases treated with CAF, CAF+CM and CAF+XADM, respectively (p=0.2). Among the evaluated parameters, there were observed significant intergroup differences only in the keratinized tissue thickness, which showed a greater gain in the groups that received some graft (p<0.001).

**Conclusion:** Within the limitations of this study, it was concluded that the three treatments were effective and that the use of CM and XADM did not promote additional root coverage benefits to the CAF technique. However, the addition of these grafts seems to contribute to increasing the keratinized tissue thickness.

COMPUTED TOMOGRAPHY OF CONICAL BEAM AS COMPLEMENTARY USE IN DIAGNOSIS AND SURGICAL PLANNING OF BUCOMAXILOFACIAL SURGERY  
GLÁUCIA LORENA SIQUEIRA DA SILVA; AUANY PEREIRA DE MORAIS; PEDRO HENRIQUE PEREIRA ARAÚJO; WASHINGTON AZEVEDO DE FREITAS; NÍCOLAS PAULO SEDENHO DE CARVALHO; CARLA MARIA DE CARVALHO LEITE; SARAH JANE DE ARAÚJO BARROS

UNIVERSITY CENTER SANTO AGOSTINHO - UNIFSA

**Aim:** Computed tomography (CT) is a method of diagnostic imaging that uses x-ray to generate images allowing the reproduction of the section of the human body in three planes of space. The tool has become prominent in dentistry for promoting three-dimensional (3D) reproduction of images of maxillofacial mineralized tissues, with less distortion and significantly reduced radiation dose compared to other methods. The common radiographic exams used in diagnosis and planning are periapical and panoramic radiographs. However, the information obtained is limited, since the three-dimensional anatomy of the area is presented in a two-dimensional form, with overlapping planes.

**Method:** A literature review was carried out by searching the PubMed and SciELO databases, covering articles published from 2013 to 2020, with the descriptors registered in DeCS / MeSH: Cone Beam Computed Tomography, Diagnostic Imaging and Surgery.

**Results:** Cone beam computed tomography provides several advantages such as agility in the results, being a great ally in the diagnosis. For the treatment to be successful, the correct method for diagnosis and surgical planning must be used, in order to avoid postoperative complications and increase the chances of a favorable prognosis.

**Conclusion:** It was observed that CBT is a tool available in dentistry that provides efficiency in the results. With the advent of CBT, he is able to diagnose and plan, obtaining success in maxillofacial surgery, in simple and complex cases. 3D sections facilitate access to the surgery site, increasing accuracy and reducing risks during the surgical procedure.

CONTEMPORARY MANAGEMENT IN CASES OF LUDWIG'S ANGINA

KARLA ARRIGONI GOMES; HELOISA DE SOUZA RODRIGUES; BRUNO ROMANO DE OLIVEIRA; NYALI ROSA DE CASTRO; MARIA LUIZA DA COSTA GOMES; JOÃO GUALBERTO DE CERQUEIRA LUZ; EDUARDO STEHLING URBANO

JUIZ DE FORA FEDERAL UNIVERSITY

**Aim:** Ludwig's Angina (LA) consists of cellulitis, usually originating from odontogenic infection and located in the second and third lower molars, involving the submandibular, sublingual and submental space. It represents a pathology that is difficult to manage, due to the rapid progression and imminent risk of airway obstruction. The present study aims to report contemporary strategies for efficient resolution of LA cases.

**Method:** A research was carried out using scientific articles available on the digital platforms PubMed and Scielo.

**Results:** Treatment is based on maintenance of the airways, incision and drainage, elimination of the causal factor and antibiotic therapy. Infection is commonly caused by various types of bacteria, hence the importance of choosing the antibiotic and the route of administration. Before modern antibiotics, mortality from AL exceeded 50% and, currently, it has been reduced to less than 10%. Thus, adequate management for the treatment of patients with LA requires measures to prevent asphyxia caused by the rapid growth of aggressive cellulite. The diagnosis is clinical and imaging, as ultrasonography allows for the verification of purulent collections and local infiltrations and computed tomography indicates the extent of the lesion, the involvement of the airways and the presence of gases interspersed with muscle tissues.

**Conclusion:** The establishment of the diagnosis provides an effective medication and, when necessary, an early surgical intervention, factors that are essential for maintaining the patient's life.

CONTRIBUTION OF THE UNIVERSITY EXTENSION "RIO DE SORRISOS" IN THE TRAINING OF DENTISTRY STUDENTS - UNICAMP

NADINE ZUMESTEEN; ANA BEATRIZ SAFADY LOPES; WILIAN SEGATTO ZANELLI; RENATA DA SILVA PAES; MARCELA OLIVEIRA LAZZARINI; NATHALIA REICHE MOREIRA; ALEXA NICOLE GUERRERO AIZPURUA; DAGMAR DE PAULA QUELUZ

PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** To report on the "RIO DE SORRISOS" project in the training of dentistry students - UNICAMP.

**Method:** Experience report.

**Results:** Based on the recognition of the importance of extension actions for undergraduate and graduate students, with a view to enhancing and expanding the quality standards of institutional actions, a teacher develops an innovative initiative entitled "Rio de Sorrisos: extension project and social". The main objectives are to mitigate the lack of support

policies aimed at the community, especially in situations of social vulnerability, and its external community, within the scope of oral health, and to provide the Dentistry student with a practical experience collective health care. The subjects' perceptions revealed the opportunity to develop and improve their professional skills, through the recognition of different realities of life, the rupture of the traditional teaching model and the fruitful relationship between academic, university and society. This project acts as a viable instrument for the Health Promotion strategy, disseminating information, with an emphasis on the empowerment and autonomy of the subjects, carrying out educational and preventive actions in oral health, and welcoming curative dental needs.

**Conclusion:** Experience in the field of extension is an important agent for the individual and collective process of academic formation.

CONVERSION OF GRAY VALUES OF CBCT IN HOUNSFIELD UNITS AND THE EQUIVALENCE WITH HU VALUES FROM MULTISLICE CT

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PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** The aim of this study was to validate the formulas developed for conversion of gray values of CBCT into Hounsfield Units (HU), comparing them with the real HU values of multislice computed tomography.

**Method:** This ex-vivo study used a human mandible where 11 dental implant sites were selected and demarcated with acrylic resin and gutta-percha for evaluation. The mandible was scanned on two CBCT machines (iCAT and Prexion 3D) using the recommended protocol for dental implants. In each parasagittal section, two regions of interest (ROI) of 3 x 3 mm were demarcated, one in the medullary bone and the other in the cortical bone tissue. Measurements were made in a central section and in 2 adjacent sections, totaling 3 sections for each dental implant site. Thus, at each site, there were 3 gray values for each type of bone tissue, where was obtained a mean. With the mean of gray values obtained of each region, the conversion to HU values was performed using the NIST XCOM interpolation method. Mann-Whitney and Wilcoxon tests ( $\alpha = 0,05$ ) were applied to statistics.

**Results:** There was a significant difference between the HU values of iCAT and multislice CT (p<0.05). However there was no significant difference between the HU values of the Prexion 3D and the multislice CT (p=0.062).

**Conclusion:** It was concluded that the HU values obtained with the gray values were only applicable in the Prexion 3D tomograph. With the conversion, it was possible to evaluate bone density in this device.

CORRELATION OF HUMAN STATURE AND VITRUVIO PROPORTIONALITY ICONS IN BRAZILIAN

SAMARA MARAFON; KARINA RIBEIRO GOMES; MARIA EDUARDA AGUIAR PRADO; LORENA SENA CARVALHO; DORA ZULEMA ROMERO DÍAZ; JOÃO SARMENTO PEREIRA NETO; VIVIANE ULBRICHT; LUIZ FRANCESQUINI JÚNIOR

PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** We tried to verify if there is a relationship between the proportions established by Vitruvius, relative to the proportionality icons and the proportions of the miscegenated population of the Southeast region of Brazil. FOP / UNICAMP Research Ethics Committee approval was obtained under CAAE 18318219.0.0000.5418.

**Method:** For this purpose, calibration was performed to be able to start measurements. In this, the feet, arms, forearms, hands, fingers, face and the actual height of 10 people who agreed to participate in this research were measured by signing the IC. Calibration was performed in two stages, with eight-day intervals for each measurement and at the end of the statistical analysis, it was found that there was an agreement index considered STRONG. In the sequence, the measurements started, reaching a number of 82 individuals, 41 of whom were female and 41 were male, aged between 18 and 59 years. For the research, a measuring tape, stadiometer, straight and curved digital pachymeter and a Brocca osteometric table were used.

**Results:** It was found that the measures in decreasing order of significance are: the face (relation 8.18), the upper limb (relation 7.1), forearm (relation 9.95), hand (relation 8.76), upper limb (ratio 5.66).

**Conclusion:** It was observed that the proportionality icons indicated by Vitruvius undergo changes when applied to a new sample, and the present study should be applied to a larger sample in order to generate formulas for estimating reliable and safe height.

COST MINIMIZATION AND FINANCIAL IMPACT OF ROOT CANAL THERAPY TECHNIQUES: MANUAL, ROTARY AND RECIPROCATING

ANA CLARA CORREA DUARTE SIMÕES; LAURA PAREDES MERCHAN; AUGUSTO CESAR SANTOS RAIMUNDO; DENISE DE FÁTIMA BARROS CAVALCANTE; POLYANA SANTIAGO MARQUES PINHEIRO; SYLVANNE LUCILA DA SILVA GARCIA; VICTOR COUTINHO MELLO MACHADO; ANTONIO CARLOS PEREIRA

PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** The present study seeks to compare the three instrumentation techniques, based on cost and outcome, using the cost - minimization analysis in the perspective of the Social Service of Commerce (SESC - Brazil), and a time horizon of 10 years.

**Method:** The effectiveness of the techniques were raised through literature review and selection of systematic review studies. The costs were measured by the microcosting technique, in addition to the information from the SESC databases

**Results:** In the analyzed period, the study shows that the use of the rotary system can increase the capacity of care by 44.67%, while the reciprocation system by 168 %. The financial impact would be R\$ 103,683.87 and R\$ 735,179.46 (1 R\$= US\$ 4,02) for the rotary and reciprocation, respectively. Using as reference the conventional technique, R\$ 44.58 more is spent for the treatment with rotary instruments and R\$ 84.03 for the reciprocation

**Conclusion:** Even with the highest allocating efficiency for the reciprocating technique with much greater coverage, the budget impact needs to be analyzed with caution. The incorporation of reciprocating technology for SESC/Brazil perspective meets its general guidelines, demonstrating to be the technique with the highest allocating efficiency, best minimization cost ratio and reasonable cost of additional treatment (ICER) in relation to other techniques.

COVID-19 AEROSOL TRANSMISSION AND IMPLICATIONS IN DENTAL PRACTICE

BEATRIZ CRISTINA DE FREITAS; DAGMAR DE PAULA QUELUZ; DAGMAR DE PAULA QUELUZ

## All abstracts appear as submitted by the authors without editing

## PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** To identify the scientific productions on aerosol transmission of COVID-19 in dental practice.

**Method:** Methods: Integrative review with search in the VHL, SciELO, MEDLINE/PubMed, Google Scholar databases. Search descriptors: "COVID-19", "coronavirus", "dentistry", "aerosol", "practice dental", "infection control".

**Results:** Results: After applying the inclusion and exclusion criteria, 15 studies were identified, 8 studies were considered eligible. It is pointed out that among the transmission routes are direct contact and transmissions by droplets and aerosols. The nature of dental practice can generate significant amounts of droplets and aerosols, presenting potential risks of infection transmission. There were no reports of COVID-19 transmission in the dental environment, but evidence regarding the incubation time of the virus and reports of infection by asymptomatic contact reinforce the need for precautionary measures aimed at aerosol transmission, prevention and spread control. It is pointed out that the cell receptor for infection by COVID-19, the angiotensin II-converting enzyme (ACE2), is highly expressed in the mucosa of the oral cavity and is present in large quantities in the epithelial cells of the tongue. Special precautions are emphasized in dental practice regarding the waiting area, hand hygiene, personal protective equipment, mouthwashes, use of rubber insulation, disinfection of the surfaces of the environment, and filtering and removal of contaminated air.

**Conclusion:** Importance of aerosol transmission and its implications in dentistry for identification, adequacy of biosafety protocols and containment of the disease.

## CURRENT STATE OF THE ART IN THE USE OF FLAVONOIDS FOR CARIES CONTROL: A SYSTEMATIC REVIEW

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**Aim:** This highlight aimed to assess the evidence about the use of flavonoids for caries control. **Method:** Following PRISMA guideline, we systematically searched for papers published in English up to May 2020 from five electronic databases: PubMed, EMBASE, Web of Science, Scopus, and Scielo. All relevant journals were hand-searched and reference lists from retrieved studies were reviewed to identify any further studies.

**Results:** A total of 209 studies were identified. Based on the criteria selection and methodological quality assessment, 41 studies were included in this review. Overall, the papers reported the inhibitory effect of flavonoids against *Streptococcus* mutans, the key etiological player of dental caries. The majority of publications focused on the in vitro antimicrobial activity of flavonoids against cariogenic bacteria whereas three studies were conducted using enamel or dentin. Also, only six animal models and three human trials were found.

**Conclusion:** A great part of the published information about flavonoid-based therapies is related to initial laboratory studies. The preclinical phase in animal models as well as the clinical trials are highly recommended to support the use of flavonoids as an approach for control of dental caries.

## CUSTOMIZED CEPHALOMETRIC PLANNING AND ITS ROLE IN PREDICTABILITY AND REPERCUSSION OF LONG-TERM RESULTS IN GENIOPLASTY

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**Aim:** Facial harmony comes from adequate stability between the different parts of the viscerocranium. In this sense, the dento-facial ment deformities result from the inadequacy of their bone positioning, being a esthetically reproduced by their underlying soft tissues, with the genioplasty being the corrective measure for these cases.

**Method:** In order to clarify the influence of planning on the results of the long-termplasty, articles were selected in English in PubMed for the last 5 years, with the keywords "chinplasty"; "Cefalometric review".

**Results:** The identification of the morphological characters that impair facial harmony is more effective by associating clinical examination and cephalometric analysis. Thus, clinical changes started to be observed in the radiographic plane through lines drawn between specific craniometric points, allowing to quantify the deformity and plan corrective measures. Together, these parameters enabled an adequate degree of predictability to the patient, since the movement of hard and soft tissues can vary considerably depending on the patient's response, the model of the performed plasty and trans and post-surgical maneuvers, as a fixation method, grafting and tissue detachment. In this bias, the principles of minimally invasive surgery, the use of customized plaques and personalized cutting guides associated with rapid prototyping appear as a reinforcement to surgical planning in order to achieve the predictive layout and expected result.

**Conclusion:** The previous analysis of the skeletal position in the postoperative period and the soft tissue response contribute to this scenario in terms of optimal treatment planning.

## CYTOTOXICITY OF EXTRACTS FROM DIFFERENT SPECIES OF CRYPTOCARYA (LAURACEAE)

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**Aim:** The objective of this study was to evaluate the cytotoxicity of extracts of species of *Cryptocarya* (C. Moschata and C. Mandioccana), on epithelial cells (NOK) using the AlamarBlue® test.

**Method:** Minimum Inhibitory Concentrations (MICs) were used for planktonic cells and for C. albicans biofilm. The cytotoxicity analysis was performed with 105 cells/mL, in each compartment of a 96-well plate (5% CO<sub>2</sub> at 37° C for 24 hours). Subsequently, the culture medium was discarded, remaining the cells adhered to the bottom of the plate. 100 µL of new culture medium containing the solution of the extract of the species of *Cryptocarya*, in different concentrations, and 10 µL of AlamarBlue® solution were added. The fluorescence of the extracts (n = 12) was measured using Fluoroskan Ascent (560 nm and 590 nm) after 6, 12 and 24 hours. Statistical analysis was performed using the ANOVA followed by Tukey test ( $\alpha = 0.05$ ).

**Results:** The results showed that there was a statistically significant difference between groups at all times (p<0.05) and that all extracts decreased cell metabolism compared to the control group. When the results were converted into percentages and compared with the control group, it was found that the extracts, for biofilm MIC, were considered intensely cytotoxic, at all

times. For planktonic cells (MICs), extracts ranged from non-cytotoxic to intensely cytotoxic. For all groups, the percentage of viable cells decreased over time.

**Conclusion:** Thus, it was possible to conclude that the extracts obtained from the leaves and fruits of C. Moschata and C. Mandioccana reduced the metabolism of the epithelial cells.

## DENTAL ANOMALIES IN CHILDREN AND ADOLESCENTS WITH ONCO-HEMATOLOGICAL DISEASE: SYSTEMATIC REVIEW WITH META-ANALYSIS

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**Aim:** Leukemia is one of the most frequent hematological diseases in children and adolescents. Chemotherapy and radiation are forms of treatment for leukemia and affect normal cells, causing defects in tooth development. This study systematically reviewed radiographic changes and late effects on tooth development in hematological cancer survivors.

**Method:** Studies with patients in remission period after chemo-and radiotherapy treatment were included, after the initial search in PubMed, Cochrane Library, and Web of Science databases, between 01/01/1975 to 12/31/2019. Of the 1,006 results, 17 eligible studies were identified and included, according to the inclusion criteria. Meta-analysis was conducted calculating the odds ratio between treated and control groups for hypoplasia, microdontia, root growth delay, and agenesis. Fixed and randomized effects models were used and heterogeneity, effect size, and detection of publication bias analysis were evaluated.

**Results:** The survivors had adverse consequences related to cancer or its treatment. There is strong evidence to support the association between antineoplastic therapies and dental development abnormalities, including hypoplasia [OR: 6.07; 95% CI, 2.02 - 18.19] microdontia [OR: 5.90; 95% IC, 1.28 - 27.2], root growth delay [OR: 26.74; 95% IC, 2.09 - 341.83], and agenesis (no difference).

**Conclusion:** This systematic review with meta-analysis demonstrated that antineoplastic therapies in hematological cancer survivors in childhood interfere with tooth development, resulting in defects such as agenesis, microdontia, hypoplasia and root disturbances.

## DENTAL AVULSION: KNOWLEDGE, CONDUCT AND MANAGEMENT BY SPORT EDUCATORS IN PIRACICABA-SP-BRAZIL

POLYANA VEIGA; RODOLFO FIGUEIREDO DE ALMEIDA; CAIO CÉZAR RANDI FERRAZ; MARINA ANGÉLICA MARCIANO; BRENDA PAULA FIGUEIREDO DE ALMEIDA GOMES; JOSÉ FLÁVIO AFFONSO DE ALMEIDA; YANNA OMENA SOARES; ADRIANA DE JESUS SOARES

PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** Traumatic dental injuries (TDI) are arising from acute transmission of energy or strength to the tooth and structures that support it. Sport injuries are majority causes in teenagers (6 to 14-years old), phase where there is mixed dentition and incomplete dental roots. TDI are time-dependent of dentistry attendance. Including avulsion situations and the missing teeth storage mode. In order to conducting and manage the situation, several educatives programs and control methods have been applied aiming support young sportsmen and sport educators. This study purpose to investigate knowledge of prevalence, prevention and previously manage in dental avulsion situations by sport educators and analyze their conduct.

**Method:** Thirty-three sport educators from public school answered a 4-session questionnaire: professional, TDI knowledge, conduct against avulsion and mouthguards using.

**Results:** 50% respondents have 10 to 20 professional-experience-years, 42.4% post-graduate and 81.8% did first-aid course. 76% responders knew what TDI is but 89% could not define avulsion. 42.4% experienced 1 or 2 TDI-situation during their work. Despite 82% affirm that would have not reimplant an avulsed tooth by their own, 73% would have took to the dentist. All responder had informations about mouthguards. Indeed, all of them would indicate it for young sportsmen.

**Conclusion:** Low knowledge about what to do in avulsion-situation was observed among sport educators. Due to it, we might suggest continuing education to prevent and conduct TDI-situations.

## DENTAL MANAGEMENT IN CHILDREN WITH AUTISM SPECTRUM DISORDER

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**Aim:** Autism Spectrum Disorder (ASD) is considered a neuropsychiatric syndrome in which there is a development breakdown characterized by sensory-motor deficits, limitations in the use of interactive language, difficulty in social communication and repetitive behaviors. Due to its own behavioral characteristics, the dental care for patients with ASD becomes challenging for professionals. This work had the intention of presenting a literature review about different approaches with the autistic patient, contributing to the care and dental treatment being carried out safely and effectively.

**Method:** Searches were made using electronic databases PubMed and SciELO, with the keywords "ASD", "Autism" and "Dental treatment" and as inclusion criteria articles published after 2010 in its full version, in English or Portuguese.

**Results:** The difficulty with autistic patients often resides in the lack of knowledge and skills of dentists in front of such conditions. However, there are several ways of dental management aimed at an effective integration between parents, child and the professional. Some of them are behavioral techniques such as voice control; desensitization; positive reinforcement and awards; careful approach and maintenance of eye contact; tell-show-do technique, establishment of routine; musical and repetitive stimuli; use of technological devices for entertainment and others.

**Conclusion:** Since ASD is a socially present condition and requires special care, it could be concluded that the study and knowledge of different approaches regarding the handling of them during dental treatment is crucial for achieving a humanized, effective and safe service.

## DENTAL SURGERY DURING AND AFTER THE NEW CORONAVIRUS PANDEMIC: A LITERATURE REVIEW

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**Aim:** The dental surgical specialty was faced with the need for adaptations, due to changes in daily life due to the pandemic of the new coronavirus. Started in December 2019 in China,

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such a pandemic has become a challenge for all health professionals, due to the rapid growth in the number of infected in a short period of time. Many surgical procedures are suspended and those that are yet to be performed will need new practices to combat the transmission of the virus.

**Method:** The objective of the research is to assess the impacts of the new coronavirus pandemic on oral surgical specialty and to determine how emergency dental institutions should proceed. A bibliographic search of publications and guidelines of medical and dental societies was carried out in relation to surgical approaches in this current pandemic.

**Results:** It was possible to observe the insufficiency of articles produced on the theme to date, but the few studies found are extremely important at this time of coping with the disease.

**Conclusion:** Therefore, due to the unique characteristics of dental procedures and the risk of contamination of these professionals and their patients, we conclude that elective surgeries that can be postponed should be postponed and surgeries that will be performed will require specific safety protocols for the procedure. In addition, the number of professionals involved should be kept to a minimum. In addition, we emphasize the importance of individual protective equipment for professionals and patients to minimize the risk of contamination, especially when patients are in the incubation period, do not know that they are infected or hide the infection.

## DEPRESSION AND ANXIETY IN HIGH SCHOOL STUDENTS

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PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** To analyze the symptoms of depression and anxiety in high school students.

**Method:** Descriptive exploratory study, carried out with 223 high school students, from 14 to 18 years old, in a state school in Piracicaba / SP. The instruments used were the Beck Scales: Beck-BAI Anxiety Inventory and Beck-BDI Depression Inventory used to investigate symptoms of depression and anxiety.

**Results:** The interviewed students had an average age of 15.53 years,  $\pm$  0.93, with 49.32% being male and 50.22% being female. When the genders were compared, there was a higher prevalence of symptoms of depression and anxiety in the female gender, there was no significant association between these variables. In the application of the BDI, 26% of the students presented the symptoms of moderate and severe depression, being 60% female and 39.65% male. When applying the BAI, it was observed that about 30% of the students had symptoms of moderate and severe anxiety, of these 80.59% were female and 19.41% were male. The results obtained are also in line with other studies that registered a higher frequency of development of symptoms of depression and anxiety in women.

**Conclusion:** It is concluded that symptoms predictive of depression and anxiety were found in the adolescents in this sample, with 26% of the interviewed students presenting moderate and severe depression and 30% symptoms of moderate and severe anxiety. Educators need to pay attention to the evidence of psychological distress that may interfere with school performance, failure or dropout.

## DEPRESSIVE SYMPTOMS IN PREGNANT WOMEN ASSISTED IN A BREASTFEEDING INCENTIVE PROGRAM

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**Aim:** The gestational and postpartum period seems to be a period of greater predisposition for mental disorders in women, especially in the first and third trimesters of pregnancy and in the first 30 days postpartum. The aim of this study was to investigate the prevalence of depressive symptoms in pregnant women attended in a breastfeeding incentive program at the Dental School of Piracicaba.

**Method:** To investigate symptoms of depression, participants responded to the Beck Depression Inventory (BDI) and a questionnaire to collect economic and sociodemographic information. The bivariate analysis (significance level of 5%) was carried out to test the association between the symptoms of depression and the economic and sociodemographic variables.

**Results:** The participants of this study were 69 pregnant women. The median age of the sample was 32 years. Most were primiparous (87.5%), lived with a partner (93%), had completed higher education (71%) and almost half of the sample (54%) earned up to four minimum wages. Twenty-one percent of the participants had symptoms of depression.

**Conclusion:** There was no significant association between the presence of symptoms of depression and socioeconomic and demographic variables for this sample. The high prevalence of pregnant women affected by depressive symptoms indicates the need to care for these women, in order to avoid the consequences of depression for her and her child.

## DEQI RESPONSE IN ACUPUNCTURE EXPERIENCED AND NON-ACUPUNCTURE EXPERIENCED

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**Aim:** This pilot study measured Deqi in acupuncture experienced and non-acupuncture experienced volunteers after real needle insertion and sham acupuncture (non-penetrating device).

**Method:** Volunteers (n=10) were divided in 2 groups: experienced volunteers (GE) (n=5) and non-experienced volunteers (GN) (n=5). The inclusion criterion was people aged above 18 years of both sexes. Pregnant women, people afraid of needle or using analgesic and anti-inflammatory drugs were excluded. Both groups received real needle insertion and sham needling at IG4 acupoint. Volunteers answered a Southampton Needle Sensation Questionnaire for each needle.

**Results:** Respectively, for real and sham needle, GE felt pricking (80% and 100%), sharp (60% and 0%), bruised (40% and 20%), electric shock (20% and 0%), warm (20% and 40%), spreading (40% and 40%), heavy (40% and 20%), numbness (20% and 40%), tingling (40% and 20%), twinge (80% and 80%), stinging (40% and 20%), uncomfortable, (20% and 20%), pressure (60% and 60%), throbbing (20% and 20%) and none felt dull ache, fading and deep ache. GN felt pricking (100% and 80%), sharp (60% and 0%), bruised (20% and 0%), electric shock (40% and 0%), warm (40% and 40%), spreading (20% and 0%), heavy (20% and 0%), numbness (20% and 0%), tingling (20% and 20%), twinge (60% and 40%), stinging (20% and 0%), uncomfortable (40% and 0%), pressure (40% and 0%), fading (20% and 0%), throbbing (20% and 0%) and none felt dull ache and deep ache.

**Conclusion:** Both groups reported several Deqi's sensations for real needle and sham device, but the expressiveness was greater for the real needle. GE reported a stronger Deqi response for both needles.

## DESENSITIZING TREATMENT IMPROVES THE ORAL HEALTH RELATED QUALITY OF LIFE ON INDIVIDUALS WITH MIH: PILOT STUDY

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FEDERAL UNIVERSITY OF PIAUÍ - UFPI

**Aim:** Molar-incisor hypomineralization (MIH) is an enamel development defect that represents a public health problem, affecting 14.2% of the world's population. Individuals with MIH have worse oral health-related quality of life (OHRQoL) and one of the factors associated is dentin hypersensitivity (DH). The aim of this pilot study was to evaluate the impact of DH treatment on OHRQoL of individuals with MIH.

**Method:** This was a prospective longitudinal study. The sample was composed of children with MIH and moderate to severe DH consecutively attended at Pediatric Dentistry of the Federal University of Piauí. The individuals were treated with Sensodyne Repair & Protect® desensitizing paste (Novamin 5%) or Clinpro White Varnish Fluoride (3M ESPE®). The impact of the treatment on the OHRQoL was evaluated through validated questionnaires Child Perceptions Questionnaire (CPQ8-10) or the reduced version of the Child Perception Questionnaire (CPQ11-14ISF:16) according to age, before (T0) and after treatment for DH (T1). The data were analyzed using the JAMOVI statistical software and the paired t test was used, considering a significance level of 5% (p < 0.05).

**Results:** Eight individuals with a mean age of  $10.25 \pm 1.83$  years were included and 62.5% were male. The mean of OHRQoL scores for CPQ8-10 in T0 was  $19.50 \pm 3.42$  points and in T1 it was  $12.30 \pm 3.30$  points (p=0.049); and for CPQ11-14 in T0 it was  $14.50 \pm 7.72$  and in T1 it was  $10.80 \pm 6.85$  (p=0.015).

**Conclusion:** This pilot study demonstrated that the desensitizing treatment positively impacts the OHRQoL of children and adolescents with MIH, however studies with larger samples must be performed to confirm the results.

## DETERMINANTS, INCIDENCE AND PREVALENCE OF MENTAL DISORDERS IN UNDERGRADUATE STUDENTS: A SYSTEMATIC REVIEW

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MATO GROSSO DO SUL DENTAL SCHOOL - UFMS

**Aim:** We search the association between university experience and the involvement of mental disorders, in addition to possible forms of protection for mental health.

**Method:** This is a systematic review registered on the PROSPERO platform under number CRD42019115492. The research was based on a PECOT question, defining inclusion and exclusion criteria for the articles. The searches were made in the PubMed, Embase, Scopus, Lilacs and Web of Science databases, and in the gray literature, combining the terms "mental disorders", "college students" and "patient health questionnaire" with the Boolean operators for each base. The process was carried out in pairs independently.

**Results:** Thirteen studies were included with 7400 participants from eleven countries. The evidence of the articles was assessed using the New Castle-Ottawa Scale tool, being considered with low bias. There was a high incidence of depressive and anxious symptoms among the participants, the main stressor being reported as the academic environment and the transition stress. There was a direct relationship between the severity of mental disorders and the degree of suicidal ideation, and the absence of treatment with the prolongation or worsening of the disorders. Few students were under treatment or psychological counseling. Some items of the questionnaires can be useful as diagnostic indicators for screening academics considered at risk, so that the educational institution can plan timely and reliable interventions.

**Conclusion:** Mental disorders have different profiles throughout the courses with different triggering factors. There is little treatment and case management.

## DEVELOPMENT OF AN APP FOR ACQUISITION OF CLINICAL AND LABORATORY SKILLS IN PEDIATRIC DENTISTRY AND ORTHODONTICS

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**Aim:** The use of technologies in the learning process has proven to be a collaborative and efficient teaching tool, allowing greater autonomy for the user and a more dynamic form of learning. In dentistry, although students have acquired knowledge of a variety of oral pathologies and clinical procedures throughout the dentistry course, they may present difficulties in the diagnosis of certain diseases and doubts about the best therapeutic approach in pediatric patients.

**Method:** In order to facilitate the learning process, it was developed the OdontoPed-Helpbox®, a free and dynamic mobile app that includes many clinical and laboratory protocols. The main objective of the development was to improve skills and knowledge about dentistry assistant for pediatric dentistry and orthodontics.

**Results:** The prototype was designed according to the sequence: to the development of clinical and laboratory contents to be covered, software selection, layout format, inclusion of resources, tests of applicability and acceptability of the operational system and indexing in the app store Play Store® (free). The software has clinical and laboratory contents consistent with the peculiarity of each procedure, enabling better visualization and understanding of the techniques in dynamic audiovisual format, to improve assistance to children.

**Conclusion:** OdontoPed-Helpbox® has shown an useful strategy in students learning process, allowing an easy access to reliable, dynamic and fast content, being effective to assist decision making in the dental clinic.

## DEVELOPMENT OF CHILDREN'S MOTOR FUNCTION

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**Aim:** To compare the development of motor function in children born preterm with children born at term.

**Method:** It is an integrative literature review, in the Google Scholar and SciELO databases.

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**Results:** The development of the motor function of children in different age groups is a topic of recurring questions and involves several aspects. It is known that the first years of life are essential for the acquisition of motor skills, since motor development is pronounced and allows independent mobility. Studies report that when confronting preterm and full term children, it was noted that motor development is similar in both groups and the greatest mismatch between them occurs in the first months of life. Regarding the comparison between the sexes in early childhood, it was observed that there is no association between motor performance and sex, suggesting that the motor differences perceived between boys and girls arise from 2 years of age due to the opportunities offered to the child considering the social and cultural standards understood as appropriate for each one of them since the prenatal period they are already inserted in a pre-established socio-cultural context.

**Conclusion:** In the absence of other disorders and with correction of age in preterm infants, motor development may be similar to that of children born at term. The way in which children preterm infants acquire their functional abilities seems to occur in a different way from that observed in term infants.

**DIAGNOSIS AND THERAPEUTIC MANAGEMENT OF ORAL HEMANGIOMA**  
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**Aim:** Hemangioma is a benign, fast-growing vascular tumor, with proliferation of endothelial cells followed by gradual involution. Its diagnosis can be made through vitro pressure (diascopy), ultrasound with color doppler, angiography, in addition to magnetic resonance and computed tomography with contrast. Therapeutic options include surgical excision, laser therapy, cryotherapy, systemic and topical medications, sclerotherapy or just preservation. The aim of this study was to review the literature on the diagnosis and treatment of oral hemangiomas.

**Method:** A literature review was carried out in the PubMed and Bireme databases, using the keywords "Diagnosis", "Therapeutics" and "Hemangioma". Only articles with full text available, published in the last 10 years, were considered.

**Results:** From the analysis of the studies, it was possible to highlight that initially a clinical evaluation is performed together with diascopy, which can be complemented with imaging tests for diagnostic conclusion. In treatment, more and more conservative therapies are being sought, with emphasis on the use of sclerosing agents and the use of propranolol, especially in infantile hemangiomas. Although some cases do not require treatment, the correct identification of hemangiomas is important due to the variety of differential diagnoses, in addition to the risk of hemorrhage in biopsy situations.

**Conclusion:** The efficacy of sclerotherapy and the use of propranolol has been shown to increase, however, the treatment can be customized according to the location and size of the tumor, thus, further studies on the subject are needed.

**DIAGNOSIS OF MUCUS RETENTION PHENOMENON**  
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NATIONAL INSTITUTE OF HIGHER EDUCATION AND POSTGRADUATE PRIEST GERVÁSIO

**Aim:** The aim of this study was to investigate the clinical features, treatment and prognosis of the mucous retention or extravasation phenomena through a literature review.

**Method:** A literature review was conducted in the LILACS, MedLine, PubMed and Scielo databases, from 2015.

**Results:** Mucocoele is a common lesion of the oral mucosa that involves mucin accumulation causing limited swelling due to trauma or alteration of minor salivary glands. The mucocoele is usually found on the lower lip, but the cheek mucosa and the anterior region of the lingual belly may be affected. Its etiology is connected with the rupture of the glandular ducts and the overflow of the salivary content destined for the adjacent tissues, usually this rupture is generated by a trauma. Diagnosis is principally clinical and trauma report is an important information. The most convenient method is simple surgical excision, it is significant that they perform the removal of the adjacent salivary glands to prevent recurrence of the injury. Superficial mucocoeles rupture naturally, with no surgical extraction necessary.

**Conclusion:** It is considerable that the dental surgeon is able to accurately recognize this lesion, providing the patient with the most and convenient treatment. It is also essential that the dentist has the knowledge so that he can clarify in his appointments about this injury, supporting prevention.

**DIAMOND BURS ADJUSTMENT EFFECT ON ROUGHNESS AND FLEXURAL STRENGTH IN A ZLS CERAMICS**

VITOR GALVÃO OLIVEIRA; BHARBARA DE MOURA PEREIRA; ANDRESSA RESTANI OLIVEIRA; ROSANA LEAL PRADO; ANA BEATRIZ GOMES DE CARVALHO; RENATA MARQUES DE MELO; FELLIPO RAMOS VERRI; GRAZIELA AVILA GALHANO LOGAR  
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**Aim:** The study evaluated the surface roughness and biaxial flexural strength of a lithium silicate ceramic reinforced with zirconia (Suprinity®, Vita) asperized with F or FF diamond burs and subjected to polishing or glaze.

**Method:** Seventy disks (Ø 12 mm x 1.5 mm) were prepared and divided into seven groups (n = 10): Control: no treatment; FF: wear with diamond bur 3098FF; F: diamond bur 3098F; FFFPol: diamond bur 3098FF followed by polishing; FPol: diamond bur 3098F followed by polishing; FFFGI: diamond bur 3098FF followed by glaze application; FGI: diamond bur 3098F followed by glaze application. Surface roughness was measured before all discs were subjected to biaxial flexural testing on three spheres. The topography of three random specimens from each group was analyzed using an Atomic Force Microscope. All specimens were observed under a stereomicroscope to identify patterns or fracture marks. Representative specimens from each group were analyzed using Scanning Electron Microscopy. The data were analyzed by statistics tests.

**Results:** The use of diamond burs significantly increased the surface roughness and decreased the strength, polishing reduced the roughness of the ceramic but resulted in flexural strength similar to that of the groups with wear. The glaze treated specimens showed flexural strength statistically similar to the control group, but higher roughness.

**Conclusion:** The conclusion is that polishing reduces the surface roughness but does not affect the biaxial flexural strength of the ZLS ceramic while the application of glaze increases the strength.

**DIFFERENTIAL MICROBIAL TRANSCRIPTOME BETWEEN YOUNG SMOKERS AND NONSMOKERS WITH GRADE C PERIODONTITIS**

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**Aim:** The aim of the present study is to evaluate the biofilm transcriptome of sites diagnosed with grade C periodontitis (called aggressive periodontitis by the 1999 periodontal disease classification) of smoking and non-smoking patients.

**Method:** Biofilm was collected from periodontal sites with probing depth > 7mm and bleeding. RNA was extracted from the samples and sequenced on the Illumina HiSeq platform. The profile of differentially expressed genes was evaluated by bioinformatics tools and the target genes evaluated by PCR-real time in 15 samples per group. The level of significance was 5%. **Results:** The RNAseq of the samples showed 196 genes for the group of smokers and 127 genes for the non-smokers. The periodontal environment among smoking patients showed several differentially expressed pathways concerning the periodontal environment of non-smoking patients (p < 0.05). Among the differentially expressed genes, a higher expression of HSV1 RNA binding protein, MSF transporter / DHA1 family / multidrug resistance protein, protein disulfide-isomerase A1, which are related to virulence factors in the smoking group, may be indicated.

**Conclusion:** It can be concluded that the biofilm of smoking patients presents significant differences in the pattern of gene expression, indicating an altered microbial activity.

**DO THE PULP CONSEQUENCES OF EARLY CHILDHOOD CARIES IMPACT ON THE ORAL HEALTH RELATED QUALITY OF LIFE?**

ITALO SANTIAGO DIAS BARBOSA LIMA; ANANDA SOUZA PEREIRA; LUCIANO RODRIGUES SILVA LIMA; MARINA DE DEUS MOURA DE LIMA; TERESINHA SOARES PEREIRA LOPES; LUCIA LUCIA DE FÁTIMA ALMEIDA DE DEUS MOURA; MARCOELI SILVA DE MOURA; CACILDA CASTELO BRANCO LIMA  
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**Aim:** The purpose of this study was to evaluate the impact of pulp consequences of untreated dental caries on the oral health related quality of life (OHRQoL) of preschoolers

**Method:** Participated in this cross-sectional study 888 pre-schoolers of five-years-old and their families, registered in public and private preschools in Teresina-PI. For data collection, were used: socioeconomic forms, validated Brazilian version of the OHRQoL questionnaire "The Early Childhood Oral Health Impact Scale" (ECOHIS) and clinical examination. The experience of dental caries (ceod index), pulp consequences of untreated dental caries (pufa index), and malocclusion were evaluated. The data were analysed using descriptive statistics, the Kruskal-Wallis test, and Poisson regression (p < 0.05).

**Results:** The pre-schoolers with caries experience and pulp consequences had 2.06 times the greater negative impact on OHRQoL than those with only caries experience (RT = 2.06; IC95% = 1,60 - 2,63), measured by the total ECOHIS score. The families' income less than one minimum salary and being under dental treatment increased the probability of a negative impact on the OHRQoL of pre-schoolers and their families (p < 0.05).

**Conclusion:** In this way, we concluded that the pulp consequences of untreated dental caries had a negative impact on the OHRQoL of pre-schoolers and their families.

**DOES THE ADDITION OF 45S5® BIOGLASS CHANGE THE BLEACHING EFFICACY OF AGENTS' HYDROGEN PEROXIDE BASED?**

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**Aim:** This study evaluated the color change using an experimental 35% hydrogen peroxide (HP) bleaching agent combined with bioglass (45S5®, BG).

**Method:** Bovine enamel blocks were selected and randomly divided in the groups (n = 10): NC (negative control, without whitening), HP (commercial control), HP combined with difference concentrations of BG (0%, 2.5%, 5%, 7.5%, 10% BG). Three whitening sessions were performed for 40 min, and a 7-day interval among sessions. Dental color (ΔL, Δa, Δb) and color alteration (ΔE00 - Ciede2000) were evaluated at baseline (T0) and after bleaching (Tb), using a manual spectrophotometer, and data (ΔE, ΔL, Δa and Δb) were statistically evaluated by one-way ANOVA and Tukey's Test (α = 0.05).

**Results:** The bleaching agents containing bioglass (2.5%, 5% and 7.5%) showed no differences in ΔE00 in comparison with groups containing only HP (0% BG and HP) (p > 0.05). Besides, no differences in ΔE00 were found between 10% BG and NC (p = 0.067). Also, ΔL and Δa were similar for all groups (p > 0.05), and the groups with HP showed lower Δb values when compared to NC (p < 0.05).

**Conclusion:** The addition of 45S5® bioglass in high concentrations of hydrogen peroxide bleaching agents did not influence the color changes promoted by hydrogen peroxide.

**DOES THE NUMBER OF BASIS IMAGES AFFECT THE PRODUCTION OF ARTEFACTS NEAR FROM HIGH-DENSITY DENTAL MATERIAL IN CBCT?**

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**Aim:** To evaluate the influence of the number of basis images and the metal artefact reduction (MAR) tool on the production of artefacts near and from a zirconium implant in cone-beam computed tomography (CBCT).

**Method:** CBCT scans of a mandible were acquired before and after insertion of an implant, using 450 and 720 basis images, with and without MAR activation. The standard deviation (SD) of the gray values and the contrast-noise ratio (CNR) of the region of interest (ROIs) located on the cortices adjacent to the implant were calculated.

**Results:** The number of basis images did not affect the SD of the buccal and lingual ROIs (p > 0.05). The implant increased the SD and decreased the CNR only in the lingual cortical (p < 0.05). In this case, MAR activation decreased SD (p < 0.05).

**Conclusion:** A higher number of basis images does not influence the image quality in bone cortical plates; MAR improves the image quality when implant is present and produces artefacts.

**DYSGEUSIA EVALUATION AND ITS IMPACT ON QUALITY OF LIFE IN CANCER PATIENTS AT SANTA CASA DE ALFENAS-MG**

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## All abstracts appear as submitted by the authors without editing

## UNIFAL - FEDERAL UNIVERSITY OF ALFENAS

**Aim:** This study aims to evaluate the trajectory, quality and intensity of one of radiotherapy complications, dysgeusia.

**Method:** Dysgeusia was evaluated through taste tests using NaCl solutions 0.31mg, citric acid 0.015mg, sucrose 0.49mg and caffeine 0.04mg, without prior disclosure of which was offered to the volunteers. These tests were performed on a sample of 12 patients from Santa Casa de Alfenas - MG, preceding the cancer treatment and 15 days and 6 months after its beginning. The results were placed on a questionnaire in which the patients rated their taste capacity on a scale of 0 to 10 and also reported the amount, frequency and time of treatment by head and neck radiotherapy and / or systemic chemotherapy as well as the use of other medications as well as their habits. In this way, it evaluated whether or not there is relationship between these variables.

**Results:** It was detected that, when at radiotherapy doses from 50 to 70 Gy there was a significant loss of taste capacity, especially for salty and sweet as the irradiated site approached the lingual region.

**Conclusion:** It is possible to conclude that dysgeusia can manifest itself in different ways, it depends on the dose and irradiated area. Knowledge of dysgeusia's behavior is important to guide radiotherapy and chemotherapy patients in order to collaborate for their faster recovery without severely impacting their quality of life.

## EFFECT OF 5-LIPOXYGENASE ON ALVEOLAR BONE REPAIR POST TOOTH EXTRACTION IN ELDERLY FEMALE MICE TREATED WITH ZOLEDRONATE

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**Aim:** The purpose of this study was to analyze the influence of (5LO) on alveolar bone post tooth extraction in elderly female mice treated with zoledronic acid and the risk to develop medication related osteonecrosis of jaw (MRONJ)-like lesions.

**Method:** We used 129/SV wild type (WT) compared to mice lacking the expression of 5-Lipoxygenase (5LOKO). Forty female mice (20 WT and 20 5LOKO), 17 months old, were divided in groups: Control (treated with saline solution, at 0,9%) and ZL (treated with zoledronate 250µg/Kg), both via intraperitoneal injection. They were submitted to the extraction of the right upper incisor and euthanized to collect specimens of the experimental periods (7 and 21 days). Samples were analyzed through microCT and histology.

**Results:** MicroCT showed higher newly formed bone (BV/TV,%) in WT Control when compared to ZL at 21 days and 5LOKO-ZL displayed a higher newly formed bone in comparison to WT-ZL at the same period. Qualitatively, WT-ZL group showed lower hiperdensity and presence of pathological fracture on the alveolar ridge, while 5LOKO Control and ZL groups showed enhanced hiperdensity in comparison to the WT groups. The histopathological analysis showed that WT-ZL presented MRONJ-like lesions, with irregularities on bony trabeculae, empty osteocyte lacunae and low quantity of TRAP+ cells at 21 days. In contrast, 5LOKO-ZL presented attenuated signs of MRONJ-lesions when compared to WT-ZL, with reduced inflammatory infiltrate and enhanced bone formation.

**Conclusion:** We concluded that 5LOKO female mice when compared to WT, presented a certain resistance to zoledronate, proving an important role of this enzyme to future studies.

## EFFECT OF A NEW BLEACHING GEL CONTAINING HEXAMETAPHOSPHATE AND FLUORIDE ON DENTAL DEMINERALIZATION

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**Aim:** Evaluate the addition of sodium hexametaphosphate (HMP) in the presence or not of sodium fluoride (F) to a 35% hydrogen peroxide (PH) bleaching gel on the enamel microhardness.

**Method:** 50 bovine incisor discs were selected by initial hardness (SHI). The treatments were: 1) PH at 35% (PH); 2) PH / 0.1% F (PH / F) 3) PH / 1% HMP (PH / HMP); 4) PH / 0.1% F / 1% HMP (PH / F / HMP); 5) HP Blue. The gels were applied for 40 minutes in 3 sessions. Then, the final hardness (SHF) and percentage of loss of surface hardness (% SHF) were measured. The data were submitted to ANOVA followed by the Student-Newman-Keuls test (p < 0.001).

**Results:** The treatment with PH / F / HMP showed a lower % SH, being statistically lower than the PH group and HP Blue (p < 0.001)

**Conclusion:** The addition of HMP and F to a bleaching gel reduced the mineral loss of the enamel when compared to its counterpart and the commercial HP Blue gel.

## EFFECT OF AIR ABRASION AND CHEMICAL TREATMENT ON THE SHEAR BOND STRENGTH OF RESIN CEMENTS TO SUPER-TRANSLUCENT ZIRCONIA

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**Aim:** The purpose of this study was to evaluate the effect of surface treatment on the shear bond strength (SBS) of resin cements to super-translucent zirconia (STML).

**Method:** The SBS of three commercial resin cements (Panavia V5, PV5, Kuraray Noritake Dental, Japan; Variolink Esthetic LC, VLK, Ivoclar-Vivadent, Liechtenstein; and Panavia SA, PSA, Kuraray Noritake Dental, Japan) to STML (Katana STML, Kuraray Noritake Dental) after treatment with chemical primers or a combination of air abrasion with Al<sub>2</sub>O<sub>3</sub> particles (50µm, BioArt, SP, Brazil) and chemical primers. Sixty STML samples (7 mm x 12 mm x 2 mm) were divided in 6 groups (n= 10) for SBS evaluation. Each cement was evaluated treating the STML surface with the manufacturer indicated zirconia primer and with a combination of air abrasion and the indicated zirconia primer. Two cylinders of the corresponding cement were placed on the STML surface, one for evaluation after 24 hours and the other after 1 year of storage in water. The fracture pattern was analyzed.

**Results:** At the 24 hours evaluation, there were no differences between the cements for equal STML treatments. After 1-year, the SBS of all cements decreased significantly, except for PV5 associated with air abrasion, that showed the highest SBS of all cements. For all the cements, lower SBS was observed when the STML was not air abraded. A higher rate of adhesive failures was observed when the STML was not air abraded, regardless of the evaluated cement.

**Conclusion:** Better results are observed when the chemical treatment is combined with the micro-mechanical retention produced by air abrasion using Al<sub>2</sub>O<sub>3</sub> particles.

## EFFECT OF ARGON PLASMA APPLICATION FOR RESIN COMPOSITE REPAIR

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**Aim:** This study evaluated the effect of argon plasma (PLA) surface treatment on the micro-shear bond strength (MSBS) of water-aged composite to a two newly placed composites, simulating restoration repair.

**Method:** Eighty-four light cured plates (20x20x4mm) were fabricated using a nanofilled composite (Z350 XT - 3M Oral Care) and stored in distilled water for 4 months. Afterwards, plates were treated according to the groups (n=6): G1 (negative control / without treatment), G2 (positive control / Sandblasting (SAN) + Silanization + Hydrophobic bonding resin (HBR)), G3 (HBR), G4 (PLA + HBR), G5 (SAN + HBR), G6 (SAN + PLA + HBR) and G7 (PLA). Two newly composite cylinders (1.5x1.5mm) of two composites (Z350 XT, 3M Oral Care and Charisma, Kulzer) were built on each aged plate. The cylinders were submitted to MSBS after 24 hours and 1 year. Data were analyzed by three-way ANOVA and Tukey's Test (p<0.05).

**Results:** Simulating the repair with Charisma, the groups G2 (34.4), G3 (34.1), G4 (32.2), G5 (34.9) and G6 (34.3) presented significantly higher MSBS at 24 hours, while G1 (2.8) presented the lowest one. For Z350XT, groups G2 (40.3), G3 (42.1), and G5 (39.0) presented the highest MSBS at 24 hours, while G1 (7.6) and G7 (9.0) showed the lowest one. After 1 year, all groups for both composites demonstrated a significant (p<0.05) MSBS reduction and no differences were observed between Charisma and Z350.

**Conclusion:** Considering the simplification of the procedures, only the application of the HBR was sufficient to obtain higher MSBS results. PLA application was not beneficial as other methods for composite repairs.

## EFFECT OF BIOELECTROMAGNETISM AND PHOTOTHERAPY IN PATIENTS WITH CERVICOBACHIAL NEURALGIA

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**Aim:** Evaluate the effects of bioelectromagnetism and phototherapy in patients with cervicobrachial neuralgia.

**Method:** To participate in the study, volunteers must be over 18 years old and need to report pain related to cervicobrachial neuralgia equal to or greater than 4 on the VAS scale. Pregnant women and pacemakers will be excluded. Before the beginning of the session, a general information questionnaire, registration of the initial VAS (Visual Analogic Scale from a scale ranging from 0 to 10), verification of the circulating energy by the Ryodoraku method of each meridian and total mean in microamperes and measurement of pain by algometry will be carried out in kg/cm<sup>2</sup> and N/cm<sup>2</sup>. Bioelectromagnetism will be applied using the Kenkobie device, following a specific protocol and using the intensity of 0,055 mT and frequency of 60 Hz. Phototherapy will be applied through a blanket wrapped in Kenkobie emitting long infrared rays between 4 and 14 µm. The selected acupuncture points are: K11, in the sole of the foot for 10 minutes; GV4, in the depression under the L2 spinous apophysis for 5 minutes; GV20, in the top of head for 3 minutes and in the affected area for 15 minutes. The session will last an average of 35 minutes. After the session ends, the parameters will be collected again.

**Results:** The results obtained through VAS, algometry and Ryodoraku will enable the analysis of the effects of bioelectromagnetism and phototherapy in patients with cervicobrachial neuralgia.

**Conclusion:** It's expected that bioelectromagnetism and phototherapy will be able to generate relief for these patients, improving their quality of life.

## EFFECT OF BLEACHING AGENTS ON ROUGHNESS, FLEXURAL STRENGTH AND ELASTIC MODULUS OF BULK FILL COMPOSITES

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**Aim:** The aim in this study was to evaluate the effect of at-home bleaching agents on the surface roughness, flexural strength, and elastic modulus of resin composites.

**Method:** Four bulk fill composites (Filtek Bulk Fill - 3M ESPE, Aura Bulk Fill - SDI, Tetric N-Ceram Bulk Fill - Ivoclar Vivadent, and Admira Fusion X-tra - Voco), a conventional composite (Filtek Z350 - 3M ESPE), and two bleaching agents (Pola Night 22% and Pola Day 9.5% - both SDI) were used. Specimens (n = 10) were carried out in form of cylinder (5 x 2 mm) for roughness and bar (7 x 2 x 1 mm) for flexural properties, which were bleached with one of two products or unbleached (control). Surface roughness was measured with a 0.25 mm cut-off using a roughness tester before and after bleaching procedure. Flexural strength and elastic modulus were obtained by three-point bending test using a universal testing machine after bleaching. Data were submitted to ANOVA and Tukey's test (α = 0.05).

**Results:** ANOVA showed a significant difference only for material factor (p < 0.05) for roughness, flexural strength, and elastic modulus. Bulk fill composites showed lower flexural properties compared to conventional composite, except for Filtek Bulk Fill, which was statistically similar. Admira X-tra Fill showed the highest roughness, but all composites showed roughness below the critical threshold of 0.2 µm for plaque accumulation.

**Conclusion:** Bleaching agents did not affect the mechanical properties of resin composites, so after bleaching restorations in non-esthetic areas would not need to be replaced.

## EFFECT OF CASEIN PHOSPHOPEPTIDE-AMORPHOUS CALCIUM PHOSPHATE, FLUORIDE AND TRIMETAPHOSPHATE ON CARIES: AN IN VITRO STUDY

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**Aim:** The aim of this study was to evaluate in vitro the effect of different anti-caries agents containing casein calcium phosphate amorphous phosphopeptide (CPP-ACP), sodium trimetaphosphate (TMP) and fluoride (F) and treatment protocols, in remineralizing initial carious lesions.

**Method:** Bovine enamel blocks (n=60) with artificial caries lesions divided into 5 treatment groups (n = 12): 1) Dentifrice without F, TMP, CPP-ACP (Placebo); 2) Dentifrice with 1100 ppm F (DF); 3) DF + Neutral Gel with 9000 ppm F (DF+ Gel F); 4) DF + Neutral Gel with 4500 ppm F + 5% TMP (DF + Gel TMP) and 5) DF + MI Paste Plus® (DF + MI Paste Plus®). The blocks were subjected to 6 pH cycles for 6 days. For 3 and 4 groups, the gels was applied only once for 1 minute, initially to the study, and for group 5 after treatment with DF, MI Paste Plus® was applied 2x / day for 3 minutes. After pH cycling, determined to calculate the percentage of surface hardness recovery (%SHR), integrated subsurface hardness loss (Δ KHN) and profile

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of subsurface lesions by polarized light microscopy (MLP). The data were analyzed by ANOVA 1-criterion, followed by the Student-Newman-Keuls test ( $p < 0.001$ ).

Results: The DF-Gel TMP group remineralized the enamel surface by ~ 30%, 20% compared to the DF-Gel F and DF groups ( $p < 0.001$ ). The lowest depth of the lesion ( $\Delta$  KHN) was observed for the DF-Gel TMP group, with 54% and 44% when compared to the 1100F and DF-Gel F groups ( $p < 0.001$ ).

Conclusion: It is concluded that the association of treatments with DF + Gel TMP promoted an additional and significant effect on the remineralization of initial caries lesions.

EFFECT OF DENTIFRICES CONTAINING POLYPHOSPHATE AND POLYOLS AND FLUORIDE, ALONE OR IN COMBINATION, ON BIOFILMS IN VITRO  
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Aim: This study aimed to evaluate the effect of dentifrices containing sodium trimetaphosphate (TMP, 0.25%), xylitol (X, 16%), erythritol (E, 4%) and fluoride (F), alone or in different associations, on dual-species biofilms of *Streptococcus mutans* and *Candida albicans* formed in vitro.

Method: After 72-h of formation, the biofilms were treated twice a day (10:00 am and 4:00 pm) for 1 min, followed by a further 1-min treatment the next day (10:00 am), totaling 96 hours. The treatments were performed with suspensions (1:3) of dentifrices containing X, E, X + E, TMP, 200 ppm F, 1100 ppm F (positive control), 200 ppm F (200F) + TMP, 200F + X + E, Experimental dentifrice ( "EXP" : 200 F + X + E + TMP) and placebo (negative control). Subsequently, the anti-biofilm effect of the treatments was quantified by counting the colony forming units (CFU), total biofilm biomass (CV staining method), metabolic activity of the cells (XTT reduction method and Resazurin). The data were analyzed by one-way ANOVA and Fisher LSD test ( $p < 0.05$ ).

Results: The reductions in CFU counts promoted by the EXP dentifrice were similar or superior than that observed for 1100 ppm F, respectively for *S. mutans* and *C. albicans*. Regarding metabolic activity and total biomass, the EXP dentifrice produced a higher reduction than other treatments.

Conclusion: It was concluded that the EXP dentifrice demonstrated the best performance for all tests in vitro, being a promising alternative for the control of cariogenic biofilms.

EFFECT OF DIFFERENT CONCENTRATIONS OF ARGININE ON FLUORIDE RELEASE AND SURFACE MORPHOLOGY OF PIT AND FISSURE SEALANT  
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Aim: The aim of the study was to evaluate the effect of the addition of two concentrations of Arginine-L aminoacid to a resin sealant on chemical property of fluoride release and material surface morphology.

Method: The sample was constituted by specimens of sealant distributed in 3 groups: resin sealant, resin sealant + 5% of Arginine-L and resin sealant +7% of Arginine-L and 2 storage subgroups: demineralizing and remineralizing solutions ( $n=10$ ). After Arginine addition, the specimens were prepared in silicon molds (6mm x 2mm), individually immersed in 3mL of demineralizing and remineralizing solutions, which were evaluated at 1, 2, 3, 5, 7, 9, 12, and 30 days. New specimens (6mm x 2mm) ( $n=3$ ) were evaluated in Scanning Electron Microscope regarding the surface morphology. The data were subjected to normality, ANOVA and Tukey test ( $\alpha = 5\%$ ).

Results: The results showed that the addition of Arginine to the commercial sealant increased the fluoride release for all the studied times in demineralizing solution and up to the 7th day in the remineralizing solution.

Conclusion: It was concluded that the addition of Arginine to the commercial sealant could represent an interesting strategy considering the demineralization and remineralization process since it was observed an increase in the fluoride release and minimal surface changes in the studied materials.

EFFECT OF DIFFERENT POLISHING METHODS AND MECHANICAL FATIGUE ON THE SURFACE PROPERTIES OF A YTTRIA STABILIZED ZIRCONIA  
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Aim: The study aimed to investigate the effect of different polishing methods used in the pre-cementation occlusal adjustment on the Y-TZP (Yttria-tetragonal polycrystalline) surface.

Method: 60 Y-TZP samples were randomly divided into 6 groups according to the treatment: Control (without treatment), polished with extra-fine-grained cylindrical diamond bur (FF) and exa-cerapol polishing rubbers were used. Half of the samples were exposed to 100,000 mechanical cycles before flexural strength analysis, characterization of crystals by X-ray diffraction (XRD), and surface roughness.

Results: Data were submitted to 2-way ANOVA and Tukey test. The "polishing" factor ( $\&\#961$ ; = 0.492) was not significant, however, the "mechanical fatigue" factor ( $\&\#961$ ; = 0.0001) and the interaction ("polishing" X "mechanical fatigue") ( $\&\#961$ ; = 0.049) had a significant effect on flexural strength. Samples polished with FF diamond bur showed higher flexural strength values than the control group. Cerapol polishing did not differ from control groups and FF diamond bur polished samples. Flexural strength significantly reduced after mechanical fatigue. All groups showed only tetragonal phase on XDR. To surface roughness, "polishing treatment" was significant, being higher to the FF diamond burs polished samples.

Conclusion: It was possible to conclude that polishing with FF diamond bur has a positive effect on flexural strength, but increase surface roughness. The mechanical fatigue may compromise the flexural strength of Y-TZP samples, regardless of the treatment applied.

EFFECT OF DIFFERENT WHITENING DENTIFRICES ON THE PHYSICAL PROPERTIES OF BOVINE ENAMEL AND DENTIN  
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Aim: Evaluate the influence of different whitening dentifrices on the physical properties of enamel and dentin.

Method: A total of 240 samples were divided into 20 groups ( $n=12$ ) according to whitening dentifrices and substrate for brushing, enamel/dentin or dentin: Artificial Saliva (Control), CPMA (Colgate Máxima proteção anti-cáries), CTWP (Colgate Total 12 Whitening Professional), CLWb (Colgate Luminous White Brilliant), CLWi (Colgate Luminous White Instant), CLWa (Colgate Luminous White Advanced), CB (Curaprox Black), CDA (Close up Diamond Attraction), OWP (Oral-B 3D White Perfection) e SRPW (Sensodyne Repair & Protect Whitening). The samples were submitted to mechanical brushing (834 cycles) with slurry (1:3), according to the dentifrices. The color ( $\Delta$  L,  $\Delta$  a,  $\Delta$  b, and  $\Delta$  E), surface roughness (Ra), and microhardness (KHN) were assessed at baseline, after 24 hours post-dentifrice and after 1-month post-dentifrice.

Results: The data were subjected to generalized linear models ( $\Delta$  E), analysis of Kruskal Wallis and Dunn test ( $\Delta$  L,  $\Delta$  a, and  $\Delta$  b), Tukey-Kramer test and mixed models of repeated measures (KHN, Ra), with  $\alpha = 0.05$ .  $\Delta$  E did not differ statistically from the control for enamel and dentin in all analyzed toothpaste and different times. After 24 hours, CLWi showed a significantly higher Ra than the control and other dentifrices. After 1-month, OWP had a lower KHN than most groups. No analyzed toothpaste changed the general color of the teeth ( $\Delta$  E). Conclusion: The toothpaste containing bioactive glass enhanced the deposition of mineral on the dental surface.

EFFECT OF ENERGY DOSE ON FLEXURAL STRENGTH AND ELASTIC MODULUS OF COMPOSITES CONTAINING MAPO IN MONOMERIC BASES  
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Aim: This study aimed to evaluate the effect of the energy dose on flexural strength (FS) and elastic modulus (E) of experimental composites containing the photoinitiator mono-alkyl phosphine oxide (MAPO) on different monomeric bases.

Method: Six experimental composites with different monomeric bases containing 1% MAPO (1. TEGDMA; 2. BISEMA; 3. UDMA; 4. BISEMA + TEGDMA; 5. UDMA + TEGDMA; 6. BISGMA + TEGDMA) were prepared. For FS and E evaluation, bar-shaped specimens (7 mm x 2 mm x 1 mm,  $n = 10$ ) were made and photoactivated with Valo Cordless (1000 mW/cm<sup>2</sup>) for 10s, 20s or 40s. The energy doses tested were 10J, 20J, or 40J. A 3-point bending test was performed on a Universal testing machine (Instron) with distance between supports of 5 mm and crosshead speed of 0.5 mm/min. The data were submitted to 2-way ANOVA and Tukey's test ( $\&\#945$ ; = 0.05).

Results: Regarding FS, only the UDMA + TEGDMA based composite, showed a progressive increase in resistance with the increase of the energy dose. For the other composites, the energy dose did not affect FS. Regarding E, there was no significant difference between the 3 energy doses regardless the type of monomeric base. The composite containing only TEGDMA the lowest values.

Conclusion: In conclusion, MAPO initiator was able to properly initiate the polymerization reaction for all monomer bases tested. The energy dose of 10J was sufficient to generate adequate values of FS and E all tested materials.

EFFECT OF EROSION CHALLENGES ASSOCIATED WITH ABRASION ON SURFACE ROUGHNESS OF INFILTRANTS AND SEALANT  
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Aim: Evaluate the change in surface roughness of three materials used as protectors of dental surfaces: the commercial infiltrant Icon®, experimental infiltrant and the resinous sealant Prevent.

Method: Disc-shaped samples of the materials ( $n=120$ ) were made. These samples were divided into two groups for the erosive challenge: intrinsic simulation (gastric acid) and extrinsic simulation (soft drink). Additionally, the samples were subdivided into groups that would or would not be subjected to simulated brushing for 10,000 cycles. Thus, the samples had their surfaces evaluated in three stages: initial (T0), after erosion (T1) and after erosion + abrasion (T2). The data were analyzed in the R program, with a significance level of 5%, considering the factors study: material, erosive solution and time, as well as the interactions between them.

Results: In the initial time, there was no significant difference between the three materials ( $p > 0.05$ ), but after erosion and after abrasion, the sealant showed greater roughness than the other two materials ( $p < 0.05$ ). However, in all groups there was a significant increase in roughness after erosion and after abrasion ( $p < 0.05$ ).

Conclusion: Extrinsic and intrinsic acids can lead to an increase in the surface roughness of a protective material, however, resinous infiltrants showed less change when compared to resin sealant, which are a good alternative for protection and control of superficial erosive enamel damage, since in addition to protecting, they are able to penetrate the lesion preventing its progression.

EFFECT OF HIGH-POWER DIODE LASER IRRADIATION OF EXPOSED ROOT SURFACES ON OBLITERATION OF DENTAL TUBULES  
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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: This work presents an in vitro research whose purpose was to find adequate parameters of high-power diode laser for the treatment of dentin hypersensitivity, symptomatology that affects the general population, causing pain and discomfort, after loss of enamel or cement, exposing dentin to the oral cavity and increasing response to painful stimulus. This research aims to offer the population another possibility of treatment, as effective and safe, as those already existing in the market.

Method: Newly extracted human teeth were used for the research that were treated with high-power diode laser and then evaluated by scanning electron microscopy. Roots of 10 healthy teeth were used, dividing them into 4 groups: Control Group; G1, G2, G3 (groups treated with high-power diode laser), varying power, energy and application time.

Results: After treatment of root surfaces, the evaluation of the results of the images obtained by means of scanning electron microscopy of each group was initiated, which showed the obliteration of the dentinal tubules by ablation and melting of the area in which the laser came into contact with the dental root surface, directly and indirectly, where there was no contact of the laser fiber. And that, all of the exposed dentin tubules obliterated and thus observing little difference in obliteration between the parameters used.

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Conclusion: Thus, efficacy can be completed in the obliteration of tubules and interruption of fluid movement within the dentinair tubules with treatment of the exposed surface with the high-power diode laser.

#### EFFECT OF RED AND INFRARED LOW-LEVEL LASER THERAPY ON VIABILITY AND DIFFERENTIATION OF SHED

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Aim: The purpose of this study was to compare the effect of red and infrared low-level laser (LLL) on the viability and the expression of TGF $\beta$ 1 and RUNX2 mRNA of stem cells from human exfoliated deciduous teeth (SHED).

Method: SHED were irradiated with red laser (660 nm) or infrared laser (780 nm) set with the following dosimetries: 2.5 J/cm $^2$  (10 mW, 10 s, 0.1 J) and 7.5 J/cm $^2$  (30 mW, 10 s, 0.3 J). Control group comprised non-irradiated cells. Cell viability was assessed by trypan blue exclusion method after 24, 48 and 72 hours, and the expression of TGF $\beta$ 1 and RUNX2 mRNA was evaluated by real time RT-PCR after 1 and 7 days. Human odontoblasts and osteoblasts were used as positive controls for RT-PCR. Cell viability was analyzed by two-way ANOVA and Scott Knott's post hoc test ( $P < 0.05$ ). TGF $\beta$ 1 and RUNX2 mRNA expressions were descriptively analyzed.

Results: The average percentages of viable cells for all groups were 88.75%, 91.7% and 93.11% at 24, 48 and 72 hours, respectively. All samples expressed TGF $\beta$ 1 and RUNX2, except SHED irradiated with red laser at 7.5 J/cm $^2$  that did not express RUNX2. TGF $\beta$ 1 and RUNX2 were upregulated in cells irradiated with red and infrared LLL compared to non-irradiated SHED and the positive controls at day 1. At day 7, SHED irradiated with 7.5 J/cm $^2$  by infrared laser expressed more TGF $\beta$ 1 than all groups, and non-irradiated SHED showed higher levels of RUNX2 than the others.

Conclusion: Therefore, the viability of SHED is not affected by irradiation with red and infrared LLL (2.5 and 7 J/cm $^2$ ), while SHED irradiation with infrared LLL at 7.5 J/cm $^2$  seems to upregulate the expression of TGF $\beta$ 1 and RUNX2.

#### EFFECT OF SIMULATED EROSION CHALLENGE ON DIFFERENT RESTORATIVE MATERIALS

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Aim: This study evaluated the effects of erosive challenge that simulates the intrinsic acid from gastroesophageal reflux, on surface roughness (Sa) and volume loss (VL) five of restorative materials with distinct compositions.

Method: Ten samples (4x4x1mm) were made from five materials (Filtek Universal Restorative, Charisma Classic, Admira Fusion, Equia Forte HT Fil, and Activa BioActive-Restorative). After curing (Valo) and polishing (#1200, 2400), half of the sample's surface was covered with adhesive tape to create a control area and treated area. The samples were submitted to the erosive protocol (5 mL of HCl, pH 1.2, 30 hours at 37°C) and evaluated for Sa and VL using confocal microscopy. Data were analyzed by ANOVA (two factors) and Tukey's test ( $\alpha = 0.05$ ).

Results: For most restorative materials, the erosive challenge did not affect the Sa values, except for the ionomeric material (Equia Forte HT Fil), which presented a significantly Sa increase ( $p < 0.001$ ). Regarding Sa evaluation, Filtek Supreme Ultra presented the lowest Sa value, while Equia Forte HT Fil showed the highest one ( $p < 0.001$ ) for both control and treated areas. Concerning VL evaluation, Equia Forte HT Fil also showed the highest VL values ( $p < 0.001$ ), while the other materials did not present significant differences among them.

Conclusion: Results suggested that Equia Forte HT Fil was the most affected material by erosive challenge regarding Sa and VL. The remaining materials did not show significant changes in Sa and VL following the erosive challenge.

#### EFFECT OF TAI CHI CHUAN PRACTICE ON STRESS, ANXIETY AND SELF-PERCEPTION OF HAPPINESS: PARCIAL RESULTS

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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: This study aimed to evaluate the level of anxiety and stress of Tai Chi Chuan practitioners or non-practitioners and to compare the level of anxiety and self-perception of happiness before and after practicing this art.

Method: The sample consisted of 123 individuals, young and adults, of both sexes, divided into two groups: G1 ( $n = 41$ ): students of the specialization in preventive interdisciplinary care in early childhood at the Piracicaba Dental School (FOP-Unicamp) and G2 ( $n = 82$ ): high school students participating in the Institutional Scholarship Program for Scientific Initiation for High School at FOP-Unicamp. The Perceived Stress Scale (PSS-14) was applied before Tai Chi practice. The State Anxiety Inventory (STAI-S) and the Faces Scale of Andrews (self-perception of happiness and well-being), were applied before and after the theoretical-practical Tai Chi class. Descriptive analysis was performed using tables of frequencies, mean, and standard deviation. The paired t-test was applied to compare the anxiety score before and after the activity.

Results: The average anxiety score decreased significantly after practicing Tai Chi ( $p < 0.0001$ ). It was observed that 45.5% of the individuals had a moderate stress level. Also, 82.9% considered themselves happy and 1.6% sad, and after practicing the activity, 97.5% were happy and no individual was sad.

Conclusion: The volunteers had a moderate level of stress and Tai Chi was effective in reducing the level of anxiety.

#### EFFECT OF TEMPERATURE ON PHYSICAL AND CHEMICAL ANALYSIS OF CALCIUM SILICATE-BASED ENDODONTIC SEALERS

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Aim: The aim of this study was to evaluate physical and chemical properties after heating conditions of calcium silicate-based endodontic sealers.

Method: EndoSequence BC Sealer HiFlow (Brasseler, Savannah, Georgia, USA), Bio-C Sealer (Angelus, Londrina, PR, Brazil), BioRoot RCS (Septodont, Saint-Maur-des-Fossés, France), and the control AH Plus (Dentsply DeTrey, Konstanz, Germany) were comparatively evaluated regarding their material surface and chemical characterization using scanning electron microscopy (SEM) and energy dispersive-spectrometry (EDS). In addition, accordingly to ISO 6876/2012, flow, setting time (in dry and moist environments), solubility, radiopacity and pH were evaluated at 37°C and after 1-minute exposure at 100°C. Comparisons used with unpaired-T-test and Kolmogorov-Smirnov.

Results: SEM/EDS analysis exhibited peaks of tricalcium silicate, dicalcium silicate, and zirconium dioxide. Heating at 100°C significantly altered the flowability of all calcium silicate-based sealers with a wide variation between setting times for both tested temperatures, along with solubility levels above ISO-standard. For all tested sealers, radiopacity fulfilled the requirements, and pH exhibited alkaline values.

Conclusion: Tested calcium silicate-based sealers suffered minimal alterations after heating in simulated thermoplasticized obturation techniques. (CNPq 429721/2018-8; FAPESP 2019/22098-9; CAPES Code 001).

#### EFFECT OF THE COMBINATION OF DIURNAL EXPOSURE TO SUCROSE AND NOCTURNAL EXPOSURE TO LACTOSE ON ENAMEL DEMINERALIZATION

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Aim: the aim of the study was to evaluate in vitro the enamel demineralization in a cariogenic biofilm combining diurnal exposure to sucrose and nocturnal exposure to lactose.

Method: Cariogenic biofilms were formed on bovine enamel slabs with known surface hardness (SH) and were exposed 8 times a day for 3 min to solutions of 10% sucrose (cariogenic diurnal diet), or 50 mM NaCl solution. Then, the biofilms were maintained in a medium containing 0.7% lactose (nocturnal milk retention in mouth), or only in a medium for 2 h. Four conditions were evaluated ( $n = 12$ ): Ctrl, negative control; Lac, nocturnal exposure to lactose only; Suc, diurnal exposure to sucrose only; and Suc  $\rightarrow$  Lac, diurnal exposure to sucrose followed by nocturnal exposure to lactose. The culture medium was changed 3 times a day, at the beginning of the day, and after the diurnal and nocturnal treatments, being the pH evaluated. After 96 h of growth, biofilms were collected to evaluate viable cells (CFU), biomass, and extracellular polysaccharides (EPS). The percentage of SH loss (% SHL) was calculated. The data were analyzed by one-way ANOVA and Tukey's test ( $\alpha = 5\%$ ).

Results: The %SHL differed between the groups ( $p < 0.05$ ), being higher for Suc  $\rightarrow$  Lac ( $40.6 \pm 6.8$ ) when compared to the others, Suc ( $32.1 \pm 7.2$ ), Lac ( $6.6 \pm 4.5$ ), and Ctrl ( $2.4 \pm 3.1$ ). Only the Ctrl group showed lower CFU counts ( $p < 0.05$ ). For biomass and EPS, the groups Suc  $\rightarrow$  Lac and Suc showed similar values ( $p > 0.05$ ), but higher than Lac and Ctrl ( $p < 0.05$ ).

Conclusion: The data suggest that biofilm formed under diurnal exposure to sucrose may increase the cariogenicity of nocturnal exposure to lactose.

#### EFFECT OF THE COVID-19 PANDEMIC ON BEHAVIORAL AND PSYCHOSOCIAL FACTORS RELATED TO ORAL HEALTH IN ADOLESCENTS

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FEDERAL UNIVERSITY OF SANTA MARIA

Aim: This study assessed psychosocial and behavioral changes related to oral health in adolescents during the pandemic period of COVID-19.

Method: This longitudinal study evaluated 290 adolescents, in the city of Santa Maria, southern Brazil. These adolescents were contacted until and during the pandemic by telephone calls to answer some questions related to behavioral and psychosocial issues in this period. Therefore, this study was divided into two different steps: baseline (T1 - November 2019 to February 2020) and follow-up (T2 - June to July 2020). The differences between the variables in T1 and T2, as well as the effect of social distance, were assessed using the McNemar and Chi-Square tests, respectively.

Results: From the 290 adolescents evaluated at T1, 207 were followed up and contacted during the pandemic period (response rate of 71.3%). During the period, the frequency of toothbrushing, the use of dental services, and the self-perceived need for dental treatment decreased among adolescents ( $P < 0.05$ ). Sugar consumption, bruxism, and quality of sleep did not change significantly. Adolescents belonging to higher-income families reported adopting a greater degree of social distancing ( $P < 0.05$ ).

Conclusion: Behavioral and psychosocial factors showed significant changes due to the COVID-19 pandemic in adolescents. In addition, adolescents belonging to families with a higher household income declares the adoption of a greater degree of social distancing.

#### EFFECT OF THE METAL ARTEFACT REDUCTION TOOL ON THE ARTEFACTS EXPRESSION PRODUCED IN REGIONS OF A TOOTH WITH METAL POSTS

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Aim: The aim was to evaluate the effect of the metal artefact reduction (MAR) tool on the expression of artefacts produced in different regions of a tooth restored with distinct metal posts, in cone-beam computed tomography (CBCT) images.

Method: Two alveolar sockets (anterior and posterior) of a mandible were enlarged to accommodate a single-rooted tooth. Images of the tooth without a metal post and with nickel-chromium (Ni-Cr), cobalt-chromium (Co-Cr) or silver-palladium (Ag-Pd) posts into the root canal were individually acquired using the OP300 CBCT unit. Scans were obtained with two conditions of MAR: disabled and enabled. Then, for each scan, 8 lines of interest (LOIs) were determined around the root canal: 4 in oblique (mesio buccal, disto buccal, mesio lingual and disto lingual) and 4 in orthogonal (buccal, lingual, mesial, and distal) directions. The expression of the beam-hardening artefacts was determined by calculating the difference in the mean of gray values (DMGV) between the experimental and the control groups for each LOI, within each post material. Positive DMGV meant hyperdense artefacts, whereas negative DMGV meant hypodense artefacts.

Results: In general, for the Ag-Pd posts, there were significant differences between "without MAR" and "with MAR" in most directions, both in the anterior and posterior regions; the



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same was not observed for the Ni-Cr and Co-Cr. The MAR tool acted mostly in hypodense artefacts (negative DMGV).

Conclusion: The MAR tool is effective in reducing the expression of artefacts generated by Ag-Pd posts in a restored tooth, mainly in the regions affected by hypodense artefacts, regardless of the mandibular region.

## EFFECT OF THE P11-4 ON ENAMEL REMINERALIZATION AND PROGRESSION OF CARIES LESIONS: SYSTEMATIC REVIEW

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Aim: The aim of this study was to evaluate the evidence on the effectiveness of self-assembling peptide P11-4 on enamel remineralization and progression of caries lesions.

Method: Systematic searches were conducted on PubMed/Medline, Embase and Scopus databases to find in vitro studies assessing the impact of P11-4 peptide on hardness, fluorescence, micromorphology, chemical composition and other properties of demineralized enamel. Also, clinical trials on the progression of incipient dental caries following P11-4 peptide application were included. Main methodological data extraction was performed by using a standardized form. An adapted instrument and Cochrane collaboration tool were used to assess the risk of bias of in vitro and randomized clinical studies, respectively.

Results: In total, 17 articles met inclusion criteria (14 in vitro and 3 clinical trials). Enamel morphology (n=7), microhardness (n=7) and optical properties (n=5) were mainly evaluated. Overall, 11 in vitro studies (82%) reported that P11-4 peptide was more effective to improve the physicochemical properties of enamel compared to fluoride and non-fluorides alternatives. International caries detection and assessment system (ICDAS) index (n=2) and laser fluorescence (n=2) were mainly used to assess the progression of incipient caries lesions. Overall, 2 of 3 studies reported better results on P11-4 peptide compared to control groups.

Conclusion: Under in vitro conditions, P11-4 promoted better enamel remineralization compared to other preventive strategies. Clinical evidence on the effectiveness of P11-4 was limited but showed promissory results in terms of caries lesion progression.

EFFECT OF TOOTH PASTE WITH MICROMETRIC AND NANO-SIZED  $\beta$ -CALCIUM HYDROGENPHOSPHATE ON DENTAL CARIES: IN SITU STUDY

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Aim: The aim of the present study was to evaluate in situ the ability of a conventional fluoride toothpaste (1100 ppm F) containing micrometric  $\beta$ -CaGP ( $\beta$ -CaGPm) and nano-sized  $\beta$ -CaGP ( $\beta$ -CaGpn) on enamel remineralization of initial dental caries.

Method: This blind and cross-over study was performed in 4 phases of 3 days each. Twelve subjects used palatal appliances containing four bovine enamel blocks with artificial caries lesions. Volunteers were randomly assigned into the following treatment toothpastes: 1) without F/ $\beta$ -CaGPm/ $\beta$ -CaGpn (Placebo); 2) 1100 ppm F (1100F); 3) 1100F with 0.5%  $\beta$ -CaGPm (1100F-0.5%  $\beta$ -CaGPm) and 4) 1100F with 0.25%  $\beta$ -CaGpn (1100F-0.25%  $\beta$ -CaGpn). Volunteers were instructed to brush their natural teeth with the palatal appliances in the mouth during 1 min (3 times/day), so that blocks were treated with natural slurries of toothpastes. After each phase the final surface hardness was determined to calculate the percentage of hardness recovery surface (%SHR). Data were analyzed by ANOVA and Student - Newman - Keuls test.

Results: The enamel surface was ~21% more remineralized when treated with 1100F-0.5%  $\beta$ -CaGPm toothpaste when compared to 1100F ( $p < 0.001$ ). When treated with 1100F-0.25%  $\beta$ -CaGpn promoted a higher remineralization in ~69% and ~40% when compared to 1100F and 1100-0.5%  $\beta$ -CaGPm toothpastes ( $p < 0.001$ ).

Conclusion: It was concluded that the addition of 0.25%  $\beta$ -CaGpn to a conventional toothpaste promoted a higher remineralizing effect when compared to 1100 ppm F.

## EFFECTIVENESS OF 1% SODIUM HYPOCHLORITE OF HYGIENE PROTOCOLS FOR COMPLETE DENTURES IN HOSPITALIZED PATIENTS

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Aim: Considering the clear association between oral and systemic diseases, the objective of this study was to evaluate hygiene protocols for 40 maxillary complete dentures (MCD) of hospitalized patients admitted to the Hospital Beneficência Portuguesa, Bauru, São Paulo, Brazil.

Method: They were randomly submitted to one of the following protocols (n=10): BRUSH/DW - MCD brushing with soft brush and sterile distilled water; BRUSH/TP - brushing with toothpaste (Colgate total 120); HYP - immersion in 1% sodium hypochlorite solution for 10min; BRUSH/HYP - MCD brushing with sterile distilled water and immersion in 1% sodium hypochlorite solution for 10min. Quantitative microbiological cultures were obtained with oral swab rubbed for 1min on the inner MCD surface before and after the application of the proposed methods for evaluation of their efficacy. Then, aliquots of 25µL of the serial dilutions obtained (10<sup>-1</sup> a 10<sup>-9</sup>) were plated on sheep blood agar and, after 48h on 37° C (5%CO<sub>2</sub>), the viable colonies were counted. The data (UFC/mL) were analyzed by Wilcoxon and Kruskal-Wallis test ( $\alpha = 5\%$ ).

Results: Compared to the controls, which were similar to each other ( $P > 0.05$ ), a greater antimicrobial effect was observed for the groups using sodium hypochlorite ( $P > 0.05$ ), with no difference between them ( $P > 0.05$ ).

Conclusion: The hygiene protocols with 1% sodium hypochlorite solution tested in this study proved to be viable and effective alternatives for denture biofilm reduction in hospitalized patients, which can minimize the risks of systemic infections via prosthesis as well as contribute to a shorter hospital stay.

## EFFECTIVENESS OF CLEAR ALIGNER THERAPY IN ORTHODONTICS: A REVIEW

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Aim: This study aimed to review the orthodontic literature and assess scientific evidence regarding the efficacy of tooth movement with clear aligner therapy.

Method: We performed an electronic search from January 2015 to September 2020 using PubMed, without limitations on language. The conducting question addressed the predictability of this treatment modality: "How efficient are clear aligners in providing accurate orthodontic tooth movement?"

Results: We selected six articles for this review (five retrospective cohort and one prospective cohort study), and excluded review articles, case reports, interviews, and letters to the editor.

Conclusion: The evidence presented in the literature suggested clear aligner therapy has improved over the years, with higher overall accuracy of individual tooth movement. However, specific types of movements remained a challenge for this technique and presented limited predictability, namely rotation of rounded teeth, such as canines, premolars and molars; and mandibular incisor intrusion. A better understanding of how effective clear aligner therapy is in providing orthodontic tooth movement might aid the clinician in patient selection and treatment planning. In consequence, orthodontists may achieve more accurate results and thus reduce the need for additional case refinement.

## EFFECTIVENESS OF DIFFERENT ACTIVATION SYSTEMS IN REDUCING BACTERIA FROM THE RED COMPLEX

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Aim: Red complex consists of three anaerobic bacteria considered as periodontal pathogens, but can be present in infected root canals, such as: Porphyromonas gingivalis, Treponema denticola and Tannerella forsythia. Activation systems were developed in order to optimize the removal of infectious bacterial content of the root canals during chemical mechanical preparation (CMP). This study evaluated the effectiveness of different activation systems in reducing the red complex.

Method: Twenty-four cases of primary endodontic infection without periodontal involvement were evaluated. They were prepared with Reciproc system and irrigated with sodium hypochlorite (NaOCl) 6% and EDTA 17%. Samples were collected before and after the CMP and divided into 3 groups according to the activation system of both solutions: without activation group (WA, n = 8), reciprocating activation group (RA, n = 8) and ultrasonic activation group (UA, n = 8). The samples were analyzed using the Checkerboard technique. Bacteria concentration scores were analyzed by Kruskal Wallis, Dunn and Wilcoxon test.

Results: All investigated bacteria were present in the initial samples. There was a significant decrease after CMP only in the ultrasonic activation group ( $p < 0.05$ ).

Conclusion: It was concluded that the ultrasonic activation of NaOCl 6% and EDTA 17% was the only system capable of significantly reducing the microbial load of red complex bacteria. (FAPESP 2015/23479-5, CNPq 303852/2019-4, CAPES 001)

## EFFECTIVENESS OF THE USE OF XYLITOL CHEWING GUM IN PREVENTION OF DENTAL CARIES: A SYSTEMATIC REVIEW

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Aim: This systematic literature review assessed the effectiveness of using chewing gum containing only xylitol compared to other prevention strategies or placebo in reducing the incidence of carious lesions in children.

Method: A research protocol was developed and recorded in the International Prospective Register of Systematic Reviews (PROSPERO - CRD42020197945). The electronic search was carried out in PubMed, MEDLINE, LILACS, Web of Science, Scopus and Science Direct databases through the period between 2000 and 2020 using the descriptors "Child", "Children", "Xylitol", "Prevention", "Dental caries", "Caries" and "Tooth decay" combined and modified on each platform. This review included only randomized controlled trials addressing the prevention of dental caries through the use of gum containing only xylitol in children. Study selection, data extraction, quality assessment and data analysis was performed in order.

Results: Two hundred studies were found and after analyzing the inclusion and removal of duplicates, only 5 studies were analyzed for the quality of evidence. This analysis showed that there was no consensus regarding the adopted caries index. Also it was possible to verify the low level of scientific evidence on the effectiveness of gums containing only xylitol for the prevention of caries in children.

Conclusion: Therefore the conflicting results, limitations and inconsistencies of the studies allow us to establish that there is insufficient evidence to support the use of gums containing only xylitol for the prevention of caries in children, so that other properly designed clinical trials need to be carried out.

## EFFECTIVENESS OF USING HOMEMADE MASKS IN REDUCING SARS-COV-2 INFECTIONS: REVIEW OF CURRENT LITERATURE

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Aim: The purpose of this literature review was to analyze the scientific evidences related to the effectiveness of homemade masks in reducing the transmission of SARS-CoV-2, gathering population evidence and recommendations from global health agencies.

Method: For this, after searching international databases and official websites of health agencies, 54 references were selected from scientific articles, technical notes, among others.

Results: In general, there is a consensus among global health organizations that recommend the use of homemade masks by the entire healthy population or asymptomatic individuals to reduce the spread of SARS-CoV-2. However, evidence of particle filtration efficacy is scarce, controversial, and mostly performed in vitro. Despite the varied methodologies of the studies and the diversity of results, fabrics such as 100% cotton in 2 or 3 layers have demonstrated satisfactory filtration efficiency (70% to 99.5%), like surgical masks and N95 respirators. Regarding the effectiveness of population use, mathematical prediction studies have suggested that the use of masks, even with low filtration efficiency, can reduce deaths caused by SARS-CoV-2 by up to 45% in 2 months. Additionally, a recent study, which evaluated the spread of COVID-19 in the first 100 days in several countries, showed that the use of masks by the entire population had a significant effect in reducing the spread of the disease.

Conclusion: In view of this evidence, the use of homemade masks seems to have a beneficial effect in reducing the spread of respiratory infectious diseases, such as COVID-19, justifying their use when there is no vaccine.

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## EFFECTS OF ADDITION REMINERALIZING AGENTS TO BLEACHING GELS: A LITERATURE REVIEW

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Aim: Perform a literature review on the main remineralizing agents incorporated in the bleaching gels.

Method: The search was carried out in the Pubmed, Scielo, and Periódicos Capes databases, covering the period from 2010 to 2020 years.

Results: The main remineralizing agents found were: fluorine (F), calcium (Ca), nanohydroxyapatite (nHA), and phosphopeptide casein-amorphous calcium phosphate (CPP-ACP). The first studies that evaluated a bleaching gel with F concluded that this mineral promoted a reduction in demineralization and adverse effects such as microhardness. However, recently other studies have evaluated that the presence of F has not promoted additional benefits to the enamel microhardness. It was found that Ca addition to the hydrogen peroxide gel to 7.5% reduced the erosive effect. The studies related to the F and Ca in question were in vitro. Factors such as saliva and enzymes can dilute or modify the bleaching gel, the protective effect of the acquired film, and a possible effect of the abrasion of the toothpaste with F for in vivo studies. Referring nHA or CPP-ACP to mixed with the gel has been studied as a means of preventing post-operative sensitivity.

Conclusion: The results found in the literature (2010-2020) are controversial about fluorine and calcium due to the use of different concentrations of hydrogen peroxide used in research. Further studies such as randomized controlled clinical trials are needed to affirm that the use of nHA or CPP-ACP mixed with the bleaching gel can be a valid method to prevent post-operative sensitivity.

## EFFECTS OF BLEACHING PROTOCOLS WITH VIOLET RADIATION ON THE COLOR AND CHEMICAL COMPOSITION OF STAINED BOVINE ENAMEL

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Aim: This in vitro study evaluated the effect of artificial staining on enamel color change and mineral content after bleaching with violet radiation (VR) combined or not with 35% hydrogen peroxide (HP) or 37% carbamide peroxide (CP).

Method: Two hundred enamel blocks were stained with (n=50) tobacco smoke (TS), coffee (CF), red wine (RW) or non-stained (NS). The specimens were bleached with (n=10): 1) VR; 2) VR/CP; 3) CP; 4) VR/HP and 5) HP. Colorimetric evaluation (color change-  $\Delta E_{00}$ , Whiteness index change  $\Delta WID$ ) was conducted with a digital spectrophotometer after staining (T1) and seven days after bleaching (T2). Calcium (Ca), phosphorus (P)- Ca/P contents (in wt%) were assessed (at T2) using energy-dispersive X-ray spectroscopy (EDS). Data was statistically analyzed ( $\alpha = 0.05$ ) using two-way ANOVA and Tukey tests or Kruskal-Wallis and Dunn tests (only for  $\Delta a$ ).

Results: VR alone promoted greater  $\Delta E$  in CF, TS and RW compared to NS ( $p < 0.05$ ). The highest  $\Delta WID$  was detected in CF and TS ( $p < 0.05$ ). VR/CP presented significant higher  $\Delta E_{00}$ ,  $\Delta WID$ ,  $\Delta L$  and  $\Delta b$  than CP alone in CF groups. No differences were observed between VR/HP and HP as well as VR/CP and HP ( $p > 0.05$ ), regardless of the staining type. Wt% revealed no statistical differences for Ca, P or Ca/P.

Conclusion: Stained with CF and TS favored the efficacy of violet radiation, which enhanced the bleaching outcomes of high-concentrated CP. The protocols did not adversely affect the chemical composition of enamel, regardless of the staining type.

## EFFECTS OF ENDODONTIC TREATMENT ON MICROBIAL PROFILE AND ENDOTOXIN LEVELS IN TEETH WITH ENDODONTIC-PERIODONTAL LESIONS

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Aim: The dental pulp are structures that present anatomical, embryological and functional interrelationships. The aim of this study was to evaluate the microbial profile and the levels of endotoxins (LPS) in the periodontal pockets (PP) and root canals (RC) in the different phases of endodontic treatment in teeth with vital pulp and associated periodontal disease.

Method: Samples of PP and CR were collected from 10 patients by using sterile paper points. Samples from both sites were collected before (C1) and after (C2) chemomechanical preparation (CMP), and after intracanal medication (ICM) (C3). The microbial profile was evaluated by using nested PCR and LPS levels through LAL turbidimetric assay (Limulus Amebocyte Lysate). Statistical analysis was performed with a significance level of 5%.

Results: The most prevalent species in PP were *E. faecalis*, *T. forsythia*, *P. gingivalis*, *P. micra*, *T. denticola* and *A. naeslundii*. In the RC, there was a prevalence of *E. faecalis* and *P. gingivalis*. Endodontic treatment promoted microbial reduction in both PP and CR. LPS levels were higher in PP compared to RC ( $P < 0.05$ ). Endodontic procedures reduced LPS levels, although concentrations persisted higher in PP.

Conclusion: It was concluded that the microbiota of PP and RC is polymicrobial, with the presence of Gram-positive and Gram-negative species, facultative and strict anaerobes. The CMP and ICM favoured the reduction of microbial and LPS levels in both sites. (Support: FAPESP 2019/19300-0, 2017/25242-8, 2015/23479-5, Cnpq, 303852/2019-4; CAPES 001).

## EFFECTS OF PHYSICAL-CHEMICAL DEGRADATION ON BIOFILM FORMATION IN CAD-CAM MATERIALS

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Aim: This study aimed to evaluate the multispecies biofilm (*S. mutans*, *S. sanguinis* and *C. albicans*) formation on the surface of different CAD-CAM materials after erosive and/or abrasive challenges.

Method: Specimens of Zirconia-Lithium Silicate Ceramic (ZLS), polymer-infiltrated ceramic (PICN); Feldspathic ceramics (FE) and two nano-hybrid resins (RG and KA) were obtained and polished. Subsequently, they were submitted to simulated treatments: (1) Erosion with gastric acid; (2) Abrasion by mechanical brushing; (3) Combination of Erosion / Abrasion and (4) Control (without treatment). The samples were exposed to an inoculum with *S. mutans*, *S. sanguinis* and *C. albicans* for 24h. Samples were sonicated, and aliquots were plated on

specific media for subsequent CFU / mL counting. Data were analyzed by one-way ANOVA and Tukey test ( $\alpha = 5\%$ ).

Results: The materials tested under the conditions of surface treatment showed no statistical difference in comparison to their respective untreated controls ( $p > 0.05$ ). The only exception was eroded FE, which presented the lowest biofilm formation ( $p < 0.05$ ) compared to the other FE groups.

Conclusion: Therefore, it could be concluded that after erosive/abrasive and abrasive challenge, FE was more susceptible to microbial adhesion of strains of *S. mutans*, *S. sanguinis* and *C. albicans*. Also, the chemical and physical models adopted did not influence the formation of multispecies biofilm on the surface in the other CAD / CAM materials.

## EFFICACY AND SAFETY OF SEDATION USE IN DENTISTRY: REVIEW OF CLINICAL STUDIES

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JUIZ DE FORA FEDERAL UNIVERSITY

Aim: Mild and moderate sedations are also known as conscious sedation because in these cases the patient has some levels of consciousness, responses to physical stimuli and cardiac and respiratory functions are preserved. In deep sedation, the patient is not easily awake, he responds to painful stimuli and cardiac function is maintained, however, intervention in the airways may be necessary. In addition to these modalities, there is general anesthesia, in which a controlled state of unconsciousness occurs, respiratory support is required and cardiac function can be altered. Among the administration routes of sedatives, the oral, sublingual, intranasal, inhalation and intravenous routes stand out. Thus, this work seeks to present the types of sedation in dentistry practice, the main administration techniques, the effects, indications and contraindications.

Method: For this, the PubMed and SciELO databases and printed books published between 2010 and 2020 were used.

Results: In this study, it was noted that the administration of benzodiazepines by oral administration is a simple and cheap method, and with a low control of the duration of effects. The inhalation of nitrous oxide and oxygen is also simple to perform and has a high control of effects. Otherwise use of the intravenous route is more complex, however, it allows greater control of the effects.

Conclusion: The sedation method is effective in extreme situations of anxiety or fear, in invasive or lengthy treatments and for patients with some pathologies such as heart disease and bronchial asthma.

## EFFICACY OF VIOLET LED AND THE EFFECT OF ITS TIP POSITION ON THE LIGHT IRRADIANCE DURING IN-OFFICE DENTAL WHITENING

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Aim: This study evaluated the efficacy of a violet LED light under different staining types and the effect of the LED tip position on the irradiance during in-office dental whitening.

Method: Enamel/dentin bovine blocks were stained (n=20) with black tea (BT), cigarette smoke (CS) or left unstained with artificial saliva (AS) before whitening (n=10) with violet LED (20 irradiations, 1 min each, 30 s intervals, 8 sessions) or 40% hydrogen peroxide (HP, two 15-min applications, 2 sessions). Color ( $\Delta E_{00}$ ) and whiteness index ( $\Delta WID$ ) changes were evaluated by a digital spectrophotometer. The irradiance (RAD) of the tip was evaluated at a 0 or 8-mm distance from a radiometer, and at positions representing the right (RT) and left (LF) upper central incisor irradiation points. Data were submitted to two-way ANOVA and Tukey test, at a 5% significance level.

Results: AS exhibited the lowest  $\Delta E_{00}$  and  $\Delta WID$  after LED whitening ( $p < .05$ ). CS presented similar  $\Delta E_{00}$  and  $\Delta WID$  after both whitening methods, and its values were compatible with BT only after HP bleaching ( $p > .05$ ). Initial RAD values were higher at 0-mm distance, and the subsequent irradiance did not return to the initial values, constantly decreasing until the end of the irradiation cycling. RT point presented higher RAD values, regardless of the distance.

Conclusion: Violet LED promoted efficacy similar to HP in teeth stained with CS, but the irradiance of the LED was negatively affected by the tip position and distance.

## ENAMEL MATRIX DERIVATIVE ON PALATAL MUCOSA FOR WOUND HEALING: RANDOMIZED CLINICAL TRIAL

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Aim: The aim of the present study was to evaluate the clinical, immunological, and patient-centered outcomes of enamel matrix protein derivative on palatal mucosa wound healing.

Method: This was a parallel, single-masked randomized clinical trial, in which forty-four patients with ridge preservation necessity were randomly allocated into two groups: Control Group (n = 22): open palatal wound after harvesting free gingival graft (FGG), and EMD Group (n = 22): open palatal wound after harvesting FGG that received enamel matrix protein derivative application (EMD 0.3 ml). EMD application was performed immediately after surgery and it was left in contact with the open wound for 5 min. In sequence, a customized acetate plate was placed on palatal area and kept in for 2 hours in order to avoid the wash of the EMD gel during this period.

Results: Clinical and patients-centered parameters were analyzed for 3 months post-treatment. Inflammatory markers levels were assessed 3 and 7 days after the procedure by inflammatory exudate. Both groups achieved wound closure and re-epithelialization 30 days after surgery ( $p < 0.001$ ) without intergroup difference. Moreover, number of analgesics pills, and OHIP score did not present difference between groups ( $p > 0.05$ , both). In addition, some inflammatory markers regarding to the healing process presented a favorable modulation.

Conclusion: It can be concluded that EMD may not have additional benefits for open wounds healing on palatal area. Nevertheless, an interesting modulation on some inflammatory markers was observed.

## EROSIVE TOOTH WEAR: A CURRET OVERVIEW

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Aim: Demonstrate, through a literature review, a current overview of erosive lesions etiology and prevalence, as well as perform their diagnosis and treatment.

Method: 15 Articles were select in English, from 2010 to 2020, through the Scielo, Pubmed and Bireme databases.

Results: The etiology of erosive lesions is related to intrinsic factors (related to gastrointestinal disorders) and extrinsic factors (acidic foods and drinks, occupational exposure, use of medications and drug and alcohol abuse). Global prevalence is estimated between 30% to 50%. The lesions vary according to their etiology, and clinically, they may initially present with a rounded, opaque characteristic, with loss of the brightness of the dental surface and without the presence of a white spot. As the process evolves, it can become smooth and polished, with the absence of biofilm, and over time, it can result in exposure and dentin hypersensitivity.

Conclusion: The treatment of erosive lesions must be multifactorial, being necessary that the professional makes an adequate diagnosis about the etiologic factors that may have contributed in the installation and progression of the lesions, to carry out an appropriate treatment.

ESTHETIC PREDICTABILITY OF DIRECT MOCK-UP IN ORAL REHABILITATION WITH CERAMIC VENEERS

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Aim: The aim of this work is to report a clinical case of oral rehabilitation using ceramic laminates.

Case Report: The patient, 42 years old, arrived at the School of Dentistry at the Federal University of Juiz de Fora, uncomfortable with the presence of multiple restorations, misalignment and shape of the anterior teeth. Molding was performed for the study model, as well as diagnostic wax-up and direct mock-up in composite resin from superior premolar to premolar. The preparation was carried out for making ceramic veneers in lithium disilicate. A size 00 Ultrapack (Ultradent) gingival retraction cord was inserted in all teeth. Molding was then performed with silicone on the prepared teeth and alginate on the antagonists. Occlusal registration was performed. The provisionals were made in bisacrylic resin from a silicone guide under the diagnostic waxing. The ceramic laminates were tested and adjusted in their proper preparation and were cemented with Variolink® (Ivoclar) after color testing with Try-in. The veneers were cemented from the central incisors, then the lateral, canine and premolars in that order. After finishing the margins, the occlusal adjustment was made.

Conclusion: Despite being a traditional technique, the use of mock-up in rehabilitation with ceramic veneers is considered an objective and efficient tool in the communication of treatment planning, since it improves the communication between the clinician and the technician and facilitates the visualization of the result final by the patient. Therefore, the association of the mock-up technique with the use of ceramic laminates enables a good esthetic and functional result.

ESTIMATION OF SEX BY MEANS OF LINEAR MEASUREMENTS IN COMPUTED TOMOGRAPHY SCANS OF BRAZILIANS

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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: We sought to analyze whether six measurements on computed tomography (CT) scans are dimorphic. As well as building a logistic regression model to estimate sex.

Method: Approved by CEP / FOP / UNICAMP CAAE 54171916.0.0000.5418. To this end, six linear measures were measured in 136 (74 males and 62 females) CTs of the Osteological Biobank and CT scan of Legal Dentistry, all with known age, sex, ancestry and cause of death. For data analysis, the program IBM® SPSS® 26 Statistics was used and the Kolmogorov-Smirnov tests, t test and logistic regression by the Stepwise-Forward method (Wald) were applied. Calibration used the intra-examiner test, in which 25 CTs were identified, duly identified by sex, ancestry and age, three times each and at different times, to acquire and compare the percentage of error margin, using the indices proposed by Szklo and Nieto (2000), obtaining a STRONG correlation.

Results: It is also noteworthy that of the six measures, four (BPE-BPE, BPE-Ínio LD, BPE-Ínio LE, FJ-FJ) are dimorphic, but two (FJ-ST (center LD) and FJ-ST (center LE) ) showed no difference between genders. Based on the result, the Logito = 25.471 + (- 0.235 \* BPE-BPE) + (-0.079 \* BPE-Ínio LD) was elaborated, where 79.4% accuracy was obtained, proving to be more effective in predicting sex than mere accuracy by chance.

Conclusion: It is concluded that the model obtained can be used as an auxiliary method in the estimation of sex in CT of Brazilians.

ESTIMATION OF SEX THROUGH THE ANALYSIS OF THE MASS OF EDENTULOUS MANDIBLES OF BRAZILIAN INDIVIDUALS

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Aim: The present study sought to evaluate the possible differences between ancestry, as well as to verify if there is sexual dimorphism in the analysis of the mass of dry edentulous jaws. The objective was also to build a logistic regression model to estimate sex by the mass of dry edentulous jaws.

Method: This was a cross-sectional observational study, approved by CEP / FOP / UNICAMP CAAE 38522714.6.0000.5418. 173 edentulous jaws from the FOP / UNICAMP Legal Dentistry Biobank were analyzed and weighed, using a semi-analytical digital scale. The calibration followed the notes of Szklo and Nieto (2014), which was performed using the intra-examiner method, and obtained a strong correlation (0.99).

Results: The evaluations of the mass of the edentulous mandibles were shown to be dimorphic, with differences between male and female. It was also possible to build two logistic regression models, one for estimating sex Logito = 0.454 + 0.633 \* Age + (-0.770 \* Edentulous jaw) with accuracy of 71.2%, and the other for estimating ancestry (white and not white) Logito = -1.776 + 0.392 \* Edentulous mandible, with an accuracy of 62.7%.

Conclusion: The obtained models allowed the estimation of sex and ancestry in edentulous mandibles, being able to be used as auxiliary methods in Brazilians.

EVALUATION OF ANXIETY RELATED TO DENTAL TREATMENT IN PATIENTS ATTENDING A DENTAL CLINIC OF PIRACICABA DENTAL SCHOOL  
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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: Anxiety related to dental treatment is a very common phenomenon and is defined as the patient's response to the stress of the dental treatment. This study aimed to assess anxiety related to dental treatment and its association with sociodemographic variables and oral health services in patients attended at Piracicaba Dental School, University of Campinas (FOP-Unicamp).

Method: The study involved 50 adult patients, aged between 18 and 80 years, of both sexes. The participants answered a validated instrument for the Brazilian population that investigates anxiety related to dental treatment, and a questionnaire to collect sociodemographic and oral health services information. Descriptive data analysis was performed using frequency tables and a simple logistic regression analysis to verify the association between anxiety and the other independent variables.

Results: The crude Odds Ratios and 95% confidence interval was estimated. It was observed that 36% of the sample was classified as level 1 (very little anxious), 38% as level 2 (slightly anxious), 22% was classified as level 3 (moderately anxious) and 4% as level 4 (extremely anxious). There were no evidence of an association between anxiety and sociodemographic and oral health service variables.

Conclusion: It was concluded that the majority of individuals (74%) were classified as having a low degree of anxiety and no factors were significantly associated with anxiety.

EVALUATION OF DIFFERENT ADHESIVE SYSTEMS AND SILANE AGENT APPLICATION ON PUSH-OUT BOND STRENGTH OF FIBERGLASS POSTS

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Aim: This in vitro study evaluated the effect of surface treatment on fiberglass posts with different types of adhesive system containing silane or associated with the silane agent on the push-out bond strength of bulk-fill resin composite.

Method: The surface treatments of fiberglass posts were divided into 6 levels (n=10), 1: no surface treatment (control group); 2: silanization (Silano - Angelus); 3: One-step adhesive with silane incorporated (Single Bond Universal - 3M-ESPE); 4: Silanization associated to Single Bond Universal; 5: Tree-step adhesive without silane incorporated (Adper Single Bond 2 - 3M ESPE); 6: Silanization associated to Adper Single Bond 2. After 48h, the push-out bond strength was evaluated on a universal machine, and the fracture pattern was analyzed in a stereomicroscopy. The contact angle was immediately evaluated after surface pre-treatment by goniometer.

Results: Data were analyzed using two-way ANOVA with Tukey post-hoc test ( $\alpha = 5\%$ ). Fiberglass posts pre-treated with silane agent did not influence the push-out bond strength ( $p > 0.05$ ). However, when the post was not pre-treated with silane agent, the bond strength was higher in the group that received the universal adhesive system ( $p = 0.021$ )

Conclusion: It is concluded that the application of silane agent or universal adhesive system containing silane agent increase the push-out bond strength of fiberglass posts to bulk fill resin composite.

EVALUATION OF DIFFERENT STORAGE SOLUTIONS ON BLEACHING EFFICACY OF AN EXPERIMENTAL AGENT WITH 35% HYDROGEN PEROXIDE

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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: This in vitro study evaluated the influence of different storage solutions on the bleaching efficacy, mineral content, morphology and composition of enamel surface of an experimental bleaching agent containing 35% hydrogen peroxide (HP, FGM) combined with titanium tetrafluoride, natrosol and Chemygel® (T).

Method: Sixty bovine blocks were sorted according to surface microhardness and randomized into six storage groups (n=10): artificial saliva (HP-AS, control); artificial saliva (HPT-AS); distilled water (HPT-DW); buffered solution (HPT-BS); human saliva (HPT-HS); artificial saliva without bleaching protocol (AS). Bleaching was performed in three applications of 15 minutes in four sessions, with 72h interval and stored in the corresponding solutions at 37°C. Color ( $\Delta L$ ,  $\Delta a$ ,  $\Delta b$ ,  $\Delta E_{ab}$ ,  $\Delta WID$  and  $\Delta E_{oo}$ ) and enamel mineral content were evaluated by a digital spectrometer and Knoop microhardness (KHN), respectively. Enamel morphology and composition were observed under scanning electron microscopy and energy dispersive spectrometry, respectively. Data were statistically analyzed by one-way with Tukey and two-way repeated measures ANOVA with Bonferroni ( $\alpha = 5\%$ ).

Results: HP-AS, HPT-AS and HPT-DA did not differ in any color parameter, as well as HPT-BS of HPT-HS. AS presented statistical difference from other groups. All groups increased KHN, except HPT-BS with morphology alterations, and HPT-HS presented the highest KHN results. Low concentration of Ti was present in the experimental groups.

Conclusion: Artificial saliva is a safe solution to be used as storage solution without compromising on outcomes, and the human saliva presents remineralizing potential.

EVALUATION OF DIMENSIONAL STABILITY IN UP TO 5 DAYS OF IRREVERSIBLE HYDROCOLLOIDS

ANTONIO LOPES JÚNIOR; CAIO FELIPE DE ALMEIDA NOBRE; GABRIEL RAMOS RÚBIO; MARIANA ITABORA MOREIRA FREITAS; MAY ANNY ALVES FRAGA; NATHALIA SILVEIRA FINCK  
UNIDOCUTUM

Aim: The in vitro study evaluated the dimensional stability of three irreversible hydrocolloid manufacturers submitted to six leak time using type IV stone plaster Durone (Dentsply Ind. Com., Rio de Janeiro, Brazil).

Method: The alginates used were: Jeltrate Plus (Dentsply Sirona, São Paulo, Brasil), Hydrogum 5 (Zhermack, Badia Polenise, Itália) and Cavex Color Change (Cavex, Haarlem, Holanda). A standard acrylic model with a flat base and four pillars (A, B, C and D) was made simulating the average dimension of a second premolar. 90 molds were made, 30 of each manufacturer, subdivided into six groups according to the leak time: immediately after molding;

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30 minutes; 2 hours; 24 hours; 48 hours and 120 hours. Then, the casts had the distance between the measured points (AB, BC and CD). The dimensional change was calculated by the two-way ANOVA and Tukey's post-hoc test ( $\alpha = 0.05$ ).

Results: According to the results of this study, dimensional stability was directly affected by the storage time and by the alginate manufacturer ( $p < 0.05$ ).

Conclusion: It is concluded that, provided they are stored under appropriate conditions, the Hydrogum 5 and Cavex Color Change alginates can be poured up to 120 and 48 hours, respectively. While the Jeltrate Plus alginate showed increasing dimensional changes after 2 hours.

**EVALUATION OF FEAR RELATED TO DENTAL TREATMENT IN PATIENTS ATTENDING A DENTAL CLINIC OF PIRACICABA DENTAL SCHOOL**  
KAUANI COSTA CARDOZO; BEATRIZ ISABEL NOGUEIRA LEMOS; RODRIGO VIDAL DE LIMA; FÁBIO LUIZ MIALHE; ROSANA DE FÁTIMA POSSOBON; VANESSA GALLEGOS ARIAS PECORARI; KARINE LAURA CORTELAZZI MENDES  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: Fear related to dental treatment is characterized as a physiological, behavioral and emotional reaction to one or more intimidating stimulus in dental practice. It has a multifactorial etiology, which can be a traumatic consequence of past treatments, and these factors that can affect it must be identified. This study aimed to assess fear related to dental treatment and its association with sociodemographic variables and oral health services in patients attended at Piracicaba Dental School, University of Campinas (FOP-Unicamp).

Method: The study involved 50 adult patients, aged between 18 and 80 years, of both sexes. The participants answered a validated instrument for the Brazilian population that investigates fear related to dental treatment, and a questionnaire to collect sociodemographic and oral health services information. Descriptive data analysis was performed using frequency tables and a simple logistic regression analysis to verify the association between dental fear and the other independent variables. The crude Odds Ratios and 95% confidence interval was estimated.

Results: It was observed that 41.3% of the sample was classified as level 1 (slight fear), 52.2% as level 2 (moderate fear), and 6.5% was classified as level 3 (severe fear). There was no evidence of an association between dental fear and sociodemographic and oral health service variables.

Conclusion: It was concluded that the majority of individuals (58.7%) were classified as having a high degree of dental fear and no factors were significantly associated with dental fear.

**EVALUATION OF INTERNET USER SEARCH INTEREST FOR MOUTH CANCER COMPARED TO BREAST AND PROSTATE CANCERS**  
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SCHOOL OF DENTISTRY OF SÃO PAULO - USP

Aim: Little is known about the interest of the Brazilian population in oral cancer, the fifth most common neoplasm in men in the country, compared to the most common cancers reported in the media. In this way, interest in the terms "mouth cancer", "breast cancer" and "prostate cancer" was evaluated.

Method: The research used publicly available information and did not require approval by the Ethics Committee. Through the Google Trends tool, the terms [ "mouth cancer" ], [ "breast cancer" ] and [ "prostate cancer" ] were searched in quotation marks to include only searches for the exact order of these terms, in the period January 1, 2011 to June 30, 2020. Brazil was defined as the country of choice and the category "health" to ensure interest in the context of health in the country. Google Trends provides the relative search volume (VPR), with data normalized between 0 and 100.

Results: In every period evaluated, the term "breast cancer" was the most searched, followed by prostate cancer and oral cancer. The search peaks of the first two coincide with the months of greatest disclosure of these neoplasms in the country, in the months of October and November. For oral cancer, there was an increase in interest almost linearly.

Conclusion: The study showed that interest in oral cancer, although lower compared to more frequent cancers, is present and growing in the Brazilian population. Regular campaigns on neoplasms are motivating to search and can contribute to the earlier detection of oral neoplasms.

**EVALUATION OF NASAL AND SUBLINGUAL SWINE MUCOSA FOR IN VITRO PERMEATION ASSAYS: HISTOLOGICAL AND RESISTIVITY ANALYSIS**  
GABRIELA GAMA XAVIER AUGUSTO; JAÍZA SAMARA MACEDO ARAÚJO; MICHELLE FRANZ-MONTAN BRAGA LEITE  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: This study evaluated in vitro, the integrity of the nasal-NM and sublingual-SM pig mucosa after preparation and storage, aiming their use in vitro permeation studies.

Method: Integrity evaluation was performed by measuring the electrical resistivity-RES of swine mucosa. The electrical current capable to cross the tissue according to Ohms law. Conventional microscopy-CM (qualitative analyses). RES evaluation was performed with a current generator at the receiving compartment of the Franz vertical diffusion cells filled with PBS buffer, under the conditions: fresh tissue-FT, refrigerated-RE at 4° C for 12, 24 and 48 hours and frozen-FR at -20° C for 1 and 2 weeks (n=12). Those tissues were stained with HE and analyzed by CM.

Results: RES results were submitted to Mann-Whitney and Wilcoxon ( $\alpha=5\%$ ). Median-interquartile deviation RES K/cm<sup>2</sup> NM: TF1.8-1.6; RE 12, 24 and 48h: 1.7-1.6; 1.2-1.1; 1.6-1.5, and FR 1 and 2w: 1.6-1.4; 1.6-1.3, respectively. There was a decrease in RE 24 and 48 h and 2 weeks in relation to FT ( $p < 0.05$ ). SM: TF 1.4-1.1 RE 12, 24 and 48h: 1.5-1.4; 1.3-1.2; 1.1-1.0 FR 1w: 1.3-1.2, respectively. There was a reduction in RE in 48 hours and 1 week in relation to TF ( $p < 0.05$ ). MC demonstrated disorganization of the epithelial layers, desquamation, cell spacing and separation of the epithelium in a progressively to the storage periods in both tissues.

Conclusion: Based on the RES measurement, it is possible to store NM under RE for 12h and FR for 1week. SM only RE until 24h. Both mucous membranes showed histological changes. Permeation assays are necessary to conclude whether storage changes the permeability of these mucous membranes.

**EVALUATION OF ROUGHNESS AND SURFACE HARDNESS OF TYPE IV GYPSUM**  
MARIANA ELIAS QUEIROZ; JULIANA DOS SANTOS PROENÇA; PAULO HENRIQUE DOS SANTOS; EDWIN FERNANDO ROIZ CONTRERAS  
ARACATUBA DENTAL SCHOOL - UNESP

Aim: In dentistry both clinical and laboratory procedures depend on the use of dental gypsum. Its use is very important and assists both the dentist and the prosthetic in several stages of a

treatment, from the diagnosis stage to the confection of an indirect restoration or a prosthesis. Thus, the aim of this study was to evaluate a physical property (surface roughness) and a mechanical property (microhardness) of four type IV gypsum.

Method: For these analyzes, 40 specimens were prepared from a metal matrix that reproduced an edentate upper alveolar ridge. They were divided into 4 groups (n = 10), according to trademarks (Clone, Durone, SSWhite, Asfer) and submitted to roughness and microhardness tests. The obtained data were computed and submitted to statistical analysis. By the Kolmogorov-Smirnov test it was verified that there was no Normal distribution of the samples. Thus, the non-parametric Kruskal-Wallis and Mann-Whitney-U tests were applied in hardness and roughness data.

Results: In microhardness, Clone group presented the best values (103.0 HV). In surface roughness (Ra), Clone and SSWhite groups showed the lowest values (1.8 µm) and all evaluated groups presented higher values than those found in metallic matrix (baseline).

Conclusion: It was concluded that gypsum models obtained from molds with irreversible hydrocolloid are rougher than the molded surface, regardless of the commercial brand evaluated. The plaster models made with the Clone brand have a better surface microhardness.

**EVALUATION OF THE REMINERALIZING POTENTIAL OF TREATMENTS WITH MI PASTE PLUS® AND SODIUM TRIMETAPHOSPHATE: IN VITRO STUDY**  
NATÁLIA MARIA CASTORINO DE OLIVEIRA; FRANCYENNE MAIRA CASTRO GONÇALVES; NAYARA GONÇALVES EMERENCIANO; MARÍLIA ANDRADE FIGUEIREDO DE OLIVEIRA; ALBERTO CARLOS BOTAZZO DELBEM; MARCELLE DANIELON  
UNIVERSITY OF RIBEIRÃO PRETO - UNAERP

Aim: The aim of this study was to evaluate in vitro the combination of treatments with fluoride toothpastes supplemented with sodium trimetaphosphate (TMP) and amorphous calcium phosphate casein (MI Paste Plus®), on the remineralization of tooth enamel.

Method: Enamel blocks with artificial caries lesion were divided into six groups (n = 12) of toothpaste: 1) without F-TMP-MI Paste Plus® (Placebo); 2) 1100 ppm F (1100F), 3) MI Paste Plus®, 4) 1100F + MI Paste Plus® (1100F-MI Paste Plus®), 5) 1100F + 3% TMP (1100F-TMP) and 6) 1100F-TMP + MI Paste Plus® (1100F-TMP-MI Paste Plus®). The blocks were treated 2 × /day with the toothpastes (1 minute). Groups 4 and 6 received the application of MI Paste Plus® more 3 minutes. After the percentage of surface hardness recovery (%SHR) and integrated loss of subsurface hardness (Δ KHN) were determined. The data were analyzed by ANOVA (1-criterion) and Student-Newman-Keuls test ( $p < 0.001$ ).

Results: For the %SHR, the 1100F-TMP-MI Paste Plus® group remineralized the enamel surface by ~ 38% compared to MI Paste Plus® ( $p < 0.001$ ) and similar to 1100F ( $p > 0.001$ ). Less depth of the lesion (Δ KHN) was observed for the group 1100F-TMP-MI Paste Plus® when compared to the others groups ( $p < 0.001$ ), being lower by 32% when compared to the group 1100F.

Conclusion: It is concluded that the association of 1100F-TMP and MI Paste Plus® led to a significant increase in the remineralization of initial caries lesions.

**EVALUATION OF VOLUMETRIC MAINTENANCE AFTER SINGLE AND MULTIPLE DENTAL EXTRACTION USING TITANIO SEAL®**  
CRISTINA RECH FELDMANN; ALBERTO FERNANDES; VICTORIA ALBERTON DA SILVA; JESSICA NESPOLO MARTINS; DANILO LAZZARI CIOTTI; ANTÔNIO SIMÕES DE SOUZA FILHO; ALESSANDRA CESAR TRINDADE; FÁBIO SHINITI MIZUTANI  
SÃO LEOPOLDO MANDIC

Aim: This thesis' s objective was to evaluate the titanium membrane covered post extraction alveolar bone dimensional alterations, while comparing areas to unitary and multiple exodontias. Tomographical exams were evaluated, from areas where unitary dental extractions (G1) and multiple dental extractions (G2) occurred. In every case, using the Titanium Seal post extraction alveolar preservation treatment, with no alveolus filling.

Method: Measurements were obtained from the central region of the axial and area sections previous to the procedure at the most cervical zones of bone peaks, plus two more measurements from 2 and 4 mm under the first point. Following, those measurements were transferred from the previously obtained absolute refurbishment length. Measurements were taken from the new total border length - at the central virtually representative region of the extracted dental element.

Results: In both groups, differences among baseline and 6 months in height: -0,95mm ±0,89 (G1) and -1,95mm ±1,04 (G2) and 2mm volume: -1,10mm ±0,48 (G1) and -2,48mm ±1,08 (G2) were statistically representative. In any cases, the 4mm volume presented differences. Statistically, the bone loss was higher in Group 2.

Conclusion: The present study have shown that the titanium-laminated sheet was effective when it comes to post-extraction alveolar preservation, in both unitary and multiple extractions.

**EXPERIMENTAL BLEACHING AGENT CONTAINING DIFFERENT CONCENTRATIONS OF TIF4 COMBINED WITH 35% HYDROGEN PEROXIDE**  
RODRIGO BARROS ESTEVES LINS; PEDRO LUIZ ROSALEN; DIEGO ROMÁRIO DA SILVA; LUÍS ROBERTO MARCONDES MARTINS; VANESSA CAVALLI  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: This study evaluated color, mineral content, morphology and cytotoxicity promoted by 35% hydrogen peroxide (HP) combined with experimental gels (T) containing titanium tetrafluoride (TiF4), natrosol and Chemygel®.

Method: Bovine enamel blocks were treated with (n=10): HP or HP combined with TiF4-gels in different concentrations: 0.05g (HPT.05), 0.1g (HPT1), 0.2g (HPT2), 0.3g (HPT3) and 0.4g (HPT4). Bleaching was performed in 3x15-min applications in three sessions, with 72-h intervals. Color (digital spectrometer) and enamel microhardness (KHN) were evaluated 24 h after bleaching sessions. Color change (CIELAB- Δ Eab, CIEDE- Δ E00), whiteness index (Δ WID), enamel morphology (scanning electron microscopy) and composition (energy dispersive X-Ray spectroscopy) were evaluated. MTT assay determined the viability of Keratinocyte cells (HaCat) treated with the gels. Data were analyzed by one-way ANOVA with LSD post-hoc (Δ Eab, Δ E00, Δ WID, cell viability), and two-way repeated measures ANOVA with Bonferroni ( $L^*$ ,  $a^*$ ,  $b^*$ , KHN) ( $\alpha = 5\%$ ).

Results: Lightness ( $L^*$ ) increased,  $a^*$  and  $b^*$  decreased, but HP promoted the lowest  $b^*$  values ( $p < 0.05$ ). HPT.05, HPT1, HPT2 displayed Δ WID and Δ Eab similar to HP, but no differences in Δ E00 were found among groups ( $p > 0.05$ ). HP, HPT.05, HPT1 promoted higher KHN ( $p < 0.05$ ). HPT.05 exhibited no morphology alterations, and Ti was detected on TiF4-gel treated surfaces. HaCat cells were > 80% viable for 0.05 g TiF4, but HP reduced the cell viability. Conclusion: HPT.05 promoted bleaching and maintained enamel microhardness, without changing morphology or promoting cytotoxicity effects to HaCat cells.

## All abstracts appear as submitted by the authors without editing

## EYE PROSTHESIS: CLINICAL CASE REPORT

INGRID MORAES CORREA; FLORENCE ZUMBAIO MISTRO; VINICIUS CAPPO BIANCO; WILLIAM CUSTÓDIO; RAFAEL BRONZATO BUENO; ANA PAULA TEROSSI DE GODOI HERMINIO OMETTO - UNIARARAS

**Aim:** The aim of this study was to report a clinical case of eye prosthesis rehabilitation of a patient with unilateral anophthalmia, as well as to perform a brief literature review on the subject.

**Case Report:** The aim of this study was to report a clinical case of eye prosthesis rehabilitation of a patient with unilateral anophthalmia, as well as to perform a brief literature review on the subject. A 29-year-old female patient sought care for a new eye prosthesis. His main complaint referred to the aesthetics of the prosthesis used and porosities, which promoted irritation to the anophthalmic cavity. Anophthalmic cavity was molded with irreversible hydrocolloid, which was taken into a plastic syringe and inserted throughout the cavity until an eyelid contour and volume similar to the healthy globe were obtained. The mold obtained was included in plaster containing a feed channel so that the mold was later filled with wax. Subsequently, the wax was carved to present a smooth and convex surface; it is then tested in the eye socket for anatomical adjustments, adequacy of the eyelid contour and demarcation of the pupillary point. The painting of the iris was then done manually, in prefabricated acrylic cap; which was positioned and fixed with wax in the excavation made around the pupillary point previously demarcated in the sclera. Subsequently, the wax-made globe and properly tasted was included in the muffle; After crystallization of the plaster, the wax was removed and the prosthesis was acrylic with scleral resin, characterizing it later. After deconclusion, finishing and polishing were performed, ending with installation and adjustments.

**Conclusion:** It can be concluded that the knowledge of technical and clinical aspects in the making and adaptation of the ocular prosthesis is of extreme importance, because even the ocular prosthesis does not allow the vision to return to the patient, this is a satisfactory alternative for restoring lost aesthetics and self-esteem anophthalmic patients; in this case, rehabilitation was of great importance for the patient, as the patient's self-esteem was restored, leaving her satisfied.

## FACTORS ASSOCIATED WITH VIOLENCE AGAINST WOMEN AND FACIAL TRAUMA: A REPRESENTATIVE SAMPLE OF THE BRAZILIAN POPULATION

STELLA CRISTINA SOARES ARAUJO; LAISA KINDELY RAMOS DE OLIVEIRA; RENATO MARANO; GABRIELA MAYRINK

HOSPITAL JOÃO XXIII/ HOSPITALAR FOUNDATION OF MINAS GERAIS STATE (FHEMIG)

**Aim:** The aim of the study was to perform an epidemiological survey of facial trauma among women who experienced physical aggression by an intimate partner.

**Method:** Electronic medical records from a public tertiary referral hospital for trauma in the Brazilian state of Espírito Santo were analyzed between 2013 and 2018.

**Results:** Patients were most commonly between 20 and 29 years of age (33.9%), and 50% of the patients were of mixed race. When separated by days of the week, facial trauma was most commonly inflicted on Sundays (24.2%) and on Saturdays (22.6%). Of the 62 women included in the study, 47 had facial fractures, and 7 had more than 1 concomitant fracture. Forty of the total fractures (72.7%) were on the middle and upper thirds of the face, while 15 fractures (27.3%) were on the lower third of the face. The most commonly observed signs and symptoms of these injuries were edema (56.5%), periorbital ecchymosis (35.5%), deviated nasal dorsum (22.6%), and hematoma (16.1%).

**Conclusion:** Facial trauma may be considered an important marker of attempted femicide. Health care professionals must be aware of and attentive to this correlation, since many cases of attempted femicide go unnoticed or are attributed to another etiology

## FEATURES OF THE JUDICIALIZATION OF ACCESS TO CTI BEDS: A SYSTEMATIZED REVIEW

LUCÍDIO ANDRADE DE ASSIS NETO; STÉFANY DE LIMA GOMES; BRUNNA VERNA CASTRO GONDINHO; JÚLIA VITORIO OCTAVIANI; ANDREZA MARIA LUZIA BALDO SOUZA; DENISE DE FÁTIMA BARROS CAVALCANTE; STEFANIE DEL CARMEN PEREZ PUELLO; LUCIANE MIRANDA GUERRA

PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** To characterize as judicial demands for hospitalizations in the Intensive Care Unit available in the literature.

**Method:** This is a systematic review, data were collected through databases of the National Library of Medicine, National Institutes of Health (Pubmed), Virtual Health Library (VHL), Electronic Scientific Library Online (SciELO), as the keywords keywords were used: judicialization in health, ICU, public health. Inclusion requests for inclusion were full articles in Portuguese, English and / or Spanish, published 2009-2019.

**Results:** The initial sample of articles published by 188 studies was duplicated and 31 studies were excluded (n = 157). After reading the title and abstract, studies that did not portray the topic were excluded, resulting in 25 selected to be read in full. The final sample constituted (n = 08) articles for this study. Only 3 articles with a percentage of how many demands were made by SUS users or private hospitals, 1 article related to the amount spent on ICU beds, 02 articles show who is taken as a defendant, no article addresses what are the demanding items: sex, age, location, type of action.

**Conclusion:** If necessary, further studies focused on beds in the Intensive Care Units were concluded, in order to verify if there are the resources of the patients and also of the actions, in addition to seeking new measures to lose as legal demands with this theme.

## FINISH LINE LOCATION OF THE CEMENTED CROWN IS AN INFLUENCING FACTOR FOR TENSILE BOND STRENGTH, MARGINAL ADAPTION, NANOLEAKAGE?

AMANDA GUERRA CAVALCANTE DE SOUZA; ENRICO ANGELO; RODRIGO BARROS ESTEVES LINS; LUIS ROBERTO MARCONDES MARTINS

PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** Evaluate the influence of different crowns finishing line location on the crown tensile bond strength, marginal adaption and nanoleakage.

**Method:** Sixty healthy third molars were collected. For tensile bond strength, a self-adhesive resin cement was used. For marginal adaption, epoxy resin models were prepared. Prior to tensile bond strength test, images for the epoxy resin models were measured under scanning electron microscopy (SEM). Nanoleakage was measured using same protocol. Failure mode was evaluated through SEM and classified: adhesive failure, cohesive in cement, cohesive in dentin, cohesive in resin composite, cohesive in enamel, and mixed. Statistical analysis was performed using normality tests, two-way ANOVA, Bonferroni parametric test, (P < .05), Spearman correlation test.

**Results:** Tensile bond strength was not statistically different between the cemented groups with composite resin and ceramic. Cementation of ceramic was not statistically different between the groups (enamel, 3.28 Pa; dentin, 3.14 Pa; resin, 2.85 Pa). Marginal adaption was statistically different between resin and ceramic; finish line location varied between enamel and resin (175.91 µm vs. 433.58 µm). Nanoleakage rate was statistically different among all groups, except for resin: with resin (9.49%) and ceramic (9.35%). There was a predominance of adhesive failure in all groups.

**Conclusion:** Finish line location can be performed safely in enamel and dentin. Composite resins presents an alternative, but still need to be more studied. Regarding the crown's material, it is possible to perform a satisfactory restoration in resin and ceramic, the last one showing better results.

## FLEXURAL STRENGTH EVALUATION OF CAD-CAM COMPOSITES SUBMITTED TO EROSION AND ABRASION CHALLENGES

ANA PAULA ALMEIDA DAS VIRGENS; MAYARA ZAGHI DAL PICOLLO; MATHEUS KURY; MARCELO GIANNINI; VANESSA CAVALLI

PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** This study aimed to evaluate the flexural strength of different CAD-CAM blocks after erosion and/or abrasion challenges.

**Method:** Blocks (n=40) of two nano-hybrid resins (RG- Grandio Blocks, Voco and RB- Brava Block- FGM); one polymer-infiltrated ceramic network (PICN- Vita Enamic, Wilcos) and one zirconia-reinforced lithium silicate glass-ceramic (ZLS- Celtra Duo, Dentsply Sirona) were cut in bar-shaped specimens (12 mm x 2 mm x 1 mm) and polished with silicon carbide sandpapers. Afterward, they were submitted to simulated treatments (n=10): E- Erosion with gastric acid; A- Abrasion by mechanical brushing; E/A- Combination of Erosion / Abrasion and C- Control (without treatment). The bars were submitted to 3-point flexural strength (MPa) by means of a universal testing machine after the treatments. Data were analyzed using two-way ANOVA and Tukey test (α = 5%)

**Results:** RG maintained MPa values after the treatments, similarly to ZLS (p>0.05). E and E/A significantly reduced MPa values of PICN, and all the challenges decreased the MPa of RB group (p<0.05). Regardless of the treatments, RG and ZLS exhibited significantly higher MPa values compared to RB and PICN. RB showed higher flexural strength than PICN only without treatments.

**Conclusion:** The flexural strength of composite CAD-CAM blocks was negatively impacted by the chemical and/or physical challenges in a material-dependent manner.

## FLUORIDE BIOAVAILABILITY DURING AND AFTER TOOTHBRUSHING WITH NaF/SiO2 OR MFP/CAC

MATEUS XAVIER DE QUEIROZ; ANTÔNIO PEDRO RICOMINI-FILHO; JAIME APARECIDO CURY

PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** Toothpaste is used as a vehicle to deliver fluoride (F) into the mouth during toothbrushing. However, different F bioavailability may occur depending on toothpaste formulation. Thus, we evaluated salivary bioavailability of F during and after toothbrushing with NaF/SiO2 or MFP/CaCO3-based toothpastes.

**Method:** Then, a crossover in vivo study was conducted in two phases, during which three volunteers brushed their teeth for 1 min with 0.7 g of MFP/CaCO3 (Sorriso Dentes Brancos - 1450 ppm F) or NaF/SiO2-based (Close-up Fresh - 1450 ppm F) toothpastes. The toothpaste-saliva slurry produced during toothbrushing was collected for F determination. After toothbrushing, the volunteers washed their mouth and saliva samples were collected during 120 min for F determination. Total fluoride (TF) and total soluble fluoride (TSF) were determined in the samples. TF and TSF concentrations were also determined in the toothpastes. F was determined with ion-specific electrode for all analyses. The AUC for TF and TSF concentrations in saliva vs. time (AUC = µg F/ml x min) was calculated. The data were analyzed by Student's t-test (α = 5%).

**Results:** The results (mean ± SD; different letters represent statistically significant differences; p<0.05) for MFP/CaCO3-based and NaF/SiO2-based were respectively: FT: 501.7 ± 76.2A and 456.5 ± 146A; FST: 476.0 ± 72.7A and 448.2 ± 141.6A; AUC for FT 87.4 ± 5.7A and 38.2 ± 7.6B; AUC for TSF 81.1 ± 10.2A and 32.2 ± 7.4B.

**Conclusion:** The data suggest that the MFP/CaCO3-based toothpaste provide higher fluoride bioavailability in mouth after toothbrushing. (Support: CNPq | N°: 133173/2018-6; Capes | N°: 001)

## FLUORIDE CONCENTRATION IN WATER AND ORAL HEALTH PROFILE IN RURAL AREAS BAHIA

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**Aim:** The aim is to evaluate the concentration of fluorine in an artesian well in a rural area of Jaguaquara (Bahia state, Brazil) and to describe the prevalence of fluorosis and dental caries in the population that uses this water for consumption.

**Method:** This is a descriptive study in which laboratory analysis of the water collected through spectrophotometric measurement and description of the prevalence of dental caries and fluorosis was performed using the CPO-D and Dean Indexes using secondary data (CAAE: 07459319.8.0000.0055).

**Results:** Fluoride concentration in the samples is below the limit of quantification (0.10 mg/l). The prevalence of fluorosis found was 22% and for dental caries was 59.8%.

**Conclusion:** Fluoride concentration in the samples does not constitute a dental caries protection factor. The low CPO-D index (2.02) suggests fluoride access through other sources; however, it does not imply risks to the population regarding dental fluorosis.

## FORENSIC ENTOMOLOGY: DIPTERA IN SOLVING VIOLENT DEATH CRIMES

CAROLINA DENILO MARCELO; ANA FLÁVIA DE CARVALHO CARDOZO; BIANCA FERREIRA; PEDRO DE SOUSA ANDRADE; SORAYA MONTEIRO GUEDES FERNANDEZ; VANESSA HELENA DE SOUZA ZAGO; VIVIANE ULBRICHT; LUIZ FRANCESQUINI JÚNIOR

PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** The present study aimed to explain the importance and applicability of post-mortem interval (MPI) through case studies.

**Method:** For doing so, in this bibliographic review were consulted scientific articles in databases like PubMed, Google Scholar, Scientific Electronic Library (SciELO) and CAPES Journal Portal and 52 studies were taken.

## All abstracts appear as submitted by the authors without editing

Results: It was found that there are innumerable challenges that permeated the development of forensic entomology: initially, due to the need of maturing techniques and lack of knowledge of the taxonomy and biology of national entomofauna insects. In this context, the order Diptera (suborder Muscomorpha, families Calliphoridae, Sarcophagidae and Muscidae) stands out, because their representatives are the first colonizers, consuming much of the biomass in the early stages of decomposition. There fore, the study of the immatures found enables the calculation of the minimum MPI, which evaluates its age, revealing the minimum time that the body was exposed considering temperature conditions of the place and the development time of the analyzed species. Also, the immature can be used to evidence the existence of abuse, as well as toxicological evaluation to identify the use of substances.

Conclusion: Forensic entomology is an essential part of the IPM study, and it can incriminate or release a possible suspect in a crime, being necessary for the specialist to know the biology of the species and the correct treatment of the material collected in the corpse by the expert for correct interpretation.

#### GINGIVOPLASTY WITH OSTEOTOMY ASSOCIATED WITH BOTULINUM TOXIN IN THE TREATMENT OF GINGIVAL SMILE

ROSANE DA CONCEIÇÃO LAGO CARVALHO; DIOGO SOUZA FERREIRA RUBIM DE ASSIS; EMANUELLA SOUSA ROCHA; GABRIEL CUTRIM SILVA; LUCIANA MAIA MOURA NAVES; LUCIANA SALLES BRANCO DE ALMEIDA; NEURINEIA MARGARIDA ALVES DE OLIVEIRA; LIANA LINHARES LIMA SERRA  
FEDERAL UNIVERSITY OF MARANHÃO

Aim: The aim of this study is report a clinical case intended and executed in order to restore the smile aesthetic through gingivoplasty with osteotomy to correction of gingival smile associated to application of botulinum toxin in the treatment of upper lip hyperactivity.

Case Report: Patient, woman, 24 years old, looked for a post graduate clinical in the city of São Luís-Ma, complaining of "excessive smile". It was made the full periodontal evaluation in which it was found plate index at 20% and gingival index at 16%, diagnosed with periodontal health. It took place the procedure of periodontal scraping and oral hygiene guidance previously to the surgical procedure.

Conclusion: Thus, the gingivoplasty with osteotomy associated with the application of botulinum toxin presented itself useful in the treatment of upper lip hyperactivity, giving back to the patient an aesthetic smile and self-esteem.

#### GLIDE PATH, HOW IMPORTANT IS IT?

ELOISE DE OLIVEIRA LIMA; LÚCIO DÉRICK DE OLIVEIRA FERREIRA; MARIA HELENA ROSSY BORGES; MARIANA MANESCHY PORPINO

Aim: One way to reduce the risk do fracture os to carry out exploration and negotiation of the root canal followed by dilation before the formatting process, called "glide path". This procedure aims to eliminate interference in the entire length of the canal, allowing these tools act freely in formatting and cleaning the SCR. This study aimed to conduct a literature review on the instruments used to perform the "glide path", their characteristics and the result of their use.

Method: Data from PubMed, Google Scholar and Medline databases have been extracted.

Results: Based on the literature review we conclude that the "glide path" is an important step in SCR format regardless of the mechanized system use to follow.

Conclusion: Based on the literature review we conclude that the "glide path" is an important step in SCR format regardless of the mechanized system use to follow.

#### HISTOPATHOLOGICAL AND CLINICAL CONSIDERATIONS: USE OF ELECTRONIC NICOTINE DELIVERY SYSTEMS AND CONVENTIONAL CIGARETTES

JULIANA THEBERGE DOS SANTOS DE OLIVEIRA; TAMMY MARTINS DE OLIVEIRA; MARIA CYNÉSIA MEDEIROS DE BARROS  
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Aim: Electronic Nicotine Delivery Systems (ENDS) are gadgets that generate vapors to be inhaled. Initially, these devices appeared to help smoking cessation, keeping the nicotine supply with reduced contact with other harmful substances found in conventional cigarettes. However, when compared to this, ENDS has a higher amount of nicotine and its composition is not yet well-known. With the rise in popularity of this alternative among juvenile and adult populations, the present study aims to explain the possible impacts of using ENDS, as well as other implications of tobacco consumption for oral health.

Method: For this, searches were performed in the PubMed database using the descriptors "electronic cigarettes" and "oral histology" and "tobacco smoking" and "oral histology". Inclusion criteria were articles published in full versions, written in English language, over the past ten years.

Results: Among the results, standard smokers and users of ENDS have plasma nicotine at a similar level, but last one present higher level of nicotine and cotinine in saliva, therefore presenting an increased capacity to secrete pro-inflammatory cytokines, reductions in the immune cell migration and proliferation of osteoblasts, gingival fibroblasts and periodontal ligament cells, also promoting apoptosis and modifications of the cytoskeleton and extracellular matrix of these cells.

Conclusion: Findings indicate a major susceptibility of ENDS users to the deleterious effects of oral exposure to nicotine, such an increased risk to develop periodontal disease, mouth and oropharyngeal cancer, nicotine stomatitis, black hairy tongue, root caries, hyposalivation and xerostomy.

#### HISTOPATHOLOGICAL AND IMMUNOHISTOCHEMICAL ANALYSIS OF SEQUENTIAL OSCC FRAGMENTS IMPLANTATIONS IN PDTX/O MODEL

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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The goal of this study is to analyze and compare histopathological characteristics of 6 sequential passages of patient-derived tumor xenograft/orthotopic (PDTX/O) mouse model of oral squamous cell carcinoma (OSCC).

Method: Twenty-six NOD.CB17-Prkdcscid/JUnib mice were divided in 6 different groups (passages). Four animals received the fragments directly from the tumor patient's biopsy. Five successive passages were performed by selecting 1 animal of the previous group (P2, n=5; P3, n=6; P4, n=4; P5, n=3). Animal were euthanized and tongues were collected, and paraffin embedded for histological and immunohistochemical analysis through pan anti-cytokeratin and anti-Ki-67 staining. Slides from the patient's tumor were also analyzed.

Results: In general, tumor morphology was very similar between the passages. However, regardless the passage, the clinical presentations of the tumors were diverse. Mostly, we observed a solid tumor mass surrounded by different number of tumor budding and/or islands permeating the muscle fibers. Pseudo-cystic areas of different sizes, lobular tumors and area of keratinization and/or necrosis were identified in all passages. Necrosis was not observed in the tumor biopsy. Importantly, proliferation index calculated by the Ki-67 staining was similar in all the passages varying from 24.4% (P0) to 34.4% (P3).

Conclusion: PDTX/O model of OSCC is an important tool for the development of new therapies. Obtaining sequential tumor passages with similar characteristics compared with the patient's samples would facilitate the OSCC research. Here, we found important reproducibility between the passages, especially the Ki-67 index.

#### IDENTIFICATION OF THE MOST USED PHARMACOLOGICAL CLASSES AND RELATIONS TO ODONTOLOGIC PRESCRIPTION: A RETROSPECTIVE STUDY

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Aim: This study identified the pharmacological classes more used by the patients, and discuss the medicated interactions due possible prescriptions in dentistry.

Method: It were included in the study 241 medical records from the patients attended in the Dentistry course of University of Mogi das Cruzes.

Results: Eight-one patients reported having chronic diseases not transmissible, (35.5%) used medicated with antihypertensive drugs, (13.7%) hypoglycemic agents, (9.3%) antidepressants, Losartan (29.2%), Metformin (76%) and Fluoxetine (35.2%), respectively were the most used representative. There were odontological prescription in 52 cases and Dipyrone (90.9%), Amoxicillin (77.7%) and Nimesulide (60%) were the most prescriber drugs by the students and professors.

Conclusion: In conclusion the pharmacological classes most used by the patients presentes, also higher chances of interactions, the dental professional should be alert to the mechanism of action, adverse effects and care regarding the combination, principally when the prescriptions involve the nonsteroidal anti-inflammatory.

#### IMPACT OF CARIES DISEASE ON THE QUALITY OF FAMILY LIFE

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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The present study sought to analyze scientific production on the impact of dental caries on the family's quality of life

Method: An integrative review was carried out using the databases of Pubmed, VHL, Scielo and Google Scholar, considering studies in Portuguese, English and Spanish and the period from 2014 to 2019. The Mendeley program was used to avoid duplication of data and, Microsoft Office Excel was used to tabulate the pertinent information for each study. 120 studies were found, and the final sample consisted of 28 studies, all of which addressed the theme of children or adolescents.

Results: It was observed that 15 studies studied children from 0 to 5 years old, 8 studies on children from 6 to 10 years old and 5 analyzed children above 10 years old. The 28 studies found applied some kind of questionnaire for sociodemographic analysis. It was noted that 3 studies the parents felt responsible for the caries disease in their children. Of the 28 studies, 9 were of children who were undergoing treatments at dental schools with zero cost. Still, 11 studies when applying the questionnaires noted that pain is one of the main causes negatively impacting the quality of life of the child or adolescent.

Conclusion: It is concluded that dental caries has a negative impact on the quality of life of the child and his family, and the perception of those responsible for their children's oral health is relevant to the reduction of this disease.

#### IMPACT OF CHEMOMECHANICAL CARIES REMOVAL AGENTS ON THE BOND STRENGTH OF ADHESIVE SYSTEMS TO DENTIN: A SYSTEMATIC REVIEW

HERMANO NÔBREGA MACEDO NETO; FRAIDER GUTIÉRREZ MEZA; SAMANTHA MOLINA PEREZ; DANIELA PALACIO VIVANCO; MARIA LUISA REDONDO RICO; RENALLY BEZERRA WANDERLEY LIMA; CRISTHIAN CAMILO MADRID TROCONIS  
NOVA ESPERANÇA FACULTY

Aim: The objective was to review the scientific evidence regarding the impact of chemomechanical caries removal (CMCR) agents on the bond strength (BS) of adhesive systems (AS) to dentin.

Method: PubMed/Medline and Scopus databases were screened until August 2020 using related Medical Subject Headings (MeSH) and free-terms. Also, complementary searches were performed on Google Scholar, ResearchGate and reference lists from included studies. This systematic review was conducted according to preferred reported items for systematic reviews and meta-analysis (PRISMA) statements. We included in vitro studies published in english language that compared the impact of one or more CMCR agents and conventional caries removal techniques on the BS of AS to dentin for permanent and/or primary teeth.

Results: Main methodological data and mean BS values were extracted and tabulated. Also, the risk of bias of individual studies was determined by two trained researchers. After duplicate exclusion, title and abstract review, 22 articles published between 2000 and 2018 met inclusion criteria and most of them (n= 15) had medium risk of bias. CMCR agents based on sodium hypochlorite such as Carisolv® (n=16) or papain enzyme as Papacarie® (n=7) or Carie-Care® (n=2) were mainly evaluated. Overall, the use of Carisolv (14 of 16 studies), Papacarie (5 of 7 studies) and Carie-Care® (2 of 2 studies) did not report a negative impact on the BS of AS to dentin.

Conclusion: In conclusion, the use of CMCR agents prior to AS application was safe for dentin bonding procedures. The impact of Carie-Care® on the BS of AS to dentin needs further research.

#### IMPACT OF THE COVID-19 PANDEMIC ON DENTAL EDUCATION: COMPREHENSION OF STUDENTS AND PROFESSORS

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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: This study aimed to evaluate the perception and feelings experienced by dentistry students and professors about distance learning during the COVID-19 pandemic.

## All abstracts appear as submitted by the authors without editing

**Method:** Fifty-two students and fifty professors reported the perceptions and implications of distance learning imposed by the pandemic of COVID-19. The participants' responses were analyzed using the qualitative-quantitative method of the collective subject's discourse. The answers were summarized in central ideas and distributed in absolute and relative frequency, obtaining the discourse of the collective subject.

**Results:** The similar core ideas were: suitable for didactic courses; limited laboratory and clinical courses, and internet access difficulties. Specifically for students: it was applied to all courses; fundamental to guide studies; demotivating; professors' commitment; long lectures; excessive school activities; difficult attendance control and evaluation; comfort of being at home. For the professors: a complement to classroom teaching; stress and learning with digital technologies; difficulty in reconciling classes with domestic activities; concerns with motivation and interaction with students; asynchronous lectures favor knowledge fixation, and synchronous lectures favor interaction with students; unreliable assessment methods; concern about returning to face-to-face classes.

**Conclusion:** In conclusion, students found it discouraging due to the absence of practical classes and excessive school activities. Professors consider distance learning as a learning opportunity on how to use digital technologies but too limited for lab and clinical activities and interaction with students.

**IMPORTANCE OF ORAL MICROBIOTA FOR THE SURGE OF DENTAL PROBLEMS**  
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PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** To know the oral microbiota, for the appearance of dental problems in man.

**Method:** A literature review was carried out by searching the databases: Scielo and Virtual Health Library, with the inclusion criteria: scientific articles dealing with the theme.

**Results:** The oral cavity has a great diversity of microorganisms. The oral microbiota is normally in harmony with the host, but under abnormal conditions it has the potential to generate serious oral and systemic infections. A disturbance of this balance leads to an increase in pathogenic microorganisms and a decrease in symbiotic microorganisms, causing oral disorders, such as periodontal disease or dental caries. Observing that depending on the extent of this disorder, it may affect, in a uni or bidirectional way, other systems of the human body. The factors that stand out are temperature, pH, presence of oxygen (potential oxidation-reduction), nutrients (endogenous and exogenous) and the defense of the organism. These factors are important in the health-disease binomial.

**Conclusion:** In view of this, the oral microbiota has an influence on the health-disease binomial, especially on oral health by acting both in maintaining balance and in the origin of various oral diseases.

**IMPORTANCE OF THE DENTIST SURGEON'S PERFORMANCE IN THE QUALITY OF LIFE OF PATIENTS WITH CANCER**  
SILVIA MILENA MARTINS; ISIANNE KELLY MOURA CERQUEIRA; LÍGIA MORENO DE MOURA  
POTIGUAR UNIVERSITY

**Aim:** This work intends to discuss the consequences of oncological treatment in the oral cavity and the role of the dental surgeon in optimizing the quality of life of these patients.

**Method:** This is an integrative literature review and the electronic databases Google Scholar and Scielo were used. The descriptors used to select articles published between 2010 and 2020 were "oncology", "oral cavity" and radiotherapy". These articles responded to the goal.

**Results:** Oncological treatment causes several oral and systemic complications, among which we can highlight mucositis, xerostomia, herpes, dysphagia, candidiasis and osteoradionecrosis. Mucositis is the most common adverse reaction, this injury generate discomfort to the patient for presenting itself in different degrees, causing pain and compromising his nutritional capacity. These changes when not followed by the dentist surgeon affect buccal hygiene and can become the main reason for the patient's removal from oncological treatment. To improve the quality of life during this process, it is necessary for the dental surgeon to carry out prophylaxis, removal of infectious foci, oral hygiene guidance and laser therapy to combat oral mucositis.

**Conclusion:** It was realized that chemotherapy and/or radiotherapy can generate problems for the patients' buccal health, being important the presence of the dental surgeon in the team responsible for their care, to prevent, diagnose and treat the complications that may arise in the oral cavity, seeking to provide a better quality of life for patients.

**IMPORTANCE OF THE IDENTIFICATION PROCESS BASED ON DENTAL CHARACTERISTICS**  
MARCO AURELIO CASCIANO BARHUN; DANIELE MANHÃES CALDAS; DAGMAR DE PAULA QUELUZ  
PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** To demonstrate the importance of the identification process based on dental characteristics.

**Method:** This is a bibliographic review with a survey of articles indexed in the Scielo and Google academic data-bases.

**Results:** It is considered that the application of forensic medicine in humanitarian actions, mainly in the occurrence of conflicts or disasters, is known as humanitarian forensic action. This action aims to minimize human suffering and preserve the dignity of the victims. In addition to this function, forensic identification is essential when it comes to issues in the civil and criminal fields. The identification of remains can be achieved through techniques used by forensic anthropology, fingerprinting, forensic dentistry, radiology and DNA analysis. However, in those cases of very mutilated, carbonized and decomposed bodies, due to the great resistance of the dental structure, forensic dentistry occupied a prominent position.

**Conclusion:** Identification through dental characteristics is considered one of the most well-known and calculated scientific methods. This technique is based on the comparison and exclusion of antemortem and postmortem characteristics.

**IN VITRO AND IN VIVO EVALUATION OF THE OSTEOGENIC POTENTIAL OF CELL MEMBRANES ENRICHED WITH CD146 SURFACE MARKER**  
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PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** In vitro studies point to a greater osteogenic potential for undifferentiated cells of the periodontal ligament (PDL) that express the CD146 marker. The aim of this study was to

develop cell membranes from PDL-CD146+ cells and to evaluate, in vitro and in vivo, the potential for osteoblastic differentiation and formation of mineralized matrix.

**Method:** Human cells PDL-CD146+ and PDL-CD146- were cultured under standard and specific conditions for cell membranes formation. After 14 days, the membranes were evaluated for cellular metabolic activity, osteoblastic differentiation and gene expression of RUNX2, BMP2, ALP, OCN and COL1 (qRT-PCR). Thirty rats were submitted to calvaria defect surgery and were randomly allocated to groups: a) Defect filled with blood clot b) with PDL-CD146+ cell membrane and c) with PDL-CD146- cell membrane. They were euthanized 30 days after surgery to evaluate bone neoformation (micro-CT).

**Results:** The results showed that the PDL-CD146+ membranes show greater metabolic activity, formation of mineralized matrix and high levels of osteogenic genes mRNA in comparison to the standard condition and PDL-CD146- membranes (p < 0.05). Micro-CT data revealed PDL-CD146+ membranes have significantly new bone formation than PDL-CD146- (p < 0.01). However, there was no difference between defects filled with PDL-CD146+ cells and blood clot.

**Conclusion:** These data suggest that PDL-CD146+ membranes conserve osteogenic potential and cellular metabolic activity, although the ability to induce bone neoformation is compared to blood clots.

**IN VITRO EFFECT OF SIMULATED TOOTH BRUSHING-CHILD MOUTH RINSE CYCLING ON PHYSICAL PROPERTIES OF GLASS IONOMER CEMENT**  
LOUISE SANTOS DE MAGALHÃES; NATYLA MAYSA DE LIMA SILVA; ISABELLA AZEVEDO GOMES; MARCO AURÉLIO BENINI PASCHOAL  
FEDERAL UNIVERSITY OF MINAS GERAIS – UFMG, BELO HORIZONTE - MG, BRAZIL.

**Aim:** The present study investigated the erosive potential of child mouth rinse on glass ionomer cement (GIC) samples after simulated tooth brushing.

**Method:** Forty round-shaped samples of GIC were divided into 3 groups: G1- cetylpyridinium chloride, G2- xylitol and triclosan and G3 - Malva sylvestris and xylitol and G4 - distilled water as control group. Prior to the main tests, the samples were submitted to the surface roughness measurement (Ra) and weight analysis (W). Afterward, they were twice brushed 2' / day during 15 days and immersed in mouth rinses after the last daily brushing. The final surface roughness (R2) and weight (W2) were done after completing the tooth brushing-mouth rinse cycling and calculation of the real roughness increase (DRa) and real weight loss (DW) were performed with stereoscopic images taken at 30X magnification. The data was analyzed by one-way ANOVA and Tukey-test post hoc for intergroup comparison and the T-test for dependent samples as well (α = 0.05).

**Results:** Only G2 group increased the roughness Δ Ra (1.53 ± 0.94). On the other hand, DW values were not significant. Yet, evident cracks and voids were verified for all tested child rinses.

**Conclusion:** Thus, child mouth rinse containing xylitol / triclosan increased the GIC roughness, especially when associated with brushing.

**IN VITRO EVALUATION OF COLORIMETRIC AND INTRAPULPAL TEMPERATURE VARIATIONS SUBMITTED TO VIOLET LED IN-OFFICE BLEACHING**  
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PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** This study evaluated, temperature variation (Δ T), color (Δ E00) and whiteness index (Δ WID) changes promoted by the violet LED combined or not with bleaching agents containing 35% hydrogen peroxide (HP) or 37% carbamide (CP).

**Method:** Bovine incisor crowns were distributed in 6 groups (n = 5): LED, LED-CP, LED-HP, HP, CP, Control (C). All crowns were stained with black tea for 24 h. The bleaching was performed in three sessions, except for the LED group, irradiated in 8 sessions. LED, LED-HP and LED-CP groups were irradiated 20 times of 60 s at 30-s. In the HP and CP groups, the agents were applied continuously for 30 m. C, received no treatment. Type K thermocouple probe was inserted into the pulp chamber to assess Δ T. Δ E00 and Δ WID were measured by digital spectrophotometer, using parameters L\*, a\*, b\*, before and after the treatments.

Δ E and Δ WID data were analyzed by two-way ANOVA and Tukey, while the Δ T data by Kruskal-Wallis and Mann-Whitney (α = 5%).

**Results:** LED did not enhance the Δ E and Δ WID promoted by HP, but there was an increase in Δ E and Δ WID for the LED-CP. LED-CP and LED-HP exhibited the same colorimetric changes (p > 0.05). LED displayed Δ E and Δ WID lower than LED-PH and LED-CP; but greater than C (p < 0.05).

**Conclusion:** There was a higher Δ T in the groups irradiated, being the average Δ T 5.9 ° C (LED), 6.7 ° C (LED-CP) and 7.0 ° C (LED-HP). Therefore, the LED increased the bleaching efficacy of CP, however, it promoted a significant increase in the intrapulpal temperature compared to the groups without LED.

**IN VITRO EVALUATION OF EXPERIMENTAL DENTIFRICIES CONTAINING XYLITOL, ERYTHRITOL AND SODIUM TRIMETAPHOSPHATE IN DENTAL DEMINERALIZATION**  
LETÍCIA GONÇALVES OLIVEIRA; ALBERTO CARLOS BOTAZZO DELBEM; JULIANO PELIM PESSAN; FRANCYENNE MAIRA CASTRO GONÇALVES; NAYARA GONÇALVES EMERENCIANO; MARCELLE DANELON  
UNAERP

**Aim:** The objective of this in vitro study was to evaluate the capacity of a dentifrice formulation with reduced concentration of fluoride (F) (200 ppm) supplemented with xylitol (X: 16%), erythritol (E: 4%) and sodium trimetaphosphate (TMP: 0.2%) in reducing tooth enamel demineralization.

**Method:** Bovine blocks (n = 84) were selected using the initial surface hardness (SHi) and then divided into 7 groups of dentifrices (n = 12): 1) without F-X-E-TMP (Placebo); 2) 16% Xylitol + 4% Erythritol (X-E); 3) 16% X + 4% E + 0.2% TMP (X-E-TMP); 4) 1100 ppm F (1100F); 5) 200 ppm F (200F); 6) 200F + 0.2% TMP (200F-TMP) and 7) 200F + 16% X + 4% E + 0.2% TMP (200F-X-E-TMP). The blocks were treated twice a day with toothpaste, being subjected to 5 pH cycles for 7 days. After pH cycling, the percentage of loss of surface hardness (% SH), integrated loss of subsurface hardness (&#8710;KHN) and polarized light microscopy for lesion analysis (MLP), formed by the cycling model, was determined of pH. The data were submitted to ANOVA 1 criterion, followed by the Student-Newman-Keul's test (p < 0.001).

**Results:** Treatment with 200F-X-E-TMP reduced by approximately 39% and 43 to% SH when compared to treatments 200F-TMP and 1100F (p < 0.001). In addition, the ability to reduce the body of the lesion (&#8710;KHN, MPL) was ~ 65% greater with 200F-X-E-TMP when compared to X-E (p < 0.001).

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**Conclusion:** It is concluded that the association of sodium trimetaphosphate, xylitol and erythritol with a dentifrice with reduced fluoride concentration, produced a greater protective effect against demineralization when compared to toothpaste 1100F.

#### IN VIVO ANALYSIS OF CD90+/CD73+/CD105+/CD45- CELLS IN THE PULP AFTER OXIDATIVE STRESS PRODUCED BY BLEACHING GEL

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FEDERAL UNIVERSITY OF MINAS GERAIS

**Aim:** This study evaluated the influence of oxidative stress generated by H<sub>2</sub>O<sub>2</sub> in the identification of mesenchymal stem cells in pulp tissue, with CD90, CD73, and CD105-positive cells. The CD45 was used as a negative marker.

**Method:** The right or left upper molars of 50 Wistar rats were bleached with 35% H<sub>2</sub>O<sub>2</sub> for 30 min. Non-bleached molars served as control. The rats were killed after 2, 3, 7, 15 and 30 days (n = 10), and the maxillae were processed for histological and immunofluorescence analysis (CD90, CD73, CD105, and CD45 markers). Scores were attributed to inflammatory infiltrate and counting of CD90+/CD73+/CD105+/CD45- cells was performed.

**Results:** The results were assessed using the Paired t-test or Wilcoxon signed-rank test (P < 0.05). After 2 and 3 days, necrosis in the occlusal third of the coronal pulp of bleached specimens was observed, with an underlying inflammatory infiltrate (P < 0.05). At 7, 15 and 30 days, there was no inflammation, similarly as in the control group (P > 0.05). Tertiary dentin and new odontoblasts-like cells were observed at 7 days, increasing at 15 and 30 days (P < 0.05). A low number of the CD90+/CD73+/CD105+/CD45- cells was observed in the pulp tissue of the control and bleached groups, at all periods (P > 0.05).

**Conclusion:** In conclusion, pulp tissue is able to recover, even after damage caused by H<sub>2</sub>O<sub>2</sub>; however, the presence of oxidative stress did not influence the number of CD90+/CD73+/CD105+/CD45- cells identified in vivo in the dental pulp.

#### IN-OFFICE BLEACHING WITH VIOLET LED AND FLUORIDE 20% CARBAMIDE PEROXIDE IN SIMULATED ERODED/ABRADED BOVINE TEETH

SAMUEL DA SILVA PALANDI; MATHEUS KURY; MAYARA ZAGHI DAL PICCOLO; CAMILA SIQUEIRA DA SILVA COELHO; PAULO VICTOR CAMPOS FERREIRA; VANESSA CAVALLI  
PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** To evaluate the effects of in-office bleaching protocols with a violet LED combined or not with fluoride (F) 20% carbamide peroxide in bovine enamel submitted to erosion/abrasion (E/A).

**Method:** Enamel/dentin bovine blocks (7x4mm) were stained with black tea, submitted to E/A cycling simulating an initial E/A stage, and randomly distributed into bleaching groups (n=10): 1) CP, 2) LED/CP, 3) CP\_F, 4) LED/CP\_F, 5) LED and 6) Control (maintained in artificial saliva - pH 7.0). Color (ΔE00) and whiteness index (ΔWID) changes were evaluated by means of a digital spectrophotometer. Percentage recovery of surface microhardness (%SMHR) was evaluated under a microhardness tester, and surface roughness of enamel (Ra) under a rugosimeter. Values were obtained before cycling (baseline), after E/A and 7 days elapsed from bleaching. Data were submitted to two-way ANOVA and Tukey test (α = 5%).

**Results:** All protocols presented perceivable ΔE00, but LED exhibited ΔE00 and ΔWID similar to C (p>0.05). LED significantly enhanced the ΔE00 and ΔWID of CP, and the ΔE00 of CP\_F. The addition of F in the gel did not change the bleaching potential of CP (p>0.05). CP\_F presented higher %SMHR than the LED alone (p<0.05). None bleaching protocol increased the Ra of eroded/abraded enamel.

**Conclusion:** Violet LED alone was not effective to bleach teeth as the CP-containing protocols. On the other hand, LED increased the effectiveness of CP\_F, which in turn could benefit the eroded/abraded enamel surface when submitted to bleaching.

#### INCIDENCE OF COVID-19 IN DENTAL SURGEONS IN BRAZIL

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STATE UNIVERSITY OF SOUTHWEST OF BAHIA- UESB

**Aim:** On March 11, 2020, the World Health Organization announced as a pandemic the COVID-19 disease, which arises from the coronavirus SARS-CoV2. The comprehension of the illness evolution pointed out that dental surgeons are the professionals with a major risk of contamination. This study detected the incidence of COVID-19 in dental surgeons in Brazil.

**Method:** The assessed worksheets were collected from the Ministry of Health platform coming from the e-SUS Notification system, which registers the suspected cases of the flu-like syndrome from COVID-19, on September 4, 2020. After downloading each state's worksheet, individuals who reported working as a dental surgeon in the registry were identified and listed in another worksheet designed to calculate the illness incidence across Brazil. Information assessment enabled the identification of suspected cases and the ones with positive, negative results and without information in the diagnostic tests (rapid antibody test and RT / PCR).

**Results:** The outcomes displayed until the examined date showed that 35,065 dental surgeons with suspected COVID-19 were registered in Brazil, with 5,898 positive cases, 22,358 negative cases, and 6,809 cases without any information on the test's result. Of the positive cases, 3,838 (65.1%) were female and 2,060 (34.9%) were male. The incidence rate among these professionals was 1.67%.

**Conclusion:** It is not feasible to link the incidence of COVID-19 to the working practice. The follow-up of COVID-19 cases in dental surgeons is essential in virtue of the risks that these professionals are exposed to and also to enhance the preventive actions in their everyday tasks.

#### INCIDENCE OF POSTPARTUM DEPRESSION AMONG PUERPERAL WOMEN ATTENDED IN A BREASTFEEDING INCENTIVE PROGRAM

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**Aim:** Postpartum depression is the most common mental disorder that affects women in this period of their life. This study aimed to investigate the prevalence of depressive symptoms in women attended in a breastfeeding incentive program at the Dental School of Piracicaba during the first 30 days postpartum.

**Method:** To investigate symptoms of depression, participants responded to the Edinburgh Postpartum Depression Scale (EPDS) and a questionnaire to collect economic and sociodemographic information. The association between depression symptoms and economic

and sociodemographic variables was tested using a bivariate analysis (significance level of 5%).

**Results:** 58 puerperal women (median age: 32 years) participated in this study, most of them with first pregnancy, married or in a stable relationship, with an income of up to four minimum wages and complete higher education. Almost 45% of this sample had symptoms of depression.

**Conclusion:** There was no significant association between the presence of symptoms of depression and socioeconomic and demographic variables for this sample. However, there was a high prevalence of women with symptoms of depression. This may indicate the need for psychological assistance to these women, in order to assist them in coping with depression and its consequences.

#### INCIDENCE OF THE ANATOMICAL VARIATIONS OF MENTAL FORAMEN IN HUMAN MANDIBLES OF A BRAZILIAN SAMPLE

LUCIANE NAOMI OGUMA WATANABE; ALEXANDRE RODRIGUES FREIRE; JULIANA HADDAD; PAULO ROBERTO BOTACIN; FELIPPE BEVILACQUA PRADO; ANA CLÁUDIA ROSSI

PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** The aim of the study was to evaluate the incidence of accessory and double mental foramina in human mandibles from a Brazilian sample.

**Method:** This study analysed 100 dry human mandibles, both sexes, 18 to 60 years old. The foramina were evaluated considering the morphology of the foramen in septate (double mental foramen) or dimensionally smaller than the main foramen (accessory mental foramen). The evaluations were performed by a single evaluator, previously calibrated. All data were analyzed using the GraphPAD Prism v.8 software (San Diego, CA, USA). Descriptive statistics (in %) and the chi-square test (χ<sup>2</sup>) were performed to compare the incidence of each foramen between the sexes and the sides. The probability value ≤ 0.05 was defined as the level of significance.

**Results:** Of the 71 male mandibles, the incidence was 16.9% for the accessory mental foramen, and 22.53% for the double mental foramen. Of the 29 female mandibles, the incidence was 10.34% for the accessory mental foramen, and 24.13% for the double mental foramen. There was 12% of the accessory mental foramen on the right side and 3% on the left side. 11% of the double mental foramen on the right side and 12% on the left side. The chi-square test revealed that there was no statistically significant difference for both sex (0.7066) and for the side (0.0818).

**Conclusion:** Even without showing correlation between sexes and sides, the incidence of accessory and double mental foramen in the studied sample was considerable, and it should be considered given the importance of knowledge of the anatomy of these foramina during the execution of anesthetic and surgical procedures in Dentistry.

#### INCORPORATION OF ANTIMICROBIAL AGENTS IN RESIN COMPOSITES- LITERATURE REVIEW

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METROPOLITAN UNIVERSITY OF SANTOS

**Aim:** This literature review was produced to determine alternatives to incorporate antimicrobials in restorative composites, presenting their effectiveness, advantageous characteristics, and limitations.

**Method:** In this way, a literature review was carried out based on the systematic search of scientific articles, on data bases PUBMED, Scielo and Lilacs, considering the terms "resin composites", "antimicrobials", "antimicrobial monomers".

**Results:** It was observed that several antimicrobial agents have been tested for incorporation in restorative composites. Among them, chlorhexidine and triclosan stand out due to their effective action in inhibiting the growth of S. mutans. However, despite their immediate effectiveness, these agents are soluble, and therefore they are released in the oral environment, generating a reduction in antimicrobial activity over time and a reduction in chemical stability and mechanical properties of materials. On the other hand, antimicrobial monomers such as methacryloyloxidodecylpyridinium bromide (MDPB), triclosan methacrylate (MT) and polymerizable monomers of quaternary ammonium salts have been incorporated to be part of the polymeric structure, acting by contact on wing action on dental biofilm. MDPB has a bacteriostatic effect, reducing the adhesion of Streptococcus. MT can decrease the virulence of S. mutans, presenting efficient copolymerization with BISGMA/TEGDMA.

**Conclusion:** Giving that, the most suitable way to incorporate antimicrobial agents into resin composites is in the monomeric form, allowing a more prolonged action, without harm the mechanical properties and the chemical stability of the materials.

#### INFECTED INFLAMMATORY RADICULAR CYST: A CASE REPORT

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STATE UNIVERSITY OF LONDRINA

**Aim:** The inflammatory radicular cyst is a lesion frequently found in the jaws closely associated with the root apex of a tooth endodontically compromised by pulp tissue necrosis. Such lesion is commonly asymptomatic with slow development and is found on routine periapical or panoramic radiographs. However, they can become painful when infected, with individualized therapy for each case based on the correct diagnosis, obtained from a detailed clinical examination, adequate imaging tests and anatomopathological evaluation.

**Case Report:** Male patient, 49 years old, who attended with the complaint of pain in the jaw, swelling in the hard palate and drainage of purulent secretion located between elements 12 and 13. The patient had undergone periapical radiography in another service that found the presence of a large periapical lesion associated with teeth 11, 12, and 13 referred him. Thus, computed tomography of the region was requested to assess the extent of the cyst and the patient was previously medicated with amoxicillin + 500mg clavulanic acid for 7 days before undergoing surgical therapy. After remission of the acute infectious condition, the cyst was enucleated under local anesthesia and the specimen was sent for anatomopathological analysis, confirming the diagnosis of an inflammatory periapical cyst.

**Conclusion:** As the inflammatory radicular cyst is a common lesion susceptible to complications such as local infection, the dentist must be able to perform the correct diagnosis and treatment plan.

#### INFLUENCE OF CLINICAL AND MICROSCOPICAL FEATURES ON THE SEVERITY OF ORAL LICHEN PLANUS

VICTORIA CAROLINA POSTIGO; ERIKA TERUMI TOMISAKI; MATHEUS BRUNO COSTA; FABIO AUGUSTO ITO; HELITON GUSTAVO DE LIMA; ADEMAR TAKAHAMA JÚNIOR



## All abstracts appear as submitted by the authors without editing

## STATE UNIVERSITY OF LONDRINA

**Aim:** The aim of this study was to compare clinical and histopathological features between patients with reticular and erosive oral lichen planus.

**Method:** Thirty-two patients with OLP were included and clinical data was obtained from the medical charts. Histopathological slides were analyzed and a histomorphometric evaluation was performed for hyperkeratosis, thickness of the epithelial layer, thickness and density of the lymphocytic infiltrate. Data were statistically analyzed using univariate models relating the OLP clinical subtype with the main findings

**Results:** Thirty-two patients were included in this study, mostly woman with a mean age of 54 years. Ten patients had previous harmful habits, 28 had the diagnosis of systemic diseases, and 23 reported continuous use of some medication. Reticular subtypes were found in 14 patients and erosive in 18. Comparing the two groups, patients who reported previous harmful habits, developed less erosive form of the disease (20% vs 70%;  $p=0.01$ ). Besides, all cases located in the gingiva were erosive ( $p=0.001$ ). The morphometric analysis did not show any difference between the two groups.

**Conclusion:** According to our results, all cases of OLP with gingival involvement were erosive and the microscopic features do not seem to influence the clinical severity of the disease.

## INFLUENCE OF DIABETES MELLITUS ON MINERALIZATION MARKER ON PULP TISSUE OF RATS AFTER DENTAL BLEACHING

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SCHOOL OF DENTISTRY OF UFGM

**Aim:** This study evaluated the influence of diabetes mellitus (DM) in the osteocalcin (OCN) immunolabelling in pulp tissue of rats after dental bleaching.

**Method:** Twenty-eight rats were divided into normoglycemic (N) and diabetic (D) groups. After DM induction, dental bleaching was performed with 17,5% hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) on the right upper molars (30 min). Left molars were used as controls. Bleaching resulted in groups: N, N-bleached (NBle), D and D-bleached (DBle). At 2 and 30 days (n=7), the animals were killed and the hemimaxillae were prepared for histological and immunochemical analysis. Statistical tests were applied ( $P<0.05$ ).

**Results:** At 2 days, necrosis in the occlusal third of the pulp of bleached groups was found; severe inflammation in the middle third of NBle and necrosis in the DBle group; and moderate inflammation in the cervical third of NBle and severe in the DBle group, with no significant difference between groups in this period ( $P>0.05$ ). At 30 days, no inflammation was present, but a tertiary dentine deposition was observed in the bleached groups. At 2 days, there was moderate immunolabelling in the bleached groups and mild in the controls, with difference between the bleached groups and their controls ( $P<0.05$ ). At 30 days, there was no immunolabelling in N and mild in D ( $P>0.05$ ); mild immunolabeling in the DBle and moderate in the NBle groups ( $P>0.05$ ). There was significant difference between N and NBle ( $P<0.05$ ), and not significant between D and DBle ( $P>0.05$ ).

**Conclusion:** In conclusion, DM did not influence the inflammation in pulp of bleached teeth with low H<sub>2</sub>O<sub>2</sub> concentration, but DM reduced OCN immunolabeling in prolonged period.

## INFLUENCE OF DIFFERENT CONCENTRATIONS OF NANOPARTICULATED CALCIUM CARBONATE IN THE PORTLAND CEMENT PROPERTIES

LUIZ FERNANDO MONTEIRO CZORNOBAY; JÉSSICA COELHO WASIELEWSKY; GIOVANNA SLOGO DOS SANTOS; ANARELA BERNARDI; EDUARDO ANTUNES BORTOLUZZI; LUCAS DA FONSECA ROBERTI GARCIA; THAIS MAGESTE DUQUE; CLEONICE DA SILVEIRA TEIXEIRA  
FEDERAL UNIVERSITY OF SANTA CATARINA

**Aim:** Portland cement has been extensively researched due to its similarity to MTA and lower cost. The aim of this study was to evaluate the addition of different concentrations of calcium carbonate nanoparticles to Portland cement (PC) and its influence on setting time (ST), dimensional change (DC), compressive strength (CS), solubility (SOL) and pH.

**Method:** Portland cement (1g) was handled with distilled water (0.330ml) and NPCC as specified for each group: G1 (PC – no additive); G2 (PC + NPCC 0.5%), G3 (PC + NPCC 1%), G4 (PC + NPCC 2%) e G5 (PC + NPCC 5%). ST was measured using a Gilmore needle. CS and DC mean values were obtained by the measurement of 6 specimens for each group / period using the Instron and digital caliper, respectively. For the SOL test, cement filled teflon rings were weighed hydrated and dehydrated after 24 hours and 30 days. pH was measured in the water where the samples were stored in the DC test. Statistical analysis was obtained by ANOVA and Tukey tests ( $\alpha = 5\%$ ).

**Results:** Groups G2, G3, G4 and G5 presented significant reduction ( $p < 0.05$ ) in the ST in relation to the control group (G1). The CS after 24h in G1 was similar to the G2 and G3 groups, and superior to the G4 and G5 groups ( $p < 0.01$ ). After 30 days, a reduction of the mean values of CS was observed in the G1, G2, G3 and G4 samples ( $p0.05$ ). In the pH test, a significant reduction in G3 samples ( $p<0,05$ ) was observed after 30 days, with similar values to G1 and G4.

**Conclusion:** The addition of NPCC to PC influenced on some of the cement's properties. ST and CS decreased, and pH reduced on G3 in 30 days, SOL and DC had no significant difference between groups.

## INFLUENCE OF ENVIRONMENTAL CONDITIONS ON THE DIGITAL RADIOGRAPHIC DETECTION OF FRACTURED ENDODONTIC FILES

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PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** The aim of this study was to assess the influence of environmental conditions such as horizontal viewing angle (HVA) and ambient lighting on the radiographic detection of fractured endodontic files.

**Method:** Twenty-three mandibular molars (32 root canals) had the root canals filled and were divided into two groups: with or without a fractured endodontic file. Periapical radiographs in orthoradial, mesioradial, and distoradial projection angles were performed, totaling 69 images. Five oral radiologists examined the radiographic images for the detection of a fractured endodontic file under nine different viewing conditions of HVAs (90, 67.5 and 45 degrees) and ambient lighting (Low - 2.5lux; medium - 28lux; high - 450lux). After 15 days, 30% of the sample was reassessed. The values of area under the receiver operating characteristic curve (AUROC), sensitivity, and specificity were obtained and compared by analysis of variance (ANOVA) ( $\alpha = 0.05$ ). The intra- and interobserver agreements were verified using the Kappa test.

**Results:** The HVA and ambient lighting did not significantly influence the detection of fractured endodontic files. In general, AUROC values were around 0.70, as a result of the low sensitivity and high specificity (around 0.45 and 0.90, respectively). Mean intra- and interobserver agreements were substantial (0.70) and moderate (0.49), respectively.

**Conclusion:** The viewing conditions assessed in this study did not influence the detection of fractured endodontic files on digital radiographic images. Dental practitioners are encouraged to find their most comfortable viewing condition for this diagnostic task

## INFLUENCE OF IMAGING FILTERS OF DIGITAL RADIOGRAPHS ON THE DIAGNOSIS OF SIMULATED INTERNAL AND EXTERNAL ROOT RESORPTIONS

LARISSA DE OLIVEIRA REIS; NICOLLY OLIVEIRA-SANTOS; HUGO GAÉTA-ARAÚJO; WILSON GUSTAVO CRAL; EDUARDA HELENA LEANDRO NASCIMENTO; CHRISTIANO OLIVEIRA-SANTOS; FRANCISCO CARLOS GROPPPO  
PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** The aim was to assess the influence of different enhancement filters in two digital radiographic systems in the detection of internal (IRR) and external (ERR) root resorption.

**Method:** The sample was composed of thirty-four single-rooted teeth. Fourteen teeth were used for IRR and the simulation was performed through of mechanical and biochemical processes in the middle third of the root. For the ERR, twenty teeth were used. Ten of them received a demineralizing solution in the apical third of the roots. Teeth were individually inserted in a dry human mandible, and images were acquired using two digital radiographic systems: Digora Toto (Soredex) and VistaScan (Dürr). The enhancement filters provided by the systems was applied in the images. Then, images were randomly assessed by 5 oral radiologists for the detection of the root resorptions. Diagnostic values were calculated and compared within the filters according to one-way ANOVA ( $\alpha = 5\%$ ).

**Results:** For IRR, the noise reduction filter had a significantly higher sensitivity value ( $p<0.05$ ) in Digora Toto, presenting the same value as the original image. The sharpen 2 filter had a lower sensitivity value than others in this same system ( $p<0.05$ ). There was no significant difference among the filters in IRR diagnostic values in the VistaScan radiographic system ( $p>0.05$ ). For ERR, there was no significant difference among filters in both systems ( $p>0.05$ ).

**Conclusion:** The use of digital enhancement filters does not increase the diagnostic values when compared to the original image. The sharpen 2 filter seems to lower the sensitivity of IRR detection in the Digora Toto radiographic system.

## INFLUENCE OF SPATIAL RESOLUTION OF DIGITAL RADIOGRAPHS ON THE DIAGNOSIS OF INTERNAL AND EXTERNAL ROOT RESORPTIONS

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PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** To assess the detection of internal (IRR) and external root resorption (ERR) using digital radiography of different systems with varying spatial resolutions.

**Method:** Thirty-four single-rooted teeth were selected to compose the study sample. The same 14 teeth served as control and IRR since the images were acquired prior and after IRR simulations. For ERR, the lesion was simulated in 10 teeth and 10 additional teeth were selected as control. Both root resorption simulations were achieved through a demineralization process. Teeth were individually inserted in a dry human mandible, and images were acquired using three digital radiographic systems: Digora Toto (14.3 lp/mm; Soredex, Finland), Digora Optime (26.3 lp/mm; Soredex, Finland), and VistaScan (Dürr Dental, Germany) with 3 different spatial resolutions (20, 25, and 40 lp/mm). Images were randomly assessed by 5 oral radiologists for the detection of the root resorptions. Diagnostic values were calculated and compared within the systems ( $\alpha = 5\%$ ).

**Results:** For IRR, there were no significant differences between Digora systems, neither among VistaScan with different resolutions, for any of the diagnostic values ( $p>0.05$ ). For ERR, sensitivity values were significantly higher in Digora Toto than in Digora Optime ( $p<0.05$ ). VistaScan 20lp/mm presented higher specificity than VistaScan 25 lp/mm ( $p<0.05$ ).

**Conclusion:** IRR detection is not influenced by the spatial resolution. On the other hand, Digora Toto was able to detect more ERR lesions compared to Optime, while VistaScan with lower spatial resolution presents better specificity for such lesion compared to other VistaScan resolutions.

## INFLUENCE OF STERILIZATION PROCEDURES ON STRUCTURAL CHANGES AND PERFORMANCE OF DENTAL IMPLANTS DRILLS: IN-VITRO STUDY

DANIEL AMARAL ALVES MARLIÈRE; GUSTAVO ALMEIDA SOUZA; FRANCISCO CARLOS GROPPPO; LUCIANA ASPRINO; LUCIANA ASPRINO  
PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** An experimental in-vitro study evaluated the influence of sterilization cycles on run-out of dental implant drills using Scanning Electron Microscope (SEM) and Energy-Dispersive X-ray spectroscopy (EDX).

**Method:** Cutting efficiency was evaluated by analyzing torque and load values during drilling at different depths. Forty-eight 2.0 mm twist mills (Neodent®, Curitiba, Brazil) were selected and randomly divided into six groups (N = 8) according to the amount of sterilization cycles, such as, control group: no cycles; Group 1 (G1): 20 cycles; Group 2 (G2): 40 cycles; Group 3 (G3): 60 cycles; Group 4 (G4): 80 cycles; and, Group 5 (G5): 100 cycles. Before and after the cycles, all drills of the groups 1, 2, 3, 4 and 5 were analyzed by SEM and EDX to compare each other. The mechanical test was performed all groups after the cycles, and the torque and load results were compared to the control group. Two-way ANOVA analysis with post-hoc Tukey's and Pearson coefficient tests were used at a level of 5% significance.

**Results:** The SEM analysis showed no significant changes in the drills microgeometry. From results of the ANOVA analysis, there were no significant changes in the chemical composition of the drills after the sterilization cycles. There was no statistical difference (ANOVA,  $p = 0.0821$ ) between the peak load values in the different numbers of cycles. Pearson's coefficient demonstrated that there was no correlation between the peak load obtained and other variables.

**Conclusion:** According to the method, up to 100 cycles of sterilization process did not significantly influence the performance of the drills.

## INFLUENCE OF THE BODY MASS INDEX ON THERMOGRAPHY ASSESSMENT OF THE MAXILLOFACIAL REGION

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## All abstracts appear as submitted by the authors without editing

**Aim:** This study aimed to assess the influence of the body mass index (BMI) on infrared thermography assessment of the maxillofacial region's selected region of interests (ROI).

**Method:** This cross-sectional study sample consisted of 85 patients' s thermographic exams, acquired at the Infrared thermography lab of the State University of Piracicaba (UEPB), in a fixed temperature ( $\pm 23^{\circ}\text{C}$ ) and relative humidity ( $<60\%$ ) environment. The sample was divided into two groups, according to the patients' s BMD values: patients with an adequate BMI values ( $\geq 18,5$  a  $<24,9\text{kg/m}^2$ ):  $n=45$ ; and overweight patients ( $\geq 25\text{ kg/m}^2$ ):  $n=40$ . The thermal data of the ROIs obtained from lateral norm thermograms of the referred patients were assessed by one previously calibrated observer, using FLIR Tools 6.4 software. Data were statistically analyzed comparing the mean thermal values of the studied ROIs using Student's T-test.

**Results:** The Anterior Temporal, Medium Masseter and Lower Masseter regions presented significant lower thermal mean values for the overweight patient group. When analyzing the dimensionless temperature between the groups, the masseter muscle region (middle and lower third) showed a significant decrease in temperature.

**Conclusion:** BMI can influence the thermal analysis of the head, as the subcutaneous fat decreases the local skin temperature; therefore, it is important to consider this variable at the time of maxillofacial diagnosis.

#### INFLUENCE OF THE THICKNESS OF CAD-CAM MATERIALS ON THE MECHANICAL PROPERTIES OF A LIGHT-CURED CEMENT

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PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** This study evaluated the influence of the thickness of hybrid materials of the CAD-CAM system on the microhardness and flexural strength of a light-cure resin cement.

**Method:** Samples of different thicknesses (0, 0.5, 1 and 1.5 mm) were made with three hybrid materials - polymer-infiltrated ceramic network (Vita Enamic), nanoceramic resin (Lava Ultimate), nanohybrid resin (Brava) - and one zirconia-reinforced lithium silicate ceramic (Celtira Duo). Specimens of resin cement (All Cem Vennier) were light-cured (1000 mW / cm<sup>2</sup> for 40 s, Valo, Ultradent) through each indirect material and thickness ( $n=10$ ). The microhardness and flexural strength of the resin cement were determined and submitted to Anova (two-way) and Tukey HSD test ( $\alpha = 5\%$ ).

**Results:** 1.5 mm-thick Vita Enamic, Lava Ultimate, Celtira-Duo, and 1.0 mm-thick Brava samples reduced microhardness of the resin cement compared to direct light-curing (0 mm) ( $p < 0.05$ ). Vita Enamic and Celtira-Duo did not influence the flexural strength of resin cement, regardless of the thickness ( $p > 0.05$ ). The flexural strength of the cement light-cured through Lava Ultimate was higher than that of the other materials but decreased with the 1 mm-thick samples ( $p < 0.05$ ).

**Conclusion:** In conclusion, the microhardness of the resin cement decreased when light-cured through 1.0 mm (Brava) and 1.5 mm-thick (Vita, Lava, and Celtira) indirect materials. The flexural strength of the resin cement was not influenced by the thickness of Celtira and Vita Enamic, but it reduced when light-cured through 1.0 mm (Lava Ultimate) and 1.5 mm - thick (Brava) materials.

#### INFLUENCE OF Voxel SIZE AND ENHANCEMENT FILTERS ON SECONDARY MESIOBUCCAL CANALS DETECTION USING CBCT IMAGES

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PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** This study aimed to assess the influence of voxel size and enhancement filters in the diagnostic accuracy of secondary mesio buccal (MB2) canals detection using cone-beam computed tomography (CBCT) images.

**Method:** A total of 40 teeth (20 with and 20 without MB2 canals) were scanned using the OP300 CBCT system and three voxel sizes: 0.08 mm, 0.125 mm, and 0.2 mm. Five oral radiologists assessed MB2 presence or absence under three filter application conditions: no filter, sharpen 1x filter, and sharpen 2x filter. The combination of voxel sizes and filters resulted in nine experimental groups. Statistics comprised diagnostic values calculation and area under the Receiving Operating Characteristics curves (Az) comparisons using a general linear model with univariate ANOVA and Tukey's post-hoc test. The tests were performed at a 5% significance level, using the SPSS package v20.0.

**Results:** The highest sensitivity, accuracy, and negative predictive values were found for images acquired using 0.08-mm voxel size and sharpen 1x filter. As for specificity and positive predictive value, the highest values were found for the 0.08-mm voxel size group with no filter. Az values were significantly higher for the 0.08-mm voxel size groups than for the 0.125-mm and 0.2-mm groups ( $p < 0.05$ ). There were no statistically significant differences among the filters used ( $p = 0.22$ ) and for the filter-voxel size interactions ( $p = 0.88$ ).

**Conclusion:** In conclusion, the voxel size influenced the diagnostic accuracy of MB2 canal detection using CBCT images, while enhancement filters did not.

#### INFLUENCE OF WIDE DIAMETER ON CLINICAL PERFORMANCE OF SHORT DENTAL IMPLANTS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** This review investigates the influence of wide diameter on the clinical, radiographic and biological performance of short and extra-short dental implants used for rehabilitation of maxillary posterior regions.

**Method:** For that, a search at the following databases MEDLINE/PubMed, Web of Science, Embase, Scopus, Cochrane, and ClinicalTrials.gov, was performed. Implant survival, implant success, and prostheses success rates data were collected and then submitted to meta-analysis.

**Results:** Eighteen articles were included, being 713 implants from the wide diameter group (WD) and 847 in the regular diameter group (RD). The meta-analysis showed no statistical difference between groups for all outcomes, independently of follow-up time and the arch: implant survival rate (RR 1.00 [0.99; 1.01];  $p=0.91$ ; I<sup>2</sup>= 14%); implant success rate (RR 0.98 [0.91; 1.04];  $p=0.23$ ; I<sup>2</sup>=79%) and prostheses success rate (RR 1.00 [0.98; 1.02];  $p=0.81$ ; I<sup>2</sup>=0%). Only one study reported prosthetic complications: two crown shipping/fracture (WD) and one abutment loosening (RD). The most common biological complication was implant failure by excessive bone loss (WD=4; RD=5). According to Downs and Black, no study was classified as good, being ten classified as poor and eight as fair.

**Conclusion:** Therefore, short and extra-short dental implants do not have an improvement in clinical, radiographic, and biological performance when using wide diameter.

#### INHIBITION OF OSTEOCLAST DIFFERENTIATION AND ACTIVATION BY LEUKOTRIENE B4 LOADED IN MICROSPHERES

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SCHOOL OF DENTISTRY OF RIBEIRÃO PRETO - USP

**Aim:** Leukotriene B<sub>4</sub> (LTB<sub>4</sub>), an eicosanoid derived from arachidonic acid 5-lipoxygenase (5-LO) pathway, is a labile lipid mediator important for host defense. In vivo, apical periodontitis was induced in mice to investigate osteoclast differentiation and signalling in absence of 5-LO. **Method:** In vitro, LTB<sub>4</sub>-MS were prepared using an oil-in-water emulsion solvent extraction-evaporation process. Sterility, LPS contamination, characterization and efficiency of LTB<sub>4</sub> encapsulation were investigated. J774A.1 cells were cultured in the presence of monocyte colony stimulating factor (M-CSF) and ligand for receptor activator of nuclear factor kappa B (RANKL) and then stimulated with LTB<sub>4</sub>-MS. Cytotoxicity was determined by lactate dehydrogenase assay, osteoclast formation by means of the activity of tartrate-resistant acid phosphatase enzyme and gene expression was measured by quantitative reverse transcription polymerase chain reaction to investigate regulation of Alox5, Alox5ap, Acp5, Mmp9, Calcr and Ctsk.

**Results:** We confirmed that 5-LO negatively regulate osteoclastic differentiation in vivo. In vitro Exogenous addition of LTB<sub>4</sub>-MS inhibited osteoclastogenesis induced by MCSF and RANKL. The mechanism of LTB<sub>4</sub>-MS involved induction of Mmp9 gene expression and inhibition of Calcr and Ctsk, without changing Acp5.

**Conclusion:** LTB<sub>4</sub>-MS inhibited differentiation of macrophages into an osteoclastic phenotype and cell activation under M-CSF and RANKL stimulus shedding light on a potential therapeutic strategy to prevent osteoclast differentiation.

#### INTEGRATIVE AND COMPLEMENTARY PRACTICES AND THEIR CONTRIBUTION IN THE DENTAL CLINIC: LITERATURE REVIEW

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UNIVERSITY CENTER OF ANÁPOLIS - UNIEVANGÉLICA

**Aim:** The Unified Health System (SUS) allows full access to 29 integrative and complementary practice procedures (PICs) procedures through primary care in line with Ordinance GM / MS No. 971, of May 3, 2006 and its complementary ones, while the Federal Council of Dentistry recognizes and regulates the dentist's use of reduced oral health practices. The present work aims to identify the contributions of PICs in the dental clinic.

**Method:** Publications indexed in the Scientific Electronic Library Online and Virtual Health Library databases were consulted, where 11 articles of interest for the theme to be studied were selected.

**Results:** It was identified that the most used PICs in dentistry are hypnosis, phytotherapy and homeopathy. The use of these resources in dental treatment acts directly to restore the patient's oral health and to control fear and anxiety during clinical sessions.

**Conclusion:** Therefore, it is concluded that knowing new forms of health promotion and prevention, deviating from the curative perspective so pervaded in the population and moving towards the expansion of care and self-care, shows us the importance of including these practices in the dental clinic and their contribution in the success of dental treatment, since they help in the control of fear and anxiety, act in antimicrobial, anti-inflammatory, healing activities, in addition to providing a holistic, vitalist approach, contemplating the individual as a whole in its biopsychosocial complex.

#### INTERVENTIONAL STRATEGY AGAINST DENTAL IMPAIRMENT-ASSOCIATED BULLYING IN SCHOLARS

SAMARA CATARINO SAMPAIO; UGO GUILHERME ROQUE RINCO; ANA PAULA PEREIRA DA SILVEIRA; MARIA CLARA CORRÊA DE ALMEIDA TEIXEIRA; DENISMAR ALVES NOGUEIRA; ANA BEATRIZ DA SILVEIRA MORETTI; VIVIAN THIEMY SAKAI  
FEDERAL UNIVERSITY OF ALFENAS, MINAS GERAIS, BRAZIL

**Aim:** Dental caries, malocclusions and dentoalveolar traumatic injuries are the most prevalent oral health impairments and considered as contributing factors to the occurrence of bullying among scholars.

**Method:** This study aimed to correlate the oral features from elementary-aged children from Alfenas-MG municipal schools with the answers of a questionnaire of bullying. Dental caries, traumatic injuries, dental discoloration and malocclusion were assessed by a dentist through intraoral photos and correlated to the answers of the questionnaire.

**Results:** Data were statistically analyzed ( $p < 0.05$ ) and 21.2% of the scholars reported to be victims of bullying, mainly due to have "big teeth" (46.5%) and "misaligned teeth" (37.2%). The most frequent oral impairment were the malocclusions (84.7%) and, among these, crowded teeth (37.4%) and posterior crossbite (29.3%).

**Conclusion:** There was no significant correlation between bullying and oral impairments diagnosed by the dentist. It is necessary to elaborate interventional measures in the school community for the prevention of bullying, integrating the school management and the pedagogical coordination, for the complete development and healthy social living of children and adolescents.

#### INVESTIGATION OF A MODIFIED HYDRAULIC CALCIUM SILICATE-BASED MATERIAL - BIO-C PULPO

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PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** Evaluate the physicochemical, biological, and antimicrobial properties of Bio-C Pulpo and compared it to MTA Repair HP and MTA Angelus.

**Method:** The materials were assessed regarding the colour luminosity (L), colour change, radiopacity, setting time, and linear flow. Volumetric filling and volume change were evaluated using microcomputed-tomography ( $\mu\text{CT}$ ). Chemical characterization after 28-day in Hank's Balanced Salt Solution and pH analysis was also undertaken. Cytotoxicity and microbiological assessment was also performed. Shapiro-Wilk, unpaired t-test and Kolmogorov-Smirnov were used for comparisons.

**Results:** Bio-C Pulpo exhibited similar L values to MTA Repair HP after 90 days. All tested materials demonstrated colour change during the analysis and had a radiopacity above 5 mm

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AI. MTA Repair HP set faster than Bio-C Pulpo, while the latter had the highest linear flow. MTA Repair HP had the highest volumetric filling in µCT analysis. Bio-C Pulpo showed the highest alkalinity during all tested periods, and the highest volumetric loss (above 9%) in comparison to MTA Repair HP, and to MTA Angelus. Bio-C Pulpo did not form calcium hydroxide after hydration. MTA Repair HP demonstrated the highest cytocompatibility, and Bio-C Pulpo, the highest cytotoxicity. No inhibition halos for any material and similar higher turbidity values after direct contact were observed.

Conclusion: Additives used in Bio-C Pulpo modified its properties and the absence of calcium hydroxide deposition after hydration and the cytotoxicity of this material is a concern. (FAPESP 2017/05096-7, 2017/18413-0, 2018/16722-9, 2018/06515-6, and 2019/22098-9; CAPES Finance Code 001)

#### INVESTIGATION OF THE LEVELS OF DIGITAL HEALTH LITERACY OF USERS OF PIRACICABA DENTAL SCHOOL AND ASSOCIATED VARIABLES

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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The objective of this exploratory study was to evaluate the levels of digital health literacy of patients at Piracicaba Dental School, as well as to compare these scores with sociodemographic variables.

Method: Patients were approached in the clinic's waiting rooms and asked to answer a sociodemographic questionnaire and another on health behavior, as well as eHeals, an instrument in which subjects provide a subjective view of their skills and knowledge in digital health literacy.

Results: Data were collected from 36 patients and it was observed that most of them were female, with an average age of 47 years, with few years of education and monthly family income from 1 to 3 Brazilian minimum wages. Regarding digital health literacy, scores of the instrument eHeals demonstrated that the highest average was related to questions regarded to know how to use the internet to answer questions and the lowest scores were about "feeling safe to use this information". In the general score, the mean value observed was 34.14. In relation to the questionnaire on health behavior, most of the patients self-rated their oral health as good although they already had to extract some teeth due to pain/carries.

Conclusion: Statistical tests indicated that there was no correlation between sociodemographic variables and the level of digital health literacy of patients. It was concluded that patients believe it is essential to be able to access information on the internet and they know how to use the tool, but they feel slightly insecure when using it to adopt appropriate health behaviors.

#### IS THE LOCKING TAPER CONNECTION A SAFE ALTERNATIVE AS A SINGLE CROWN RETAINER? A SYSTEMATIC REVIEW AND META-ANALYSIS

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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: This systematic review and metanalysis aimed to evaluate the clinical and biological performance, as well as the main complications of rehabilitation with a single crown (SC) supported by the locking taper (LT) connection.

Method: An electronic search was performed up to July 2020 to find clinical studies evaluating the LT implant system as SCs retainer in six databases. Data regarding implant survival and success rate, prosthetic and biological complications, and prosthesis success rate were recorded. Quality assessment was performed using the checklist of Downs and Black (1998). Three meta-analyses were performed according to three follow-up intervals to aggregate data regarding implant survival, and success rate, and prosthesis success rate.

Results: Thirty-seven studies were included: 21 retrospective, 12 prospective and 4 randomized clinical trials being one of them an ongoing study. An aggregated implant survival rate of 99%, 98%, and 98% was found for the intervals until 1, 1 to 5, and more than 5 years, respectively. The average implant success rate was 99%, 99%, and 96% for the same intervals. A total of 2.66% of biological and 3.24% of prosthetic complications were described. The compiled prosthesis success rate was 100%, 99%, and 96% for the intervals above mentioned. After quality assessment, 17 studies were classified as poor, 16 as fair, and 3 as good. The main issues were related to external validity, internal validity, and power domains.

Conclusion: The LT implant-abutment connection is a predictable alternative to rehabilitations of single tooth gaps due to the high rates presented, as well as the low incidence of complications found.

#### JURISPRUDENTIAL ANALYSIS OF THE TJ THROUGH THE CIVIL LIABILITY OF THE DENTAL SURGEON BETWEEN 2016 AND 2018

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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The aim of this study was to evaluate the sevens given by the Courts of Justice of Brazil, in relation to the civil liability proceedings of dentists between 2016 and 2018.

Method: The IBM SPSS 25 Statistics program was used for descriptive analysis and applied to the Person Correlation between the study variables. A total of 1,102 were found and the results were indicated in greater quantity in the South and Southeast regions, more specifically, in the states of São Paulo, Rio de Janeiro and Rio Grande do Sul. A greater number of processes were found in the following specialties: Implantodontia, Prosthesis, Maxillofacial Maxillo Surgery and Orthodontics.

Results: In relation to Specialties, they had a higher number of origins in most of them, except for orthodontics and no specialty defined by presenting equivalent results, and other specialties with a greater amount of unfounded claims. With regard to complaints, Prosthesis and Implantodontia was the one that most prevailed and in question the care or completion of treatment as well.

Conclusion: It is concluded that in the period from 2016 to 2018, the sentences handed down to the TJs of Brazil, in civil liability proceedings of Dentists and dental clinics showed an expressive increase in demands, especially the areas of prosthesis and implantodontia that contemplate non-tangible aspects in aesthetics, such as cognitive dissonance and selective distortion.

#### JUSTIFICATIONS FOR NON-ADHERENCE TO ORAL HEALTH ASSOCIATED WITH HEALTH LITERACY IN A POPULATION OF ADOLESCENTS

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DEL CARMEN PEREZ PUELLO; LUCÍDIO ANDRADE ASSIS NETO; JAQUELINE VILELA BULGARELI  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The aim of this study was to evaluate the justifications for non-adherence to oral health and its association with health literacy, socioeconomic and demographic variables in a population of adolescents.

Method: Cross-sectional analytical study of 115 adolescents aged 18 to 25 years old who did not adhere to dental treatment in the city of Piracicaba, SP. The information was collected through the socioeconomic, demographic questionnaire and Health Literacy instrument. Descriptive analysis was performed, then the data were analyzed by calculating the Odds ratio to test the association between the dependent variable (justifications for non-adherence to dental treatment) with the independent variables (socioeconomic, demographic variables) through crude analyzes. For the health literacy variable, the mean and standard deviation of the nine constructs were calculated. The significance level of 5% was considered.

Results: Most participants answered "I agree" on the questions listed in the 1st part of the health literacy questionnaire and "generally easy" for the 2nd part of the questionnaire. Of the 92 adolescents who participated in the study, 78 (84.8%) revealed that the reason for non-adherence is related to personal issues (lack of interest, forgetfulness, fear, lack of parenting) and 14 (15.2%) said that the reason is related to the service.

Conclusion: The variable "mother's education" (p = 0.0530) was associated with non-adherence to adolescents' dental treatment.

#### KNOWLEDGE OF DENTAL TRAUMA AND FIRST AID SUPORT BY SPORT EDUCATORS ON THE PUBLIC EDUCATION SYSTEM

RODOLFO FIGUEIREDO DE ALMEIDA; WALBERT DE ANDRADE VIEIRA; PAULO HENRIQUE GABRIEL; PABLA SECCHI; JULIO VARGAS NETO; EDUARDO CÉSAR ALMADA SANTOS; JOSE FLAVIO AFFONSO DE ALMEIDA; ADRIANA DE JESUS SOARES  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: This study aimed to evaluate the knowledge of sport educators and their ability on first aid support to the sportsmen that had dental trauma during sports activities.

Method: The teachers who work to the Piracicaba town hall, acting at Projeto Desporto de Base, were invited to a lecture about dental trauma. Before the lecture the participants received an anonymous questionnaire related to the main theme and after the lecture the same questionnaire were applied to evaluate the answers.

Results: The participants were 33 teachers with age rating between 19-56 yo. They act in 13 sports. When asked about the knowledge about dental trauma and avulsion 76% and 18% answered to know what it is, respectively, after the lecture the positive answers changed to 100% (p<0.0078) and 97% (p<0.0001), respectively. In avulsion cases, 18% of respondents would make the reimplantation, after the lecture 97% of the respondents would do it. When asked about storage medium of a avulsed tooth 51.5% would use a suitable storage medium before the lecture. After the explanation, everyone (p<0.05) would choose an appropriate means. All data were analysed quantitatively.

Conclusion: We conclude that the lectures about dental trauma are important for the awareness and training of sport educators and the more knowledge they have better are the first aid methods that they can do facing sports accidents, minimizing dental trauma consequences.

#### KNOWLEDGE OF PARTURIENTS OF A PRIVATE HOSPITAL ABOUT ORAL HEALTH

MICHELLY PIRES GONÇALVES; BEATRIZ CRISTINA DE FREITAS; DAGMAR DE PAULA QUELUZ  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: To analyze the knowledge of parturients of a private hospital about oral health.

Method: This is a cross-sectional descriptive study, carried out with parturients at a maternity in a private hospital in Piracicaba. Semi-structured questionnaires about the parturient's knowledge about oral health were applied. The results were analyzed and treated statistically through descriptive measures.

Results: 35 parturients, with an average age of 28 years ± 4.30. All mothers underwent prenatal care, and most of them, more than 80% have already received guidance on how to take care of their teeth and / or the health of their mouth, and on caries and gum inflammation. Most parturients answered correctly the questions about breastfeeding (70%), and that during pregnancy, dental treatment should be periodic and preventive (88.57%). The categories of the variable education level of complete high school, incomplete and complete university education of the parturient were significantly associated with a good level of knowledge.

Conclusion: The knowledge of parturients in a private hospital was classified as good, and the level of education was associated with the level of good knowledge of the parturient.

#### LACTOBACILLUS RHAMNOSUS AND LACTOBACILLUS ACIDOPHILUS INFLUENCES THE DEVELOPMENT OF APICAL PERIODONTITIS

FERNANDA DE LIMA PONTES; JOÃO EDUARDO GOMES-FILHO; RENAN DAL-FABBRO; GIULIANNA FAZOLIN; GABRIELLE CABRAL MELVILLE DE SOUZA TENÓRIO; DANIEL PINTO DE OLIVEIRA; EDILSON ERVOLINO; LEOPOLDO COSME-SILVA  
FEDERAL UNIVERSITY OF ALAGOAS

Aim: Probiotics are live microorganisms that, when administered in adequate doses, confer benefits to the health of the host and can interfere with the health-disease process, therefore the aim of the present study was to evaluate the relationship between the systemic administration of probiotics (Lactobacillus rhamnosus and Lactobacillus acidophilus) and the inflammation process in apical periodontitis (AP) in a rat model.

Method: Twenty-four male Wistar rats were used. AP was induced in the first maxillary molars. The animals were divided into three groups: Control, Lactobacillus rhamnosus and Lactobacillus acidophilus. Probiotics were administered orally by gavage (109 colonyforming units diluted in 5 mL of water for 30 days) during the development of AP. After 30 days, the animals were euthanized and the maxilla removed for histopathological and immunostaining analyzes of IL-10, IL-18#946; and IL-6. The data were evaluated statistically (p < 0.05).

Results: The inflammatory infiltrate and immunostaining for IL-18#946; and IL-6 in AP were significantly lower in the probiotic groups when compared to the control group (p < 0.05). IL-10 was significantly higher in the probiotic groups than in the control group (p < 0.05).

Conclusion: Supplementation with Lactobacillus rhamnosus and Lactobacillus acidophilus had a significant effect on the severity of apical periodontitis in rats.

#### LARGE ODONTOGENIC KERATOCYST IN MANDIBLE: A CLINICAL CASE REPORT OF CONSERVATIVE TREATMENT

## All abstracts appear as submitted by the authors without editing

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Aim: Odontogenic keratocyst is an epithelial-lined pathologic intraosseous cavity originated from odontogenic tissues, asymptomatic, destructive, and with a high rate of recurrence, major prevalence to young adults, actually in third and fourth decades of life. Its treatment may depend on the extension of lesion in bone, including a radical surgical bone resection or the conservative procedures, such as marsupialization and enucleation.

Case Report: The purpose of this work is report a clinical case of a radiographic finding about a painless and large multiloculated lesion extending in body, angle and ramus of mandible, in a 32-years-old adult patient. Computed tomography (CT) showed a large extension of the lesion near around the distal root of the lower right second molar. Anatomopathological analysis revealed histological features compatible with odontogenic keratocyst. As an usual treatment protocol, marsupialization was carried on to reduce the size of lesion, followed by enucleation. Post-surgery uneventful healing of the lesion was noted on regular follow-up. The conservative treatment carried in this clinical case was effective for lesion and more comfortable for patient.

Conclusion: Thus, we conclude that the treatment performed becomes the ideal option for extensive injuries.

## LASER APPLICATION IN TISSUE REPAIR PROCESS

MÔNICA RIBEIRO DE OLIVEIRA SANTANA; LETÍCIA CARDANA ZAFANI; RENAN LEMOS DA SILVA; CILSON VINÍCIOS DE SOUZA RAMOS ALCÂNTARA; VALÉRIA CRISTINA LOPES DE BARROS ROLIM; RODRIGO BORGES DE OLIVEIRA; LUCIANA ESTEVAM SIMONATO

UNIVERSITY BRAZIL

Aim: Laser therapy is gaining space in the health area because it offers satisfactory results with minimal intervention. It can be classified in two categories, low-intensity and high-intensity laser therapy. Laser light is defined as the emission of a non-ionizing electromagnetic radiation, with the characteristics of consistency, monochromaticity and unidirectionality. According to the literature, the choice and knowledge of the laser are primordial for the success of the treatment. In dentistry, the laser can be used for pain relief therapy, tissue repair in hard and soft tissues, cutting and/or cauterization. This work had as objective through a literature review to report the use of laser in Dentistry, especially in the process of tissue repair.

Method: The research methods were through the database indexed in Scielo and Pubmed, using the keywords laser, laser therapy, dentistry

Results: The results obtained through the reviewed literature, that the low power laser when certain cellular functions interact in the tissues are stimulated, such as the stimulation of lymphocytes, monocytes, increased production of mitochondrial ATP, causing anti-inflammatory effect. The literature brings evidence that the low intensity laser influences and favors the increase of cellular resistance and vitality, bringing the tissues faster to normality.

Conclusion: Therefore, it is concluded that the low frequency laser shows its effectiveness when correctly indicated, obtaining efficient results. The indication for tissue repair brought to Dentistry a technology where better comfort and results for the patient can be offered.

## LITERATURE REVIEW: INDIVIDUALIZATION TECHNIQUES OF FIBERGLASS POST IN WEAKENED TEETH

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FEDERAL UNIVERSITY OF JUIZ DE FORA

Aim: Fiberglass posts are used in dentistry to restore function and retain the final restoration of endodontically treated teeth with structural impairment. The aim of this study was to perform a literature review about different individualization techniques of fiberglass post in weakened teeth.

Method: The study was based on information extracted from PubMed and Scielo databases by searching for following terms: glass fiber post, weakened teeth, individualization techniques. Two reviewers realized the manual search with subsequent reading of the title, abstract and keywords. When the information was insufficient, the articles were read in full. Thirty-eight articles were found, published between 2008 and 2019, of which twenty-two were selected. The eligibility criterion was the direct retention by individualization techniques of fiberglass post.

Results: The space between the post and the root walls results in great thickness of the cement and low fractures resistance. The individualization techniques favors the proper placement of the post, improves the retention through the reduction of the cement film, increase of the contact surface and decrease of the adhesive dependence. Several protocols such as accessory posts, anatomical composite resin posts and reconstruction with glass ionomer, are described in the literature. Bulk fill resins are noteworthy for having high degree of conversion and microhardness, low volume of contraction, high depth of cure, high values of resistance and union, especially in the apical third.

Conclusion: It is concluded that the anatomical post technique with bulk fill resin produced favorable results and simple execution.

## LITERATURE REVIEW: THE USE OF PRF IN IMPACTED THIRD MOLAR EXTRACTION

MICHAEL MATIAS; CAROLINA BRITO; ISABELLA VIEIRA; KEVIN CAIO; MATEUS VEPPO

EUROAMERICAN UNIVERSITY CENTER

Aim: The applications and benefits of Platelet Rich Fibrin in the healing of surgical wounds are well documented in the literature. In such a way, several studies point out its anti-inflammatory and antibacterial properties. In addition to its ability to secrete growth factors. Being able to promote the acceleration of the natural process of local healing of tissues and reduce pain in the post operative period.

Method: A search was performed on Scielo, PubMed and Lilacs using the following descriptors: “L-PRF”, “Platelet Rich Fibrin” and “third molar included” in articles published between the years 2015 and 2020. 25 were found works that addressed the subject and from these 16 publications were selected.

Results: Platelet Rich Fibrin has immunological properties and antibacterials, which induce leukocyte degranulation. In addition to releasing cytokines that induce angiogenesis and anti-inflammatory reactions. All of these characteristics of L-PRF are favorable with regard to the healing process of extraction of third molars included, especially with regard to the reduction of pain, edema and trismus.

Conclusion: The L-PRF promotes tissue healing, in addition to promoting good mechanical tamponade, it helps clot formation, thus constituting a good alternative as a biomaterial for reducing edema, pain and trismus.

## MAXILLARY REHABILITATION USING A REMOVABLE PARTIAL DENTURE IN A PATIENT WITH CLEFT LIP AND PALATE: A CLINICAL REPORT

MARIA HELENA ROSSY BORGES; REBECA MENEZES RENDEIRO; REGINNA VYCTÓRIA DA TRINDADE SOUZA DE MELO CARNEIRO; ELOISE DE OLIVEIRA LIMA; JADER MOREIRA DA SILVA

UNIVERSITY CENTER OF THE STATE OF PARÁ

Aim: Clefts of the lip and palate are congenital facial malformations with multifactorial etiology that might involve lips, alveolar ridge and palate, causing functional, aesthetic and psychosocial disorders. Besides congenitally missing anterior teeth that are common in cleft palate patients, resulting in phonetic difficulties. Thus, prosthetic treatment for those patients still plays an important role in cleft treatment. Within this context, removable partial dentures are particularly indicated in patients with tissue deficiency and soft palate dysfunction.

Case Report: Therefore, this report describes a case of prosthetic rehabilitation of clefts of the lip and palate in an adult patient. The rehabilitation chosen was the preparation of a removable partial denture with extension towards the soft palate to reduce hypernasality during speech. Moreover, the socioeconomic and esthetics aspects were also considered throughout the prosthetic treatment.

Conclusion: The rehabilitation brought physical and psychological improvements, recovering structures' functionality which were altered by the anomaly. Regarding, patient's aesthetic parameter the satisfaction was also enhanced. While for the phonetics evaluation, the extension of the removable partial denture allowed minimum improvement for words' pronunciation. Thereby, the patient was instructed to continue the treatment with a speech therapist.

## METAGENOMIC ANALYSIS OF SYMPTOMATIC PRIMARY ENDODONTIC INFECTIONS BEFORE AND AFTER CHEMO-MECHANICAL PREPARATION

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Aim: This work aimed to investigate the microbiome of symptomatic necrotic canals with acute apical abscess before and after chemo-mechanical preparation (CMP) using Next Generation Sequencing (NGS), and their associations with signs and symptoms.

Method: Microbiological samples were collected from the root canals (RC) before (S1) and after (S2) CMP (n = 10). The samples had their DNA extracted, and the hypervariable region of the 16S rRNA gene was examined using Illumina MiSeq sequencing.

Results: After clustering the OTUs, data were normalized to 109,411 readings. The most abundant phyla with OTUs for RC samples before and after CMP were Proteobacteria, Actinobacteria, and Firmicutes. There was a predominance of Porphyromonas (30%), Solobacterium (19%) followed by Campylobacter (10%) for S1, and Corynebacterium (43%), Eubacterium (33%), Dialister (12%) and Actinomyces (12%) for S2. The species with the greatest abundance in S1 were: E. faecalis (79%), Streptococcus sp. (4%), and S. gordonii (4%). However, after S2 there was a greater abundance for E. faecalis (67%), S. epidermidis (11%), Escherichia coli (4%), and S. sanguinis (4%). Associations were found between pain on palpation and the presence of F. alocis, P. endodontalis, P. tanneriae, S. sobrinus, T. forsythia and T. denticola (p < 0.05) in S1.

Conclusion: It was concluded that metagenomic sequencing demonstrated success in the characterization of the root canal microbiome. Some specific microorganisms remained even after CMP, indicating the importance of infection control measures. Association was found between pain on palpation and specific bacteria.

## METASTATIC TUMORS TO THE ORAL CAVITY: AN UNDERESTIMATED DIFFERENTIAL DIAGNOSIS

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Aim: This study analyzed available data on the epidemiology of metastasis to the oral cavity, clinical presentations and main primary sites.

Method: The search in the Pubmed database with the descriptors “oral”, “metastasis”, “malignant” and “jaw” retrieved 58 articles between 2010 and 2020, of which 10 were selected, as they effectively evaluated metastasis to the oral cavity.

Results: The most reported sources of metastatic tumors to the oral cavity are lungs, breasts and kidneys, followed by skin, prostate and liver. Its occurrence is higher among men with ages ranging between the fourth and eighth decade of life; the jawbones, especially the mandible, are most likely to be affected than the soft tissue, in which the most frequent site is the attached gingiva. Survival rates after diagnosis are approximately six months, even though some articles reported deaths within just 50 days. A swelling that progresses quickly, accompanied or not by pain and paresthesia is a frequent clinical presentation for the jawbones, resembling odontogenic infections and benign odontogenic tumors, whereas metastasis to the oral soft tissue often presents as an exophytic, sometimes ulcerated lesion, mimicking hyperplastic and reactive lesions such as peripheral giant cell granuloma.

Conclusion: Metastasis to the oral cavity are rare events, nonetheless, such occurrences require critical attention as they are associated with advanced stages of malignancies and represent 25% of the first signs of metastatic spread. Rigorous oral health assessment plays a pivotal role in the early diagnosis of this condition, contributing to better prognosis and increasing survival rates.

## METHODS OF MEASUREMENT OF LETTERING IN ORAL HEALTH IN BRAZIL: AN INTEGRATIVE REVIEW

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FEDERAL UNIVERSITY OF ALAGOAS

Aim: Identify and critically evaluate the current validated methods for measuring Oral Health Literacy (LSB) in Brazil, as well as their epidemiological findings.

Method: The search for this integrative literature review was conducted in seven databases. The eligibility criteria included epidemiological studies conducted in Brazil, validation of instruments for Brazilian Portuguese and evaluation of the psychometric properties of the tools. The entire exclusion and inclusion process followed the recommendations of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA).

## All abstracts appear as submitted by the authors without editing

**Results:** Ten articles were included in this study. It was found that only four LSB measurement instruments have validation for use in Brazil, designed with different purposes and psychometric properties. Most epidemiological studies were conducted in the South of the country (60%) and no research was found in the North and Center-West regions.

**Conclusion:** Future epidemiological studies that use the recently validated instruments to measure the degree of LSB, in a more proportional demographic disposition, are fundamental so that flaws in the health education methods currently employed can be identified, improving oral health policies and allowing the clinician / researcher an intervention closer to the reality of the population in which he works.

**MICROBIOLOGICAL AND IMMUNOLOGICAL MONITORING IN TEETH WITH IRREVERSIBLE PULPITIS: A CLINICAL STUDY**  
RODRIGO ARRUDA-VASCONCELOS; LIDIANE MENDES LOUZADA; BEATRIZ ISABEL NOGUEIRA LEMOS; ADRIANA DE-JESUS-SOARES; CAIO CEZAR RANDI FERRAZ; JOSÉ FLÁVIO AFFONSO DE ALMEIDA; MARINA ANGÉLICA MARCIANO; BRENDA PAULA FIGUEIREDO DE ALMEIDA GOMES  
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**Aim:** To monitor the effects of endodontic treatment on the levels of bacteria, endotoxins (LPS), lipoteichoic acid (LTA), cytokines (CYs) (TNF- $\alpha$ , IL-1 $\alpha$ , -1 $\beta$ ; and -10) and matrix metalloproteinases [(MMP)-2, -3, -8, -9 and -13] in teeth with irreversible pulpitis (IP).

**Method:** Ten teeth were included. Samples were collected from infected dentine (ID) and root canals (RC) before (S1) and after (S2) chemo-mechanical preparation (CMP) and after intracanal medication (S3) with spoon excavators and paper points, respectively. Microbial levels (checkerboard DNA-DNA hybridization), LPS (LAL), LTA (ELISA), CY and MMP (Multiplex Immunoassay) were evaluated. Statistical analysis was performed with significance level set at 5%.

**Results:** The levels of bacteria ( $P > .05$ ), LPS, LTA, CY and MMP ( $P < .05$ ) were higher in ID than RC (S1). CMP was effective in reducing the levels of bacteria, LPS, LTA, TNF- $\alpha$ , IL-10 and MMP-2 ( $P < .05$ ). On the other hand, no significant reduction was observed in the levels of IL-1 $\alpha$ , -1 $\beta$ , MMP-8 and -9. Increased levels of MMP-3 ( $P < .05$ ) and -13 ( $P > .05$ ) were observed in S2. ICM was effective in the reduction of the levels of LTA, MMP-2 and -3 ( $P < .05$ ). No additional effect was observed in the levels of bacteria, LPS, TNF- $\alpha$ , IL-1 $\alpha$ , MMP-8 and -9 ( $P > .05$ ). Increased levels of MMP-13 ( $P < .05$ ) was observed in S3.

**Conclusion:** Teeth with IP presents a polymicrobial community. Endodontic treatment was effective in the reduction of microbial levels and their virulence factors, as well as in modifying the levels of CY and MMPs. (FAPESP 2019/10755-5, 2019/19300-0, 2017/25242-8, 2015/23479-5, CNPq 308162/2014-5, 303852/2019-4, CAPES 001).

**MINERAL CONTENT EVALUATION OF EXPERIMENTAL BLEACHING AGENTS CONTAINING 45S5@ BIOGLASS COMBINED WITH HYDROGEN PEROXIDE**  
CAMILA SIQUEIRA SILVA COELHO; RAFAEL DASCANIO; MARINA TREVELIN SOUZA; EDGAR DUTRA ZANOTTO; VANESSA CAVALLI  
PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** This study evaluated the alteration of mineral content after using an experimental bleaching agent based on bioglass (45S5@, BG) and high concentrations of hydrogen peroxide.

**Method:** Bovine enamel blocks ( $n = 10$ ) were allocated to the groups after selection by surface microhardness: NC (negative control, without whitening), 0% BG, 2.5% BG, 5% BG, 7.5% BG, 10% BG and HP (35%). Bleaching was applied for 40 min, in three sessions, with a 7-day interval between sessions. The assessment of surface microhardness and surface roughness were evaluated at the beginning (T0) and 24h after each bleaching session (T1, T2, T3). The surface microhardness data were used to calculate the percentage of loss of surface microhardness (% SML) and surface roughness difference (&#916;Ra, T3-T1). These variables were analyzed by one-way ANOVA and Tukey's test (&#945; = 0.05).

**Results:** Bleaching agents containing bioglass (2.5%, 7.5% and 10%) showed no differences in %SML compared to NC ( $p > 0.05$ ) but exhibited lower values of %SML when compared to groups 0% BG and HP ( $p < 0.05$ ). Besides, the 5% BG group showed higher %SML values, not statistically different from groups 0% and HP ( $p > 0.05$ ). No differences in &#916;Ra were found among groups ( $p > 0.05$ ), except between the groups 5% BG and 7.5% BG (&#916;Ra - 0.01 and -0.044, respectively;  $p = 0.009$ ).

**Conclusion:** The addition of 45S5@ bioglass in high concentrations of hydrogen peroxide bleaching agent favored the maintenance of the mineral content on the enamel and did not change the enamel surface roughness.

**MINIMALLY INVASIVE DENTISTRY: ONE-YEAR FOLLOW-UP OF NON-CAVITATED PROXIMAL LESIONS TREATED BY RESIN INFILTRATION**  
ANA FERREIRA SOUZA; GABRIELA ALVES CERQUEIRA; JANÁINA EMANUELA DAMASCENO; PRISCILA REGIS PEDREIRA; GISELLE MARIA MARCHI  
PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** The present case report aims to describe the treatment of a 28-year-old female patient who came to the clinic complaining of painful sensitivity to thermal stimuli.

**Case Report:** Nothing was found in the clinical examination, but after radiographic examination, the presence of interproximal caries lesions restricted to the enamel was found. The resin infiltration treatment was chosen to stop the progression of the lesions. The Icon® infiltrant (DMG - Hamburg, Germany) was applied according to the manufacturer's instructions.

**Conclusion:** The resinous infiltration technique stops the progression of the carious lesions, preventing tooth wear to access the lesions. It's a conservative and effective technique, following the precepts of Minimally Invasive Dentistry.

**MINIMALLY INVASIVE TECHNIQUES FOR THE CLOSURE OF BLACK SPACES**  
JADE FONTENELE TAGLIABUE; FERNANDA DE SOUZA DO NASCIMENTO DIOGO; JULIANA THEBERGE DOS SANTOS DE OLIVEIRA; AMANDA CYPRIANO ALVES  
FEDERAL UNIVERSITY OF RIO DE JANEIRO - UFRJ

**Aim:** The periodontal disease can lead to loss of the interdental papilla, also called the "black triangles" (black spaces), and their restoration have been considered a major challenge in dentistry. New approaches have been described as treatment for this type of recession and this work had the purpose of performing a literature review on the restoration of the interdental papilla through minimally invasive non-surgical techniques.

**Method:** For this, searches were performed using electronic databases PubMed and SciELO, with the keywords "black space", "hyaluronic acid", "interdental papilla" and as inclusion criteria articles published after 2010, since the technology of dental biomaterials is relatively recent, and in its full version, in English or Portuguese.

**Results:** The use of temporary crowns, application of hyaluronic acid gel and autologous fibroblasts in the interdental papilla have been described as techniques for papilla tissue restructuring by means of dynamic compression, regeneration or tissue engineering in the region of interest. However, these methods require greater clinical follow-up time, besides being reported a small recurrence of the completed filling, which confirms the non-permanent nature of the methods.

**Conclusion:** It was concluded that the non-surgical methods showed promising results, guaranteeing clinical success, comfort, safety and preservation of dental tissues, compared to surgical procedures. On the other hand, it was impossible to determine the predictability of reconstruction of the papilla with these techniques, due to the lack of controlled clinical studies that adopt the same parameters and postoperative evaluation.

**MINIMUM SEDATION BY THE INHALATION OF THE NITROUS OXIDE AND OXYGEN MIXTURE IN PEDIATRIC DENTISTRY: LITERATURE REVIEW**  
JEFERSON PAIVA DA SILVA; MARINA LOPES SOUSA; MARIA CÂNDIDA DE ALMEIDA LOPES  
FEDERAL UNIVERSITY OF PIAUÍ

**Aim:** This study aimed at review in the literature the use of minimal sedation with nitrous oxide and oxygen in pediatric dentistry, evidencing its importance in controlling patients' anxiety, since, despite scientific and technological advances and the improvement of conditioning techniques, dental treatments remain unpleasant.

**Method:** The electronic tool for searching the articles was the PubMed database. By applying the terms pediatric dentistry and nitrous oxide in articles from the past 4 years, 57 papers were achieved. After the selection of completed clinical trials, published in English and according to the theme, 2 were included.

**Results:** The maintenance of the patient's ability to breathe automatically and independently and to respond appropriately to physical stimulation and verbal command justified the consensus among the authors of the 2 studies that constituted the sample regarding the safety of the technique. When inhaled, the combination of gases resulted from less significant drowsiness and disorientation when compared to those demonstrated by other resources, to the elevation of the pain perception threshold, situations capable of making the patients more quiet and cooperatives.

**Conclusion:** Therefore, it was found, based on evidence, the performance of the mixture of nitrous oxide and oxygen as a safe therapeutic resource when correctly employed by the qualified dentist, capable of promoting mutual benefits in the clinical situation, in view of the feasibility of performing of dental procedures and the consequent preservation of oral health since childhood.

**MORPHOLOGICAL AND TOPOGRAPHICAL ANALYSES OF THE MANDIBULAR CANAL ACCORDING TO THE FACIAL PROFILE, SKELETAL CLASS AND SEX**  
GUSTAVO MORAES PRADO; ROCHARLES CAVALCANTE FONTENELE; ELIANA DANTAS DA COSTA; DEBORAH QUEIROZ DE FREITAS; MATHEUS LIMA DE OLIVEIRA  
PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** The aim of this study was to evaluate the morphology and topography of the mandibular canal (MC) in patients with different facial profiles, skeletal classes, and sexes by cone-beam computed tomography (CBCT).

**Method:** One hundred three CBCT scans were classified according to the facial profile (brachycephalic, dolichocephalic, and mesocephalic), skeletal class (I, II, and III), and sex. From cross-sectional reconstructions at level of the first and second mandibular molars, four linear measurements were done: (1) from the buccal cortex of the mandible to the buccal cortex of the MC, (2) from the lingual cortex of the mandible to the lingual cortex of the MC, (3) from the apex of the closest root to the upper cortex of the MC, and (4) MC diameter. From panoramic reconstruction, the MC curvature was classified into four types: linear, spoon shape, elliptical-arc, and turning. Linear measurements were compared using multi-way ANOVA and the mode was obtained for the types of the MC curvature.

**Results:** For measure 1, significantly higher values were observed for dolichocephalic class III females ( $p < 0.05$ ). For measure 2, brachycephalic class I males had significantly higher values ( $p < 0.05$ ). For measure 3, significantly lower values were observed for brachycephalic class I males and class II females ( $p < 0.05$ ). Measure 4 did not show difference between the factors studied ( $p > 0.05$ ). The most frequent MC curvatures were linear and spoon-shaped.

**Conclusion:** In conclusion, the morphology and topography of the MC is minimally altered among different facial profiles, skeletal classes, and sexes. The linear and spoon-shaped are the most frequent curvatures.

**MUCORMYCOSIS AFTER DENTAL EXTRACTION IN A DECOMPENSATED DIABETIC PATIENT: A CASE REPORT**  
LETICIA SASSAKI CORREIA; GUILHERME BORSATO GOMES; FERNANDA SCHMIDT DE FREITAS; GLAYKON ALEX VITTI STABILE; CECÍLIA LUIZ PEREIRA STABILE  
LONDRINA STATE UNIVERSITY

**Aim:** This presentation aims to report a case of rhino-orbital-cerebral Mucormycosis acquired in the community by a decompensated diabetic patient.

**Case Report:** Mucormycosis is a potentially serious and quite rare fungal infection, caused by Saprophytic fungi of the order Mucorales. These microorganisms are commonly isolated from decomposing soil and plant material and remain dominant in the respiratory and digestive tubes of healthy individuals after inhaling or ingesting contaminated food. They become pathogenic when the individual gets immunocompromised and debilitated, progressing to an aggressive and often lethal clinical condition which requires accurate diagnosis and prompt treatment. There are reports in the literature of gastrointestinal, pulmonary, cutaneous, rhino-orbital-cerebral, endocardial and osteoarticular forms of mucormycosis. Regardless of its location, treatment necessarily includes early clinical diagnosis, stabilization of systemic comorbidities and aggressive drug and surgical therapy, resulting in a mortality rate of up to 40% of cases. It is a relevant topic in tertiary care hospitals in terms of contamination, being a matter of special concern if present in premature newborns and burn therapy units.

**Conclusion:** In conclusion, mucormycosis is a severe condition that requires adequate diagnosis and management and results in significant mortality rate.

**NATURAL EXTRACTS AS IRRIGANTS IN ENDODONTICS: LITERATURE REVIEW**  
BHARBARA DE MOURA PEREIRA; TAIS YUKARI KANEKO; THIAGO JUNIOR DA SILVA BONFIM; VITOR GALVÃO OLIVEIRA; CAMILA DE SOUZA ARANTES; JOÃO EDUARDO GOMES FILHO; LIGIA TEIXEIRA DE OLIVEIRA  
ARAÇATUBA DENTAL SCHOOL - UNESP

**Aim:** The purpose of this literature review was to correlate the properties of natural extracts of Green Tea, Morinda, Propolis and Garlic Extract as irrigating solutions in Endodontics.

## All abstracts appear as submitted by the authors without editing

**Method:** A bibliographic survey was carried out relating the use of extracts of Green Tea, Morinda, Propolis and Garlic Extract with their uses as irrigating solutions in the PubMed, Scielo and Google Scholar databases, using keywords and controlled vocabulary. Twenty-five articles were used, published between 2005 and 2019. The exclusion criteria were incomplete articles, published before 2005 and not related to the use of natural extracts as irrigants in Endodontics.

**Results:** Irrigation of root canals with substances such as Green Tea, Morinda, Propolis and Garlic Extract has been defined as more or equally effective in comparison to sodium hypochlorite solutions in terms of antimicrobial action and changes in intraradicular dentin properties. The action of these solutions has already been proven against different strains of microorganisms in different conditions.

**Conclusion:** According to the data found, it is concluded that the use of natural extracts as intracanal irrigants should be alternatives to be considered, with more research being necessary for their clinical use.

#### NOSOLOGICAL PROFILE OF CHILDREN UNDER 5 YEARS OF AGE: RISK FACTORS AND MAIN GENERAL CAUSES OF HOSPITALIZATION

LUCAS GONÇALVES DURÃO; BEATRIZ CRISTINA FREITAS; DAGMAR DE PAULA QUELUZ

PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** To describe the nosological profile of children under 5 years of age: risk factors and main general causes of hospitalization.

**Method:** This is a bibliographic review with a survey of articles indexed in the Scielo and Google academic databases.

**Results:** It was observed that hospitalization rates, according to diagnosis, are important indicators of quality of life and outpatient resolution, and serve to monitor the achievement of those goals advocated by the Health Pact. The frequency of hospitalizations for diseases considered easy to prevent, subject to diagnosis and treatment may reflect the inefficiency or inadequacy of assistance to certain groups of the population. Various risk factors are mentioned in the literature associated with the hospitalization of children under five years of age, among them, male child, low family income, place of residence, exposure to smoke, cold and humidity, malnutrition, early weaning, age of mother, less maternal education, access to health services. The most common general causes of hospitalizations were diseases of the respiratory system, parasitic infections, and perinatal disorders, among the most sensitive conditions are pneumonia, gastroenteritis and asthma.

**Conclusion:** Hospitalization rates, according to diagnosis, are important indicators of quality of life and outpatient resolution, and include several risk factors, including low income, malnutrition, early weaning, mother's age, less maternal education, and access to health services.

#### OBESITY IN ADOLESCENCE: ASSOCIATED FACTORS, RISK AND PREVALENCE

LAÍS DA COSTA FERNANDES; BEATRIZ CRISTIAN DE FREITAS; DAGMAR DE PAULA QUELUZ

PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** To address obesity in adolescence: associated factors, risk and prevalence.

**Method:** This is a bibliographic review with a survey of articles indexed in the SciELO and Google academic databases.

**Results:** Obesity among adolescents has presented itself as a global epidemic, and has been widely discussed due to the associated comorbidities. It is pointed out that inadequate eating habits, sedentary behavior and physical inactivity are associated with overweight and obesity. The accumulation of abdominal fat in adolescents is an independent risk factor for chronic non-communicable diseases such as arterial hypertension, hepatic steatosis, insulin resistance and other comorbidities, and type II diabetes. There is an association with the metabolic syndrome in adolescence and adulthood, negatively influencing the quality of life and socialization of young people. Studies point out prevalence of overweight and obesity in the age group of 6 to 10 years of age of 15.4% and 6.0%, respectively, 10 to 14 years of age, prevalence of 21% of overweight, of 15 to 18 years old prevalence of 20.9% for overweight and 5.0% for obesity.

**Conclusion:** The importance of this topic being addressed routinely due to its prevalence, and obesity is multifactorial.

#### OMEGA-3 FATTY ACIDS PLUS ASPIRIN TO TREAT RESIDUAL POCKETS OF AGGRESSIVE PERIODONTITIS: RANDOMIZED CLINICAL TRIAL

CÁSSIA FERNANDES ARAÚJO; NAIRA MARIA REBELATTO BECHARA ANDERE; NÍDIA CRISTINA CASTRO DOS SANTOS; LAÍS FERNANDA FERREIRA FERRAZ; THIAGO PEREZ RANGEL; MABELLE DE FREITAS MONTEIRO; RENATO CORRÊA VIANA CASARIN; MAURO PEDRINE SANTAMARIA

INSTITUTE OF SCIENCE AND TECHNOLOGY, São JOSÉ DOS CAMPOS/SP, São PAULO STATE UNIVERSITY - UNESP

**Aim:** Evaluate the use of 900 mg of omega-3 polyunsaturated fatty acids ( $\Omega$ -3 PUFA) and 100 mg of low-dose acetylsalicylic acid (ASA) for 180 days as adjuvants to the surgical treatment of residual pockets of generalized aggressive periodontitis (GAgP) patients.

**Method:** This was a placebo-controlled, double-blind, randomized clinical trial designed in accordance with the CONSORT 2010 Statement and the SPIRIT 2013 Statement. This study was approved by the human subjects ethics board of Unesp and was conducted in accordance with the Helsinki Declaration of 1975, as revised in 2013. The study protocol was registered in ClinicalTrials.gov (NCT03093207). Thirty-four GAgP patients previously submitted to full-mouth ultrasonic debridement with residual pockets of  $\geq 5$  mm and bleeding on probe not located in furcation area were selected and underwent open flap debridement by Kirkland modified surgical technique (Kirkland, 1931) followed by  $\Omega$ -3 PUFA and ASA (n=17) intake or placebo (n=17) for 180 days.

**Results:** After 6 months, both therapies led to decreased probing depth (p>0.05), but only the test group had clinical attachment gain in the intergroup comparison (p=0.02), as well as presented less gingival recession (p=0.03), decreased dentin hypersensitivity (p<0.01), lower consumption of analgesics (p=0.02) and significant intragroup reduction of IL-10 (p<0.05).

**Conclusion:** It was concluded that the proposed new therapy brought clinical benefits in the surgical treatment of GAgP patients.

#### OPTICAL FLUORESCENCE IN DENTISTRY: A LITERATURE REVIEW

RENAN LEMOS DA SILVA; SAYGO TOMO; MÔNICA RIBEIRO DE OLIVEIRA SANTANA; LETÍCIA CARDANA ZAFANI; LUCIANA ESTEVAM SIMONATO

DENTAL SCHOOL, UNIVERSITY BRASIL, FERNANDÓPOLIS, SÃO PAULO

**Aim:** Optical fluorescence is seen today as one of the fastest and safest diagnostic aids in dentistry. The interactions on LED emitted light with fluorophores present in tissues, or exogenous, allow the observation of several tissue alterations. Several studies show its effectiveness with a quick and safe response to the patient. Unlike devices that emit radiation, such as X-rays, optical fluorescence is based on the use of devices that emit light.

**Method:** Reviews of articles published on the platforms Pubmed, Scielo and Google scholar were carried out. The studies obtained excellent results in relation to the diagnostic methods in hard and soft tissues.

**Results:** In dentistry, we can observe, for example, the presence of remaining resin from orthodontic brackets. In periodontics, optical fluorescence was used to observe the presence of stones and biofilm. In stomatology, in soft tissue diagnosis it was seen that when excited by violet light it emits a greenish tone. However, when there is a tissue change, this characteristic also changes. In a neoplastic tissue there is usually a decrease in fluorescence, where we see a darker area.

**Conclusion:** Optical fluorescence is a complementary, non-invasive diagnostic method that allows the dental surgeon to identify changes in oral tissues in real time, thus being able to take appropriate conduct for the diagnosis. In addition, its use in assessing the extent of lesions for treatment planning, such as tumors and necrosis, has been investigated with good results.

#### ORAL AND MAXILLOFACIAL INJURIES RESULTING FROM VIOLENCE AGAINST VULNERABLE MINORS: PERFORMANCE OF THE DENTAL SURGEON

BRUNA MARQUES SANTANA; ANA LAURA WELERSON COELHO COSTA; DIEGO MOTINHA MATOS; NYALI ROSA DE CASTRO; TAMIRIS TORÔA PROCOPIO; SÉRGIO XAVIER DE CAMARGO

JUIZ DE FORA FEDERAL UNIVERSITY - UFJF

**Aim:** Child abuse is any kind of violence against minors, which can be psychological, sexual and physical. Therefore, the aim of this study was to highlight multiples maxillofacial injuries that an abused child may have. It is associated with mistreatments, exploration and lack of care, and can result in actual or potential harm to the child's survival, health or dignity.

**Method:** A literature review of 33 articles indexed in the Pubmed database was carried out, between 2015 and 2020.

**Results:** Considering the analyzed articles, craniofacial, neck and face lesions were observed in most cases of violence against vulnerable minors. The most common oral traumas were: lacerations or burns of the tongue, mucosa, lips, palate or frenulum; fractured or avulsed teeth; facial fractures; bruises and scars on the labial commissure. Unexplained injuries or petechiae of the palate may suggest sexual abuse through forced oral sex. In some cases, bite marks can be found on the victims. It is worth mentioning that there is dental negligence and the precarious oral condition can cause pain, infections and loss of function, besides affecting speech, learning, nutrition and other essential skills for child growth and development.

**Conclusion:** To summarize, it is important to emphasize that all the cases must be notified and reported to the child and adolescents protection service. Therefore, in the Health Team, the Dental Surgeon is potentially one of the professionals who can contribute on the detection and treatment of these injuries in vulnerable minors.

#### ORAL HEALTH RELATED QUALITY OF LIFE IN PATIENTS WITH HEAD AND NECK CANCER: SYSTEMATIC REVIEW

STHEFANIE DEL CARMEN PEREZ PUELLO; CRISTHIAN CAMILO MADRID TROCONIS; JÚLIA VITÓRIO OCTAVIANI; LUCÍDIO ANDRADE ASSIS NETO; BRUNNA VERNA CASTRO GONDINHO; ALAN ROGER DOS SANTOS SILVA; LUCIANE MIRANDA GUERRA

PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** The aim was to evaluate the scientific evidence on the oral health related quality of life (OHRQoL) in head and neck cancer patients (HNCP).

**Method:** Systematic searches (August 2020) were conducted in Medline/PubMed, Science Direct, Scopus and EBSCOHost databases using the search strategy: ("Oral Health-related Quality of Life") AND ("Head and neck cancer" OR "cervicofacial cancer") without restriction on language or publication date. Cross-sectional or longitudinal studies carry out in HNCP and using validated instruments to evaluate OHRQoL were included. Newcastle-Ottawa scale adapted for cross-sectional studies was used for risk of bias assessment.

**Results:** In the primary search, 116 articles were found, from which 5 studies were selected for qualitative analysis. Sample size from included studies ranged between 30 and 153 participants and most of them were male adults from 50 to 80 years. The scales used to evaluate OHRQoL were Oral Health Impact Profile (OHIP-14) in Brazilian and German versions and European Organization of Research and Treatment of Cancer QoL Head and Neck-35 (EORTC QLQ-H&N-35). Most of the primary tumors were located in the oral cavity, in II, III and IV stages. When evaluating the impact of OHRQoL, the most affected dimensions were: physical pain, disability, functional limitation and social aspects. Overall, 60% of the studies had a low risk of bias.

**Conclusion:** Although the scientific evidence was limited, it was suggested that HNCP could experience a negative impact on the OHRQoL, mainly in dimensions such as physical pain, disability, functional limitation and interaction with other individuals.

#### ORAL HYGIENE HABITS IN HOSPITALIZED CHILDREN

ERICK HIDEKI MATSUSUE OLIVEIRA; BEATRIZ CRISTINA DE FREITAS; DAGMAR DE PAULA QUELUZ

PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** To characterize oral hygiene habits in children in a hospital environment.

**Method:** This is a bibliographic review with a survey of articles indexed in the Scielo and Google academic databases.

**Results:** It is pointed out that in a hospital environment, hospitalized children are subject to a set of situations that can contribute negatively to their oral health, such as the drastic change in the eating routine and eating habits, due to the use of potentially cariogenic drugs. Most hospitalized children do not maintain regular hygiene, and it is estimated that after 3 days hospitalized children have an average plaque index of 67.7%, after 5 days this value can reach 100%. The accumulation of biofilm and poor oral hygiene are considered the most evident problems encountered during the dental evaluation of hospitalized children. Liquid children's medications usually contain sucrose, low endogenous pH and high acidity favoring dental erosion. The guidelines on oral hygiene practice are rarely addressed by the health team that provides assistance to hospitalized children.

**Conclusion:** It is concluded that the oral health condition of hospitalized children may be compromised by a high index of dental biofilm, and poor and non-regular oral hygiene habits.

**All abstracts appear as submitted by the authors without editing****ORAL MANIFESTATIONS IN PATIENTS WITH DOWN SYNDROME  
GABRIELLA DIAS BUENO MARTINS; DAGMAR DE PAULA QUELUZ  
PIRACICABA DENTAL SCHOOL - UNICAMP**

**Aim:** Describe and characterize oral manifestations in patients with Down syndrome, aiming to sensitize dental professionals and academics about the oral health care of these patients.

**Method:** It is an integrative literature review, in the Google Scholar and Scientific Electronic Library Online (SciELO) databases.

**Results:** Down syndrome is a human genetic condition characterized by a change in chromosome 21. This change occurs at the time of chromosomal separation of parents in the meiosis phase, causing well-defined characteristics such as a series of oral changes relevant to their quality of life that dentist needs to know to serve them properly. The dento-maxillofacial characteristics alter the entire stomatognathic system with clinical implications in terms of language, food, posture, ventilation and aesthetics, with certain consequences on its physical, psychological and social development. These include brachycephaly, maxillary hypoplasia, pseudomacroglossia, cleft tongue, labial incompetence with decreased lip tone, malocclusion, teeth microdontics, agenesis, supernumerary teeth, changes in dental morphology, delayed tooth eruption and periodontal disease.

**Conclusion:** Early recognition of the consequences of systemic and oral manifestations that may influence the dentist's intervention. It is also important to provide adequate guidance to parents and healthcare providers, in order to make them active agents in the multidisciplinary treatment of these patients.

**ORAL NEUROVASCULAR HAMARTOMA: A RARE ENTITY  
JOÃO PAULO GONÇALVES DE PAIVA; ANA LÚCIA CARRINHO AYROZA RANGEL  
PIRACICABA DENTAL SCHOOL - UNICAMP**

**Aim:** A hamartoma is an abnormal proliferation of normal tissues, considered endogenous to site of the occurrence. In oral cavity hamartomas might be formed by smooth muscle, skeletal muscle, vessels, lymphatics, fat, salivary tissue, nerves and epithelium. Oral hamartomas composed by neurovascular components are truly rare entities, with a few cases reported in literature. Oral neurovascular hamartoma (ONVH) may occurs in many oral locations, with a predilection of the tongue, and clinically can mimic a range of lesions.

**Case Report:** The present study reported a case of a 41-years-old male who was attended the Stomatology Clinic of the State University of Western Paraná – UNIOESTE, complaint of “tongue lump”. The patient presented an asymptomatic submucous firm nodule, with no defined limits, lined by normal mucosa in left tongue dorsum, with unknown evolution. Incisional biopsy was performed, and in transoperative period was observed a poor delimitation of lesion with adjacent normal tissues. After that, histopathological analysis revealed a non-encapsulated lesion with poorly circumscribed margins, composed of a strip subepithelial fibrous tissue interspersed with bundles of skeletal muscle, nerves fibers and blood vessels of different diameters. All these findings contributed to diagnosis of oral neurovascular hamartoma, and thus, was defined the patient clinical follow-up.

**Conclusion:** ONVH may represent a challenging diagnosis due to the scarcity of reported cases, and its important to consider it as differential diagnosis, since clinically may appears as common entities, such reative and neoplastic lesions.

**ORTODONTIC TREATMENT OF GINGIVAL SMILE THROUGH MINI-IMPLANT BETWEEN  
MAXILLARY INCISORS- CASE REPORT  
GLEICIANE CARNEIRO ARAUJO; IZABEL CRISTINA VIEIRA DE OLIVEIRA; GABRIEL  
CUTRIM SILVA; RUI ROBSON LOUREIRO PAIXÃO JUNIOR; BENEDITO VIANA FREITAS  
FEDERAL UNIVERSITY OF MARANHÃO**

**Aim:** The sim of this study was to report a Clinical case of gingival smile treated through orthodontic mini-implant between maxillary incisors.

**Case Report:** A female patient, 23-years-old, presented dental crowding as the main complaint ( “crooked teeth ” ). She had Class I occlusion, slightly convex profile, normal growth tendency, excessive gingival exposure during smiling, slight maxillary and mandibular crowding and lower midline deviation. Orthodontic treatment was performed through intrusion of the maxillary incisors using a mini-implant setted up between the central maxillary incisors roots. At the end of treatment, incisor intrusion, correction of gingival smile and dental alignment were obtained.

**Conclusion:** The mini-implant approach demonstrated effectiveness in intrusion of the maxillary incisors and correction of gingival smile.

**OZONIZED WATER EFFECT AS A DENTIN CLEANING SOLUTION ON THE BOND  
STRENGTH OF A BULK FILL FLOW COMPOSITE RESIN  
ANNA CAROLINY DETOGNI; THAYNA CAROLINA ZENI; POLIANA MARIA DE FAVERI  
CARDOSO; MÁRCIO JOSÉ MENDONÇA; JULIO KATUHIDE UEDA; VERIDIANA CAMILOTTI  
STATE UNIVERSITY OF WESTERN PARANÁ - UNIOESTE**

**Aim:** Several agents can be used to perform dental cleaning, including saline, 2% chlorhexidine digluconate, trisodium EDTA and, more recently, ozonized water, due to its antimicrobial properties. Studies have shown that certain solutions can affect the bond strength. Thus, this study aimed to evaluate the effect of ozonized water, used as a dentin cleaning solution, on the bond strength of a bulk fill flow resin.

**Method:** Forty bovine central incisors were used, divided into four groups (n=10) according to the cleaning agent used: G0: saline; G1: 2% chlorhexidine digluconate; G2: trisodium EDTA; G3: ozonated water 4 ppm. Ozonated water 4 ppm was prepared through the ozone generating apparatus for 5 minutes. The cleaning solutions were applied actively for 20 seconds, and afterward, conditioning with 37% phosphoric acid was carried out for 15 seconds. Then, the universal adhesive system was applied according to the manufacturer's recommendations, and three specimens were made on each vestibular surface. The samples were stored in saline for 96 hours. The microshear bond strength test was performed on the universal testing machine (EMIC). Statistical analysis was performed using the Tukey test (p<0.05), and the fracture type analyzes were performed using the stereoscopic magnifying glass.

**Results:** The test demonstrated the absence of values statistically significant between the groups, which are equal to 6.30 MPa for G0, 5.98 MPa for G1, 4.91 MPa for G2, and 6.05 MPa for G3. A prevalence of mixed and adhesive fractures was observed for all groups.

**Conclusion:** The ozonized water, used as a dentin cleaning solution, did not interfere with the bond strength values.

**PATIENTS' PROFILE OF THE ORAL RADIOLOGY CLINIC AND COMMUNICATION  
BETWEEN DENTISTS AND PATIENTS  
VINÍCIUS FERNANDO VICENTINI; LARISSA MOREIRA DE SOUZA; MATHEUS LIMA DE  
OLIVEIRA; DEBORAH QUEIROZ DE FREITAS FRANÇA****PIRACICABA DENTAL SCHOOL - UNICAMP**

**Aim:** The aim of this study was to assess the patients' profile at the oral radiology clinic of FOP/UNICAMP, the most requested imaging exams, the filling of these requests and the communication among dentist and patient.

**Method:** The sample consisted of 3030 requests for imaging exams. Sex, age, required radiographic technique and purpose of radiographic examination were collected. Chi-square and Kappa tests were used.

**Results:** Most of the patients had requests from FOP/UNICAMP clinics (92.1%), were female (61%) and were in the age group of 21 to 30 years (23%). Panoramic radiography (PAN) (74.8%), cone beam computed tomography (CBCT) (15.8%) and periapical radiography (3.7%) were the most requested techniques. Most examinations were requested for implant planning (19.1%), oral surgery (16.8%) evaluation and planning of third molars removal (11.5%). The dentist-patient agreement about the purpose of the imaging exam was classified as fair (0.31). Dentists and patients agreed to report the same purpose of exams in 1270 cases (42%). However, in more than half of the cases (58%), there were divergences. Many requests (41%) did not have any information about the purpose of the imaging exam and many patients (11%) did not know the purpose of the imaging exam requested.

**Conclusion:** In conclusion, women from 21 to 30 years old were the most frequent patient of the oral radiology clinic of FOP/UNICAMP; PAN and CBCT were the most required exams; professionals did not explain adequately the purpose of the imaging exams to the patients.

**PEDIATRIC DENTAL APPOINTMENTS CHARACTERISTICS DURING COVID-19 PANDEMIC  
CAMILLA KAROLINE DE CARVALHO BECKMAN; REGINA MARIA PUPPIN RONTANI;  
LETICIA MARTINS PEREIRA; CAMILA RIBEIRO SILVA; ALINE ROGERIA FREIRE DE  
CASTILHO****PIRACICABA DENTAL SCHOOL - UNICAMP**

**Aim:** The fast spread of SARS-CoV-2 as well as the high risk of contracting the virus by pediatric dentists have influenced child's dental visits. The present study aimed to assess the impact of COVID-19 outbreak on pediatric dental appointments.

**Method:** A cross-sectional survey using a Google forms questionnaire was distributed to Brazilian pediatric dentists from July to August, 2020 via social media.

**Results:** A total of 377 dentists who practice pediatric dentistry completed the survey. The majority of respondents reported the cut-down of dental practice (70.82%). A greater demand for urgency procedures (67%) was also reported in which the most frequent urgency was dental pain caused by caries (35.4%). Elective treatments was the second main reason for children's dental visits (29.1%), followed by dental trauma (20.4%). Although the rate of absences in dental offices was high (40%), 59.3% of the patients showed up for every appointment. Overall, dentists have reallocated time slots for appointments, running the most visits between 30-60 min (98%).

**Conclusion:** The COVID-19 pandemic has substantially changed child's dental visits, but the main cause of appointments still remains dental caries.

**PERCEPTION OF DENTISTRY DENTISTS ABOUT ATRAUMATIC RESTORATIVE  
TREATMENT****KAMILLA DE OLIVEIRA MENEZES; ALLANA ALMEIDA RISSO; GILBERTO ALVES DIAS;  
HAROLDO JOSÉ MENDES; PATRÍCIA ELIZABETH SOUZA MATOS; SELMA APARECIDA  
CHAVES NUNES****SOUTHWEST BAHIA STATE UNIVERSITY - UESB**

**Aim:** The present paper had as goal to assess dentistry students' perception regarding the advantages, limitations and the practicality of such technique.

**Method:** For this purpose, it was performed a qualitative and quantitative research with data collection employing a structured and standardized questionnaire for students from the sixth to the tenth semesters during the months of March and June of 2019. To assess the subjective questions, the interface of R for multi-dimensional text and questionnaire analysis (Iramuteq) was used through the analysis of the word cloud.

**Results:** All respondents consider this a viable technique, 98.7% believe in the treatment efficacy and 57.1% of the respondents consider the atraumatic restorative treatment the same procedure as oral environment adequacy. Participants think this technique is advantageous since it is easy, simple, of low-cost and it releases fluoride nevertheless, they take it as disadvantageous because of the esthetic and the abrasion of the restoring material. They realized some advantages that this treatment displays, just as they recognize the limitations concerning the material applied, however they display a narrow view in relation to the technique usage.

**Conclusion:** Students consider the procedure as employable and effective but many of them still confuse it with the oral environment adequacy.

**PERCEPTION OF STRESS IN UNDERGRADUATE DENTAL STUDENTS OF PIRACICABA  
DENTAL SCHOOL****NATHÁLIA CRISTINA LOPES E SILVA; FÁBIO LUIZ MIALHE; ROSANA DE FÁTIMA  
POSSOBON; VANESSA GALLEGOS ARIAS PECORARI; KARINE LAURA CORTELLAZZI  
PIRACICABA DENTAL SCHOOL - UNICAMP**

**Aim:** Studies show that stress is more frequent among undergraduate students, which can lead to social and academic difficulties, such as decreased interest in the course and in the acquisition of knowledge. This study aimed to investigate the level of stress perceived by undergraduate dentistry students at Piracicaba Dental School, University of Campinas (FOP-Unicamp) and its association with sociodemographic variables.

**Method:** The sample consisted of 63 graduates from the first three years of the course in the period from 2019 to 2020. The stress instrument (PSS-14) and questions related to age, sex, course period, residence, number of people in the family, educational level of father and mother and monthly family income was applied. Data collection was performed in the classroom and using the online forms (google forms).

**Results:** Descriptive analysis of the data was performed using frequency table (n and %), mean and standard deviation. The crude Odds Ratios and respective 95% confidence intervals were estimated to test the association between the dependent variable (stress) and the independent variables. It was observed that the mean age of students was 21.6 years, with a standard deviation of 1.5. Of the total sample, 28.6% had mild stress, 63.5% moderate stress and 7.9% severe stress.

**Conclusion:** It was concluded that most individuals (71.4%) were classified as having moderate to severe stress and there was no association between stress and the independent variables analyzed. Keywords: Psychological Stress, University Students, Physiological Stress.

## All abstracts appear as submitted by the authors without editing

PERIODONTITIS AND SALIVARY CYTOKINES OF OBESE PREGNANT WOMEN AND THEIR RELATIONSHIP WITH THE INFANTS' WEIGHT AT BIRTH  
GERSON APARECIDO FORATORI-JUNIOR; THIAGO JOSÉ DIONÍSIO; VÍCTOR MOSQUIM;  
SILVIA HELENA DE CARVALHO SALES-PERES  
BAURU DENTAL SCHOOL - USP

Aim: This study evaluated the periodontal condition and the levels of salivary inflammatory mediators in obese and eutrophic women in the 3rd trimester of pregnancy (T1) and after delivery (T2), and the relationship of these factors with the infants' weight at birth.

Method: Fifty pregnant women were divided into: with obesity (GO = 25) and eutrophic (GE = 25) and were evaluated regarding: I- periodontal status; II- salivary levels of TNF-alpha, leptin and IL-1beta by Luminex® assay; and III- infants' weight at birth, which was classified as insufficient (<3 kg) and normal (3 - 3.999 kg). Mann-Whitney, Friedman, ANOVA; chi-square and Cochran's Q test were adopted (p <0.05).

Results: GO showed a higher prevalence of sites with bleeding on probing during T1, while GE showed a worsening in this condition after delivery (p = 0.002). Obese patients had a higher prevalence of periodontitis in both periods (p <0.001). In addition, they had a higher level of TNF-alpha (p = 0.003) and IL-1beta (p = 0.009) in saliva at T1, with a reduction in IL-1beta after delivery. Both groups showed a reduction in salivary leptin levels between periods (p <0.001). Obese women had children with lower birth weight (p = 0.022), with 40% of them being classified as low/insufficient weight at birth (p = 0.025).

Conclusion: It is concluded that women with obesity had worse periodontal parameters during pregnancy and after delivery, having high salivary levels of TNF-alpha and IL-1beta in pregnancy when compared to eutrophic patients. In addition, obese women had children with low/insufficient weight at birth with higher frequency.

PERMANENT TEETH SEQUELS AFTER TRAUMA IN DECIDUOUS PREDECESSORS  
JOYCE HELLEN VIEIRA SANTOS; MARCELO VENTURA DE ANDRADE; SIMONE CIPRIANO LOYOLA DA FONSECA  
IGUAÇU UNIVERSITY

Aim: The dental traumatism is very common in any life stage, however it happens with more frequency in children. Beyond the future implications with relation to dental trauma in deciduous teeth and permanents, there are also functional and aesthetic related problems in patients, resulting emotional consequence on them. The aim of this study had a proposal a literature review about the sequels in permanent teeth after trauma in deciduous teeth, in order that the subject in question be more acquainted to dental surgeons and academics to provide an adequate treatment plan, minimizing future sequels.

Method: This review was elaborated from "Odontopediatria - GUEDES-PINTO" literature and specialized websites like dental magazine "Revista da Associação Paulista de Cirurgiões Dentistas" and periodicals, was searched for terms "teeth trauma", "deciduous trauma" and "tooth injuries".

Results: The deciduous teeth trauma when affecting the permanent teeth formation can result in sequels since white or yellow-brownish discolouration associated to enamel hypoplasia to kidnapping the permanent tooth germ, this flowing from a several dental intrusion of deciduous, leading to paralysis of the successor tooth. Some authors indicate as predisponent factor the type of occlusion, like open bite, and the lack of lip protection are the most prone to the dental trauma.

Conclusion: Concludes that there is a great importance of an adequate dental care for a correct diagnosis and treatment, keeping the patient under observation so that the damages to permanent dentition be minimized.

PHOTODYNAMIC ANTIMICROBIAL CHEMOTHERAPY REDUCES EARLY COLONIZERS MICROORGANISMS FROM THE ORAL BIOFILM  
JULIANA BENINE-WARLET; GABRIELA SANTANA DE PAULA; LUCIANA SOLERA SALES; MATEUS CARDOSO OLIVEIRA; MARCELO BORIOLLO; LIDIANY KARLA AZEVEDO RODRIGUES; MARINÉS NOBRE-DOS-SANTOS; CAROLINA STEINER-OLIVEIRA  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: Considering the cariogenic potential of early colonizing microorganisms in biofilm, alternatives have been sought for their reduction with innovative approaches. This study tested the effect of Photodynamic antimicrobial chemotherapy (PACT) on the early colonizing microorganisms in oral biofilm using the association of photosensitizer methylene blue with  $\beta$ -cyclodextrin nanoparticles and laser or LED on red light spectrum ( $\lambda = 660$  nm).

Method: A multispecies biofilm composed of *S. oralis*, *S. mitis*, *S. sanguinis* and *S. gordonii* was cultivated in 48-well plates containing BHI supplemented with sucrose 1% (w/v), for 24h, and the specimens were divided into the groups (n=9, in triplicate): C- (negative control, 0.9% NaCl), CX (positive control, 0.2% chlorhexidine), L (Laser), LED, P (Photosensitizer/Nanoparticle), LP (Laser+Photosensitizer/Nanoparticle) and LEDP (LED+Photosensitizer/Nanoparticle). Light irradiations were performed with laser at 9J for 113s (323J/cm<sup>2</sup>) or LED (light emitting diode) at 8.1J for 90s (8.1J/cm<sup>2</sup>). Viable biofilm microorganisms' were counted in selective culture media, before and after the treatments, to assess the microorganisms' reduction. Data normality was assessed by the Shapiro-Wilk test and the results were submitted to Kruskal-Wallis analysis, followed by Dunn's test ( $\alpha = 0.05$ ).

Results: A statistically significant reduction was found between C- group and the irradiated groups LP and LEDP. These latter did not statistically differ from the C+ group.

Conclusion: PACT mediated by methylene blue conjugated to  $\beta$ -cyclodextrin irradiated with LASER or LED reduced multispecies biofilm composed of early colonizing microorganisms.

PHOTOGRAPHIC EVALUATION OF GINGIVAL COLOR VARIATION AFTER THE ROOT COVERAGE PROCEDURE  
ISABELA RODRIGUES GONSALES; MATHEUS VÖLZ CARDOSO; GIOVANNA VICENZOTTI; ADRIANA CAMPOS PASSANEZI SANT' ANA; SEBASTIÃO LUIZ AGUIAR GREGHI; MARIANA SCHUTZER RAGGHIANI ZANGRANDO; CARLA ANDREOTTI DAMANTE  
BAURU DENTAL SCHOOL - USP

Aim: After root coverage procedures aesthetic and suitability of tissue color are outcomes related to patients. This study evaluated one method of quantifying tissue color in the postoperative periods of root coverage.

Method: In fifty-four patients treated by a root coverage procedure gingival color was measured by photography's taken in the baseline, immediate, and six months of follow up. The color was quantified from Adobe Photoshop CS6® software, programmed to generate results in the CIE L\*a\*b\* color space. L\* (luminosity), a\* (red-green), b\* (yellow-blue), and the color variation ( $\Delta E$ ) was calculated to compare test area (operated) with control area

(adjacent non-operated) and between periods (initial, immediate, 6 months postoperative). The values of the L\*a\*b\* and  $\Delta E$  were compared within groups using the Friedman complemented by the Dunn test (p<0.05). The comparison between test and control groups and  $\Delta E$  was done by the Mann-Whitney test.

Results: In 180 sites, the values of a\* and b\* showed variations in all periods (p<0.05), for the test and control areas. About the periods, there was a similarity between groups in the values of initial  $\Delta E$  and 6 months (p.0.361), there was a difference between the initial and six months in relation to the immediate (p<0.05), there was no difference for the  $\Delta E$  between the initial and six months (p>0.05).

Conclusion: Due to the large variations in the individual values of L\*, a\*, and b\* between the times, the comparison between periods (initial, immediate, and six months) shows to have less analytical sensitivity than the comparison between areas by the method used in this study.

PORCINE DERMAL MATRIX FOR THE TREATMENT OF MULTIPLE GINGIVAL RECESIONS ASSOCIATED WITH NON-CARIOUS CERVICAL LESION  
AMANDA ROSSATO; INGRID FERNANDES MATHIAS-SANTAMARIA; LAÍS FERNANDA FERREIRA FERRAZ; MANUELA MARIA VIANA MIGUEL; CRISTHIAN REYNALDO GOMEZ BAUTISTA; ANDRÉA CARVALHO DE MARCO; MAURO PEDRINE SANTAMARIA  
DIVISION OF PERIODONTICS, UNESP - SÃO PAULO STATE UNIVERSITY, INSTITUTE OF SCIENCE AND TECHNOLOGY, SÃO JOSÉ DOS CAMPOS, SÃO PAULO, BRAZIL

Aim: Clinical studies assessed different surgical-restorative approaches to treat single gingival recessions associated with non-carious cervical lesions (NCCL). However, although they are a common clinical finding, insufficient evidence is available in the literature concerning the treatment of multiple gingival recessions associated with NCCL and the optimal clinical protocol for its treatment has not been established. Thus, this study aimed to compare two different multidisciplinary protocols through a randomized controlled clinical trial.

Method: For such purpose, forty patients with multiple adjacent gingival recessions associated with NCCL were enrolled and randomly allocated to one of the following groups: test group (n=20), partial restoration of NCCL and modified coronally advanced flap for root coverage associated with porcine acellular dermal matrix (MCAF+PR+XDM) and control group (n=20), partial restoration of NCCL and modified coronally advanced flap associated with connective tissue graft (MCAF+PR+CTG).

Results: After 6 months, combined defect coverage rates were 71.2% ( $2.5 \pm 1.1$ mm) for MCAF+PR+CTG and 59.7% ( $2 \pm 1.3$ mm) for MCAF+PR+XDM (p=0.1). MCAF+PR+CTG resulted in a greater gain of keratinized tissue (p<0.05). MCAF+PR+XDM resulted in lower postoperative pain and shorter surgical time (p=0.001). Both groups resulted in esthetic improvements (p>0.05).

Conclusion: Within the limitations of the present study, it can be concluded that both protocols were effective to treat multiple combined defects, and the use of porcine acellular dermal matrix was associated with lower postoperative pain and shorter chair time.

PREVALENCE OF THE EMISSARY SPHENOIDAL FORAMEN: CONSIDERATIONS AND IMPLICATIONS FOR PERCUTANEOUS TRIGEMINAL BLOCK  
LUCAS NOGUEIRA RAMOS; EMILLY DUTRA AMARAL MEGGIOLARO; AMANDA ALVES RAMOS; KENNEDY MARTINEZ DE OLIVEIRA  
FEDERAL UNIVERSITY OF JUIZ DE FORA

Aim: This study aimed to evaluate, in dry skulls, the presence of the foramen Vesalius or emissary sphenoidal foramen, a communication that will allow, if formed, the passage of a sphenoidal emissary vein that will establish a vascular pathway between the cranial cavity and the upper cervical region. This structure has a variable incidence and usually is located in the sphenoid bone greater wing, often between the foramen ovale and the scaphoid fossa.

Method: Thus, the collection of the Federal University of Juiz de Fora- Governador Valadares Campus was studied. Bilateral integrity of the middle third of the skull base was adopted as an eligibility criterion, excluding ethnic and gender characteristics. For the theoretical basement, the PubMed database was chosen and the terms "foramen Vesalius" AND "emissary sphenoidal foramen" were used. Date and language filters weren't applied.

Results: Thus, 32 skulls were admitted, of which 18 (56.25%) presented the formation of the foramen of Vesalius. Of these, 6 (33.3%) had bilateral foraminal condition. The others, 7 (38.9%), had it only in the right antimer.

Conclusion: It was found that the knowledge of this foramen variant is relevant to the knowledge of cranial vascular accesses in infectious and/or thromboembolic disseminations, as well as for the surgical treatment of the middle cranial fossa. In addition, some percutaneous procedures aimed at punctures, via the foramen ovale, for blocking the trigeminal ganglion may fail due to foramen location error, sometimes associated with the presence of the foramen Vesalius, especially in relation to its diameter and proximity to the foramen ovale.

PREVALENCE OF TRAUMATIC DENTAL INJURIES IN BRAZILIAN CHILDREN AND ADOLESCENTS - A META-ANALYSIS  
WALBERT DE ANDRADE VIEIRA; VANESSA GALLEGOS ARIAS PECORARI; RODOLFO FIGUEIREDO DE ALMEIDA; JÚLIO VARGAS-NETO; EDUARDO ALMADA SANTOS; BRENDA PAULA FIGUEIREDO DE ALMEIDA GOMES; JOSÉ FLÁVIO AFFONSO DE ALMEIDA; ADRIANA DE JESUS SOARES  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: To investigate the prevalence of traumatic dental injuries (TDI) in Brazilian children and adolescents.

Method: A systematic review was conducted considering eight databases (PubMed, LILACS, Scielo, Scopus, Embase, Web of Science, OpenGrey and OpenThesis). The protocol was registered in PROSPERO. Only cross-sectional and cohort studies were included. The JBI Critical Appraisal Tools for Prevalence studies assessed the risk of bias. Heterogeneity among the studies was investigated using the I<sup>2</sup> test. A random-effects meta-analysis was performed. The funnel plot was used for the publication bias analysis. The GRADE tool assessed the certainty of evidence across included studies.

Results: The search resulted in 2,452 records, of which ninety-nine were included in the study. Most studies (81%) had a low risk of bias. In permanent teeth the prevalence of traumatic dental injuries was 20% (95% CI: 17.0 - 23.0) and in deciduous teeth the prevalence was 28% (95% CI: 23.0 - 33.0). The prevalence traumatic dental injuries among boys was 27% (95% CI: 24.0 - 30.0) and among girls was 21% (95% CI: 18.0 - 23.0). The I<sup>2</sup> was high (>75%) in all analyzes. The certainty of evidence was classified as having a very low level of certainty for all outcomes assessed.



## All abstracts appear as submitted by the authors without editing

Conclusion: The prevalence of traumatic dental injuries in Brazilian children and adolescents is similar to that found worldwide, both in deciduous and permanent dentition. Also, the prevalence of TDI among boys is higher than among girls.

PREVENTION OF ORAL DISEASES FOR PATIENTS WITH SYSTEMIC CHANGES  
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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: To highlight how the main oral problems can affect patients with systemic changes and their prevention.

Method: This is an integrative literature review, in the Google Scholar and Scientific Electronic Library Online (SciELO) databases.

Results: Although there have been numerous improvements in the oral health of the general population in recent years, conditions are still not ideal. The immune system is essential for maintaining periodontal health and is essential for the host's response to periodontal pathogens. However, if the immune response is unregulated, inadequate, persistent and / or excessive, harmful chronic inflammatory responses can occur, especially in patients at risk: diabetics, immunosuppressed, smokers. When diabetes is not controlled, the consequent intraoral manifestations that may arise are: periodontal disease, degenerative change in the salivary glands, low salivary flow and changes in the salivary composition. Dental caries can also be a problem for diabetic patients with already installed periodontal disease, due to loss of insertion and root exposure. Preventive procedures in Dentistry have led to greater longevity, and it is necessary to create dental programs aimed at this public.

Conclusion: The best way to prevent the prevalence of dental caries and periodontal disease in patients with systemic changes such as diabetes, immunosuppression and smoking is through preventive measures aimed specifically at them. It is worth remembering that the more these patients are educated, motivated and welcomed, the greater will be their adherence and the better their overall health.

PRIMARY DENTITION' S DEVELOPMENT IN PATIENT WITH COMPLETE BILATERAL CLEFT LIP AND PALATE FISSURES: CASE REPORT  
JORDANA RESENDE MARTINS; ALANDER SILVA ARAUJO; CARLA OLIVEIRA FAVRETTO; CRISTINA ANTONIALI SILVA  
ARAÇATUBA DENTAL SCHOOL - UNESP

Aim: Bilateral cleft lip and palate fissures are congenital disorders with an embryological history that can be diagnosed with ultrasound tests done still on prenatal period. This bad formation has consequences such as alternations that mainly compromise feeding and speech. Dental anomalies are frequent, such as supernumerary teeth which normally occur in fissured region. This work aims to report a case of primary Dentition monitoring development in a patient with complete bilateral cleft lip and palate.

Case Report: Patient I.R., white, female, with bilateral cleft lip and palate searched for dental care in order to have a teeth eruption monitoring. In anamnesis, the mother reported that fissures diagnosis was done still on pregnancy and since then she has monitoring with a medical team and, therefore, has interest in having dental care. Dental eruption of all teeth occurred inside chronology and sequence expected, except for superior lateral left tooth which didn't erupt, having a "pre canine" supernumerary tooth.

Conclusion: Therefore, it can be affirmed that orientation since intrauterine phase it's extremely important to health maintenance in child's life, where monitoring with dentists can diagnose and prevent alternations that may occur. Besides, treatment with a multidisciplinary team is essential to patient's complete establishment of general and dental health.

PROMOTION OF ORAL HEALTH AND ASSOCIATED BEHAVIORS IN ADOLESCENTS  
MATEUS DE PAULO NUNES; DAGMAR DE PAULA QUELUZ  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: To discuss the promotion of oral health and associated behaviors in adolescents.

Method: This is a literature review, using the SciELO and Google Scholar databases.

Results: Education is one of the forms of health promotion whose function is to increase the contribution of knowledge about health, leading to the improvement of the individuals' skills in solving their problems with competence and the expansion of their participation in the process. It is important to highlight that adolescence is the phase in which it is possible to acquire positive habits and attitudes that will persist into adult life; such as food, self-image, individual health, values, preferences and psychosocial development. This phase is perceived by the dentist through manifestations of carelessness with oral hygiene, irreverence regarding the recommendations for a more balanced and less cariogenic diet, lack of consultations and general disinterest in dental care, except when it involves a proposal for aesthetic improvement. Studies highlight the association between health habits, such as oral and general hygiene, use of dental services, use of drugs, cigarettes and alcoholic beverages, with psychosocial factors. Caries and periodontal disease are problems that affect most adolescents, which makes it necessary to develop health promotion strategies.

Conclusion: In view of the numerous characteristics that affect the oral health of adolescents, it is important that there is an expansion of health promotion among them, which can be obtained through empowerment, greater contact between health professionals and adolescents.

PROPOSAL OF A REMOVABLE APPLIANCE ASSOCIATED WITH A MULTIDISCIPLINARY APPROACH: CLINICAL CASE REPORT

JOÃO PEDRO GALLI POLETI; PAULO HENRIQUE GABRIEL; CID MANICARDI; HOMERO CASONATO JUNIOR; EDUARDO CESAR ALMADA SANTOS; JOSÉ FLÁVIO AFFONSO DE ALMEIDA; ADRIANA DE JESUS SOARES; JÚLIO VARGAS NETO  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The objective of this clinical case is to present a proposal for a removable appliance with a multidisciplinary approach in a patient with dental trauma.

Case Report: A female patient, suffered an automobile accident that resulted in lateral dislocation in elements 11 and 12. The clinical and radiographic examination showed a coronal-radicular fracture in element 12 and coronary darkening in 11 associated with contention.

Conclusion: It is necessary in cases of dental trauma a multidisciplinary approach to offer the patient better functional and aesthetic outcomes, contributing to a better quality of life.

PSEUDO-ANKYLOSIS OF THE TEMPOROMANDIBULAR JOINT DUE TO HYPERPLASIA OF ARTICULAR EMINENCE: RARE CASE  
AMANDA FARHAT DE ARAUJO; ROGÉRIO ALMEIDA DA SILVA; DANIEL KAZUTOYO DA PAIXÃO UYEDA  
VILA PENTEADO GENERAL HOSPITAL

Aim: Hyperplasia of articular eminence is a rare condition which the joint surfaces are altered in shape, resembling a pseudo-ankylosis case. This disorder is normally associated with a history of trauma, leading to deviation of the condyle from its normal trajectory. The aim of this article is to report a case of a patient with progressive severe limited open mouth caused by a hyperplasia of articular eminence, which surgical approach was a good option of treatment.

Case Report: A 49-years-old male patient, complaining of progressive mouth opening limitation, after a sport's trauma. Clinically presented with facial asymmetry due left chin deviation, 15 mm mouth opening. Image exams showed hyperplasia of joint eminence and coronoid process. Treatment proposed was based on the Kaban's protocol. Procedure was performed under general anesthesia, endaural pre-auricular access was performed, approximately 15 mm in height of the eminence was removed and a mouth opening test was performed showing 30 mm. As the goal of 35 mm was not achieved, coronoidectomy was necessary, performed through an Obwegeser intraoral access. After that, 42mm of mouth opening was achieved.

Conclusion: Hyperplasia of the joint eminence is a rare condition that resembles TMJ pseudo-ankylosis. Therefore, the best treatment must be an individualized for which patient. Consideration should be given to the patient's complaint, the alteration degree of the TMJ structures and the severity of symptoms, so it is possible to design an effective, reproducible treatment, with less morbidity and cost.

QUALITY ANALYSIS OF RADIOGRAPHS PERFORMED DURING THE ENDODONTIC TREATMENTS CARRIED OUT IN THE DENTAL SCHOOL  
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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The aim of this work was to evaluate the quality of the periapical (Per) radiographs (X-rays) performed during the stages of endodontic treatment (ET), which are: initial radiograph, odontometry, cone test, lateral condensation and final radiograph, evaluated as to the radiographic technique, processing and storage.

Method: Fifty patient records were selected, totaling a sample of 250 Per X-rays. The X-rays were analyzed by 3 experienced endodontists and the Kappa Index was used to analyze the agreement between evaluators.

Results: In the collected data, it was observed that of the 250 X-rays analyzed, 234 presented some type of error in the quality of the X-rays. As for the stages of ET, 87.34% error was observed, of which: odontometry (25.14%); cone test (23.15%); lateral condensation (23.05%) and initial X-ray (16%). Regarding the radiographic technique, obtained 56.95% errors, of which: image stretching (23.59%), horizontal angulation (14.73%), "cone cut" (8.65%), image shortening (5.46%) and inverted film (4.52%). Concerning processing, 85.08% of errors were detected, which are: fingerprints (33.14%), staining (30.47%) and low contrast (21.47%). Regarding storage, errors in relation to groove (83.77%), displacement of the emulsion (12.74%) and bonded films (3.49%) were detected in 100% of the cases.

Conclusion: It was concluded that there was a low quality in the Per X-rays performed by undergraduate students and the most frequent errors were the grooves, fingerprints and staining.

QUALITY OF LIFE OF PATIENTS WITH AURICULAR DEFECTS, REHABILITATED AND IN THE PROCESS OF REHABILITATION: A LITERATURE REVIEW  
JOSUÉ MIGUEL DE OLIVEIRA; ISABELLA VIEIRA AGUIAR SILVA; ALINE ÚRSULA ROCHA FERNANDES; MATEUS VEPPO DOS SANTOS  
UNIEURO UNIVERSITY CENTER

Aim: The aim of this study was to evaluate, through a literature review, the self-perception of quality of life of patients with hearing defects, rehabilitated or undergoing maxillofacial rehabilitation treatment using prostheses.

Method: The descriptors "Auricular Prosthesis AND Quality of Life" were used in the databases Pubmed (37), Lilacs (8), and Scielo (3), totaling 48 articles, published between 1996 and 2020, in English, Portuguese and Spanish. After analyzing the title and abstract, 32 articles that did not answer the research question were excluded, thus, there were 16 articles eligible for the study.

Results: Quality of life has gained importance and has been studied extensively in several areas of health. However, there are still few in the specific area of patients with auricular defects. Studies show that patients with these defects are less affected in their quality of life than patients with other maxillofacial defects. During research on patients with hearing defects and / or rehabilitated with hearing aids, it was observed that these patients have satisfactory levels of quality of life, above 50%.

Conclusion: It can be concluded that most authors suggest that engaging in social activities with close friends or family members is effective, and the reduction of the threat produced by the defect is likely to encourage public exposure and reduce social evasion.

QUANTIFICATION OF MICROBIAL LOAD AND ITS BY-PRODUCTS DURING ENDODONTIC RETREATMENT OF TEETH WITHOUT PERIAPICAL LESION  
ELOÁ CRISTINA BICEGO PEREIRA; ANA R POLAY; ADRIANA DE JESUS SOARES; CAIO CR FERRAZ; JOSÉ FLÁVIO A ALMEIDA; MARINA A MARCIANO; BRENDA PAULA FIGUEIREDO DE ALMEIDA GOMES  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: Microorganisms (MO) and their by-products are responsible for root canal (RC) infections, which are characterized as polymicrobial infections. The objective of this research was to evaluate in teeth indicated for endodontic retreatment for prosthetic reasons, without periapical lesion (PL), the presence of viable MOs and their by-products [endotoxins (LPS) and lipoteichoic acid (LTA)], before and after chemical-mechanical preparation (CMP using: sodium hypochlorite (NaOCl) 6% and chlorhexidine gel (CHX) 2%; and after intracanal medication (ICM).

Method: Samples from 20 RC were collected. Part of the samples was analyzed for the presence of viable MO, and another part was processed using LAL test for LPS and ELISA for LTA.

Results: The reduction of viable MO's was achieved independently of the auxiliary chemical substance (ACS) used, being 99.4% with CHX and 94.1% for NaOCl after CMP. After ICM there was a 98.8% reduction for CHX and 98.6% for NaOCl. For LPS there was a 62.93% reduction for CHX and 67.86% for NaOCl after CMP; and 92.59% for CHX and 85.71% NaOCl after ICM. For LTA there was a lower reduction in their levels after CMP (4.10% - CHX and 10.14% - NaOCl), which increased after ICM (16.43% - CHX and 13.04% - NaOCl).

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Conclusion: We concluded that in all teeth endodontically treated, even without evidence of PL, there was a presence of viable MO's and their by-products. There was a reduction in the levels of microorganisms, LPS and LTA after endodontic retreatment. Funding: FAPESP 2015 / 23479-5, CNPq 303852 / 2019-4, CAPES 001.

REFLECTIONS OF AGGRESSION: DOMESTIC VIOLENCE AGAINST WOMEN, HARM TO LIFE AND ORAL HEALTH OF THIS POPULATION  
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FEDERAL UNIVERSITY OF ALFENAS, MINAS GERAIS, BRAZIL

Aim: This study verified the profile of women who were victims of domestic violence (DV) assisted by CREAS in a small city in the interior of Minas Gerais and evaluated the impact of this aggression on their life and oral health.

Method: Data collection was conducted through an interview using a semi-structured questionnaire applied to 41 patients. Data were entered into the EXCEL® 2013 program.

Results: As for the socioeconomic profile, white women predominated (46.34%), with an average age of 40 years, completed high school (31.70%), single (48.78%), with income ranging from 1 to 2 minimum wages (41.46%) and a large percentage (41.46%) of participants was characterized as major contributors to household expenses. Regarding the type of aggression, 70.73% affirmed being victims of physical violence and 82% stated that the aggressor was their partner. Concerning the aggression, 26.83% were on the head, 17.07% of women reported being assaulted with an object, 26.83% would like to go to a dental surgeon to take care of their oral health and 7.32% needed dental assistance as a direct result of the aggression, but did not seek it. Moreover, 12.19% of these victims were registered presenting systemic health problems after the aggression and 29.27% reported the need for medical care as direct consequence of the aggression, while 39.02% declared a drop in self-esteem after the violent episode.

Conclusion: Hence, a profile of women victimized by DV assisted in the CREAS of that location was outlined and it was observed that physical and psychological damages were consequences for the health of this population.

REHABILITATION OF VAN DER WOUDE SYNDROME PATIENTS – A CASE REPORT  
WITH 20 YEARS FOLLOW-UP

EMILLY DUTRA AMARAL MEGGIOLARO; LUCAS NOGUEIRA RAMOS; DHARA GONÇALVES REIS; CARLOS ALBERTO CARRANZA LÓPEZ; KENNEDY MARTINEZ DE OLIVEIRA

FEDERAL UNIVERSITY OF JUIZ DE FORA, GOVERNADOR VALADARES CAMPUS

Aim: The Van Der Woude Syndrome is a rare autosomal dominant inheritance, caused by mutations in coding gene of interferon 6 regulator factor, characterized by cleft lip and palate, labial pits and high prevalence of hypodontia. This review reports a 20 years Follow-Up case, whose informations were obtained by medical registry and interviews.

Case Report: The patient is a 20 years old female, diagnosed, in 2000, with Van Der Woude Syndrome, presented Complete Incisive Pos-Foramen Cleft, bilateral lower lip pits, class III malocclusion and hypodontia of teeth 13, 14, 24, 34 and 44. In 2014, was realized type hyrax disjunction device installation to expand maxilla and, in 2015, had the indication of orthodontic correction.

Conclusion: Rehabilitation process is long and realized by surgery specialists (maxillofacial, pediatric and plastic), odontology (general, dentistry, pediatric dentistry, orthodontics and periodontology), nursing, physiology, physiotherapy, phonocardiology, genetics, nutrition, otorhinolaryngology, pediatric, palate prosthesis, psychology, radiology and social service. In that interdisciplinary situation, perceive how complex is the conquest of a favorable medical record to the patient, with less sequels.

RELATION BETWEEN OROFACIAL PAIN AND PERIODONTAL DISEASE: A CASE REPORT  
VICTÓRIA BOÉCHAT FEYO; GISELE MARIA CAMPOS FABRI; RAÍSSA CAPUTO DE AZEVEDO; IASMINY SOARES DE OLIVEIRA; MARIA DAS GRAÇAS AFONSO MIRANDA CHAVES; JOSÉ TADEU TESSEROLI DE SIQUEIRA  
SCHOOL OF DENTISTRY - UNIVERSIDADE FEDERAL DE JUIZ DE FORA (UFJF)

Aim: Periodontal disease (PD) is a chronic infectious inflammatory disease with systemic repercussions. Objective is to report a role of PD in the management of orofacial pain.

Case Report: A woman with a 64-years old were referred to the Dentistry Division of the hospital from the Neurology Department with diagnoses of migrânea and attended with complaints of burning on palate, mainly at left side with for more than six months. She had periods of worsening during menstrual period. She was in use of naproxen sodium oral. According VAS she referred 5 points (mild to moderate). The dental clinical exam revealed periodontal disease: plaque index (PI)=60%, gingival bleeding index (GBI)=76%, mean of probing pocket depth (PPD)=2.83 mm (1-7.5) and mean of clinical attachment level (CAL) 2.98 mm (0-5). The periodontal treatment were performed with significant improvement of all periodontal parameters after 30 days sustained for 6 months. The assessment of orofacial pain after 30 days of dental procedures revealed EVA= 3 and after 6 months EVA=0. The neurological prescription was maintained during observational period.

Conclusion: Accordingly, the reduction of craniofacial pain after periodontal treatment reveals a probable relationship between the periodontal local inflammation and craniofacial disorder. Probably, due peripheral and central sensitization due release of inflammatory cytokines by periodontal inflammation; the complex neuronal convergence in trigeminal ganglion could result in a pattern of widespread pain and, too, aspects related to somesthetic representation on cortex that can generate a referral pain.

RELIGIOSITY AND DEPRESSION AMONG UNDERGRADUATE STUDENTS IN DENTISTRY  
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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: Studies have shown that religiosity can be one of the protective factors for the development of depression and that this mental disorder has been increasingly common among undergraduate students, which may affect their academic performance. The level of religiosity and its association with the presence of depressive symptoms among undergraduate students in Dentistry at FOP-Unicamp was investigated.

Method: The participants (undergraduate students in Dentistry at FOP-Unicamp) answered validated research instruments for the Brazilian population (DUREL and BDI) that investigate the level of religiosity and the presence of symptoms of depression, in addition to a questionnaire to collect economic and sociodemographic data. In addition to descriptive statistics, bivariate analysis (chi-square test or Fisher's exact test) was performed, at a 5% significance level, to test the association between religiosity and depression, in addition to socioeconomic and demographic variables.

Results: 57 students participated in this study. The median age of the sample was 21 years old, the majority being female, with more than half of fathers and mothers with a high level of education (graduation completed) and average monthly income of up to 4 minimum wages at the time. 2nd and 3rd year students were 4.73 times more likely to have moderate and severe symptoms of depression than 4th and 5th year students.

Conclusion: There was no association between the level of symptoms of depression and the level of religiosity for the sample studied.

RESIN INFILTRATION OF ENAMEL WHITE SPOT LESION: A CASE REPORT  
ISABELA GUERRA GONTIJO; BIANCA GOMES BARBOSA; VIVIANE LEMOS DA SILVA; ROSA MARIA PEREIRA MOISÉS BARBOSA DE ANDRADE; RUCHELE DIAS NOGUEIRA; VINICIUS RANGEL GERALDO-MARTINS  
UBERABA UNIVERSITY (UNIUBE)

Aim: The aim of this study was to report a case where an infiltrant composite was used to treat enamel white spot lesion.

Case Report: A caucasian 14-year-old male patient, with overall good health, and high-risk for dental caries was selected. He presented white spot lesion in the upper right central incisor. Due to the rough and opaque appearance of the lesion, the treatment with an infiltrant resin (Icon®, DMG, Hamburg, Germany) was chosen. Initially, intraoral photos and x-ray of the affected tooth have been taken for documentation purposes and future comparisons. Then, the tooth was cleaned and treated with the infiltrant resin following the manufacturer's instructions. To verify the effectiveness of the procedure, the patient was assessed immediately and 2 months after treatment.

Conclusion: In conclusion, the technique of low-viscosity infiltrant resin was satisfactory because it was able to impair the progression of the disease and to camouflage the white spot lesion on that tooth.

RESIN-DENTIN BOND EVALUATION OF BULK-FILL COMPOSITES PLACED USING DIFFERENT BONDING AGENTS

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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: This study evaluated the dentin bond strength, failure mode, bonding interface morphology, adhesive infiltration, and marginal adaptation of two bulk-fill composites used with different adhesive systems.

Method: Third molars received occlusal class I cavities that were bulk-filled with Admira Fusion x-tra (ADM, VOCO) or SonicFill 2 (SF, Kerr) using one of four adhesives (Scotchbond Multipurpose - SB, 3M; Clearfil SE Bond - CF, Kuraray; OptiBond All-In-One - OB, Kerr; Futurabond U - FU, VOCO). SB was used with phosphoric acid-etching. The remaining adhesives were applied in the self-etch mode. The microtensile bond strength test used sixty-four teeth (n=8). Failure modes were analyzed by scanning electron microscopy (SEM). Interface morphology and adhesive infiltration (n=3) were investigated by confocal laser scanning microscopy (CLSM). Marginal adaptation was evaluated by SEM. Bond strength, failure mode, and adhesive infiltration data were analyzed for distribution and homocedasticity, and the appropriate statistical analyses were applied.

Results: Composites did not differ regarding bond strength. For SF, no differences were found among adhesives. For ADM, CF showed a lower mean value than SB (p &#8804; 0.05). Cohesive failures were predominant for ADM+CF. Adhesive and mixed failures were observed for all groups. SB led to thicker hybrid layers with deep adhesive infiltration, opposed to FU. The groups ADM+FU, SF+CF and SF+FU presented the highest marginal discontinuity.

Conclusion: The tested bulk-fill composites did not affect dentin bonds. The bond strength of ADM+SB was higher than ADM+CF, which presented higher cohesive failures.

ROOT CANAL MICROBIAL PROFILE AND VIRULENCE FACTORS IN VITAL PULPS

VITO MADIO CHIARELLI NETO; EMELLY DE AVEIRO; ADRIANA DE JESUS SOARES; CAIO CEZAR RANDI FERRAZ; JOSÉ FLÁVIO AFFONSO DE ALMEIDA; MARINA ANGÉLICA MARCIANO; BRENDA PAULA FIGUEIREDO DE ALMEIDA GOMES  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The objective of the present study was to detect microorganisms and their virulence factors in teeth with normal/healthy dental pulp, establishing a basis for future microbiological studies. It was also aimed to evaluate the ability of the chemical mechanical preparation (CMP) in reducing existing levels of microorganisms, endotoxin (LPS) and lipoteichoic acid (LTA).

Method: We selected 18 teeth with normal pulp indicated for endodontic treatment for prosthetic reasons. Samples were collected from the root canal before and after CMP. The microbiological samples were cultured and LPS and LTA were quantified by the Limulus Amoebocyte Lysate (LAL) and Enzyme-Linked Immunosorbent Assay (ELISA) methods, respectively.

Results: For statistical analysis, the Wilcoxon test was used to evaluate intragroup and the Mann-Whitney test for intergroup significance (p < 0.05). The results showed the lack of microbial growth by culture for all samples. LPS showed median levels of 0.01 EU / mL before and after CMP, whereas LTA showed median levels of 7.6 pg / mL before CMP and 2.3 pg / mL after CMP.

Conclusion: It can be concluded that although no bacteria could be cultured from the root canals, the observed levels of LPS and LTA suggest the presence of bacteria virulence factors in normal vital pulp. (Supported by FAPESP 2015/23479-5; CNPq 303852/2019-4 & CAPES 001).

SAGITTAL SPLIT OSTEOTOMY FOR EXTRACTION OF A DEEPLY IMPACTED THIRD MOLAR: A CASE REPORT

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STATE UNIVERSITY OF LONDRINA

Aim: The extraction of deeply impacted mandibular third molars is challenging and, in many cases, a conventional approach requires extensive removal of alveolar bone. This may cause transoperative or postoperative fractures of the mandible and a greater risk of damage to inferior alveolar neurovascular bundle. Sagittal split osteotomy (SSO) of the mandibular ramus is a surgical technique used in the treatment of dentofacial deformities affecting the mandible; it can be used for extraction of third molars with a high degree of impaction, providing a more controlled procedure, with greater visibility of the anatomic structures and no alveolar bone removal.

## All abstracts appear as submitted by the authors without editing

**Case Report:** This work reports the case of a patient with an atypical inclusion of the right inferior third molar associated with unspecific pain. A panoramic radiography showed a deeply impacted third molar, closely related to mandibular canal. A cone beam computed tomography of region confirmed the proximity of the tooth with mandibular canal. The tooth was anchored in both buccal and lingual cortices of the mandible, which were thin and suggested an increased risk of fracture during extraction. Considering the anatomy and risks associated with conventional surgery, a SSO was used to extract tooth #48.

**Conclusion:** The procedure was performed under general anesthesia without complications. The patient recovered well, occlusion was unaltered and a postoperative paresthesia of the inferior alveolar nerve was resolved spontaneously after two weeks. Therefore, the SSO was effective for the extraction of a deeply impacted mandibular third molar, with low morbidity and good surgical predictability.

## SALIVA AS A DIAGNOSTIC TOOL FOR VIRAL PATHOLOGIES

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FEDERAL UNIVERSITY OF JUIZ DE FORA

**Aim:** Saliva is a versatile biological fluid that is easy to collect and non-invasive, and the results of its analysis complement clinical findings in the diagnosis of diseases.

**Method:** This review aimed to verify the use of this material in the diagnosis of viral pathologies. Searches were carried out in the Pubmed database, considering the period from 2015 to 2020, with the keywords: “Saliva”, “Diagnosis” and “Virus”.

**Results:** Initially, 16 articles were selected. Of these, only 13 were included, because they presented data relevant to the theme. Saliva has been used to detect viruses that affect human health such as HBV, HIV, Influenza and Epstein-Barr, with positive results. Analyzed articles used tests such as ELISA and RT-PCR, to evaluate saliva, obtaining high sensitivity and specificity for HBV and HIV. In addition, the use of RT-PCR to detect SARS-CoV-2, proved to be satisfactory, contributing to the use of oral fluid as a diagnostic tool. In relation to SARS-CoV-2, the use of salivary samples can assist in the direct detection of the virus, quantification of specific immunoglobulins, evaluation of the patient's non-specific innate immune response and visualization of diagnostic biomarkers. It is noteworthy that the diagnostic value of saliva depends on the way samples are collected and the location from which they are obtained may be related to early diagnosis or verification of more severe conditions.

**Conclusion:** It was seen that saliva can assist in the detection of viral infections, such as COVID-19. It is essential to establish sample collection and preservation protocols, in addition to the complete assessment of the infected patient.

## SALIVA AS A SAFE AND NON-INVASIVE METHOD IN COVID-19 DIAGNOSIS

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FEDERAL UNIVERSITY OF PIAUÍ

**Aim:** In this literature review, we sought to analyze the efficacy of using saliva as a diagnostic specimen for COVID-19 disease, showing it as a safe, comfortable and practical alternative compared to the nasopharyngeal swab (NPS) and / or oropharyngeal swab technique (OPS), all detected by RT-PCR tests.

**Method:** The search for articles was done through the electronic database PubMed. When applying the terms saliva and COVID-19 and diagnosis and SARS-CoV-2, without time frame, 73 studies were found. Of these, 8 clinical studies were used after analysis of compatibility with the proposed literary review.

**Results:** In general, the use of saliva as a material for testing SARS-CoV-2 has shown to be a technique with comparatively similar results. Although the sensitivity of saliva is slightly less than the NPS/OPS tests, it can serve as an adequate alternative screening, especially in low-resource settings. In addition, the acceptability of the test by the patients is reported in all studies as significantly higher, since it does not cause discomfort in the collection. Of the 8 studies used as the basis for this review, in only 1 did the authors contraindicate its use in obtaining the diagnosis.

**Conclusion:** The use of saliva as an alternative for testing COVID-19 has proved to be a promising tool. This technique provides safe and easily obtainable clinical results, where the patient can perform his own collection, without causing discomfort. In addition, it eliminates the need for coughs caused and physical contact, which signals a risk of contamination of the environment and the professional who performs it.

## SCIENTIFIC EVIDENCE ON COVID-19 ORAL MANIFESTATIONS

YVINA SANTOS SILVA; ALBERT DA PAIXÃO SILVA; BRUNA CELLI NERI BRITO; RODRIGO SANTANA SILVA; SELMA APARECIDA CHAVES NUNES; HAROLDO JOSÉ MENDES; FABIO ORNELLAS PRADO  
STATE UNIVERSITY OF SOUTHWEST OF BAHIA

**Aim:** The aim of this study was to present scientific evidence regarding oral manifestations related to COVID-19.

**Method:** This is an integrative literature review, based on articles available in the PubMed and BVS databases. For the search, the descriptors: dentistry, COVID-19 and oral manifestations were used. 13 files were found, of which 07 were in the format of letters to the editor, and were then excluded.

**Results:** The patients age ranged from 28-83 years. With regard to case reports, 04 articles described oral manifestations in patients with confirmed diagnoses for COVID-19 and 01 contained information from suspected patients. With regard to oral manifestations, aphthous ulcers of varying sizes were mentioned in practically all studies, with some reporting the presence of focal areas of necrosis. Angular cheilitis, depapillation, xerostomia, candidiasis, purple spots, hemorrhagic bullous angina lesions and gingivitis were the clinical findings related in patients with confirmed diagnoses. Lesions similar to recurrent herpetic stomatitis and small ulcers on the palate were the oral manifestations found in suspected patients, without a confirmed diagnosis.

**Conclusion:** In view of the above, it was concluded that the scientific evidence regarding oral manifestations related to COVID-19 is still incipient and is associated with low immunity of the individual affected by the disease. Thus, further studies are needed to strengthen the relationship between the manifestations mentioned and the infection by COVID-19.

## SELF-PERCEPTION AND ORAL HEALTH CONDITIONS IN HOMELESS ADULTS: A CROSS-SECTIONAL STUDY

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**Aim:** The objective was to associate the impact of oral health on quality of life with sociodemographic determinants, self-perception and oral health conditions and access to dental treatment in homeless adults.

**Method:** A cross-sectional analytical research was carried out in four institutions that accommodate adults in permanent and transitory situations, located in the city of Juiz de Fora - Minas Gerais. After applying the exclusion and refusal criteria, there were 251 participants. Data were collected through structured interviews and oral observation, assessment and self-perception of oral health, and the OHIP-14 (Oral Health Impact Profile-14) and ICSB (Community Oral Health Indicator) indicators, which characterized them regarding demographic factors, psychosocial and clinical aspects related to oral health. For evaluation or access to dental services, the protocol used in the National Oral Health Survey was used.

**Results:** The regression analysis revealed the woman with the worst scores in the domains of physical and social disability. Oral health conditions were associated with limitation and physical and psychological incapacity: the presence of more teeth to the negative impact on the functional and physical domains and the presence of inflamed gums, the absence of the need for a prosthesis and the use of private services for greater psychological deficiency.

**Conclusion:** Oral health in the homeless population impacts their quality of life, especially in the physical and psychological aspects and its establishment is a public health challenge. Equitable and inclusive health actions unique to this population should include oral health.

## SEX DIMORPHISM IN COMPUTERIZED TOMOGRAPHY OF BRAZILIANS

FERNANDA CRISTINA DE ALMEIDA\*; VIVIANE ULBRICHT; IZABELLA AMARAL BAESTEIRO; DAIANE RICARDO SANTOS DA SILVA; ANA FLÁVIA DE CARVALHO CARDOZO; DEBORAH QUEIROZ DE FREITAS FRANÇA; JOÃO SARMENTO PEREIRA NETO; LUIZ FRANCESQUINI JÚNIOR  
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**Aim:** The study aimed to seek sexual dimorphism in linear measurements: posterior wall of the Turkish saddle to the anterior nasal spine; posterior wall of the Turkish saddle to R zygium; posterior wall of the Turkish saddle to L zygium; R zygium to L zygium; L infra-orbital foramen to R infra-orbital foramen; L infraorbital foramen to the anterior nasal spine; R infraorbital foramen to the anterior nasal spine, present on CT scans. The project aims to create a new model of logistic regression to estimate sex and discuss the importance of computed tomography in human identification. The project was approved by CEP/FOP/UNICAMP CAEE 54171916.0.0000.5418.

**Method:** The research used 200 tomographic exams from the Osteological and Tomographic Biobank of FOP/UNICAMP. Measured using OnDemand3D™ software and have known sex, age, ancestry and cause of death. Data analysis will use the Shapiro-Wilke and Levene test to analyze the distribution and equality of variances of the variables, respectively. Unpaired t test and Pearson test and logistic regression will also be performed.

**Results:** Calibration was performed, according to Szklo and Nieto (2000), made by the analysis program IBM®SPSS®25 Statistics, obtaining a STRONG correlation. The tabulation of the data was also initiated and collections and bibliographic references were made to be used in the TCC and in the publication.

**Conclusion:** When the measures are finalized, it is expected to be able to verify whether they are dimorphic, and to obtain a logistic regression model to estimate sex, making the process more real and safe.

## SEX ESTIMATION BASED ON CRANIAL BASE MEASUREMENTS ON COMPUTED TOMOGRAPHY - A BRAZILIAN SAMPLE

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PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** The study sought analyze if six linear measurements on computed tomographs (CTs) were dimorphic, as well as the development of a logistic regression model for sex estimation.

**Method:** After approval CEP/FOP/UNICAMP CAEE 54171916.0.0000.5418, 200 CTs were measured (111 male and 89 female) belonging to the biobank of the Forensic Dentistry area, all of them with known age, sex, ancestry and cause of death. Kolmogorov-Smirnov and t tests were applied and the logistic regression was developed by Stepwise-Forward (Wald) method. For calibration and intra-examiner reliability, 25 CTs were measured three times in different moments.

**Results:** A strong correlation was achieved using the indices proposed by Szklo e Nieto (2000). Two measurements were dimorphic (right occipital condyle up to middle of sella turcica and right occipital condyle maximum length) and four measurements didn't differ between sexes (outer section of left occipital condyle with the outer section of right occipital condyle; left occipital condyle up to middle of sella turcica; left occipital condyle maximum width; and outer section of left occipital condyle up to anterior nasal spine). The logit developed was sex = 9.433 + (-0.160 X right occipital condyle up to middle of sella turcica) + (-0.109 X right occipital condyle maximum length), resulting 68% of accuracy.

**Conclusion:** The model obtained can be used as an auxiliary method in sex estimation using Brazilian's CTs.

## SEX IN COMPUTED TOMOGRAPHY SCANS OF BRAZILIAN

THAIS HELENA DOS SANTOS SALGADO\*; DÉBORA COSTA RUIZ; DEBORAH QUEIROZ DE FREITAS FRANÇA; GABRIEL MENDONÇA MARCHINI BLOIS; JOÃO SARMENTO PEREIRA NETO; VANESSA MOREIRA; VIVIANE ULBRICHT; LUIZ FRANCESQUINI JÚNIOR  
PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** This anthropometric study analyzed four linear measurements in computed tomography (CT) of the Osteological and Tomographic Biobank of Legal Dentistry, seeking to verify if they were dimorphic, as well as to build a logistic regression model to estimate sex.

**Method:** The research was approved by the Ethics and Research Committee. All CTs are of the skulls and jaws of 125 male and 94 female individuals, aged between 18 and 80 years old, all with known ancestry, sex and cause of death. To measure the CT, the OnDemand3D™ software was used and the statistical analysis was performed using the IBM® SPSS® 26 Statistics software, which used the Shapiro-Wilke and Levene tests to analyze, respectively, the distribution and equality of variances of the measures under study. In addition, unpaired t test, Pearson test and logistic regression (Hachward Stepwise-wald, Homer & Lemeshow and Nagelkerke) were performed.

**Results:** The calibration was performed [ICC statistical test (intraclass correlation coefficient), according to Szklo and Nieto (2000), performed by the IBM® SPSS® 25 Statistics analysis program, obtaining a correlation considered STRONG]. It was found that all measures are

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dimorphic and the logistic regression model was obtained [logito = 28.467 + (-0.130 \* Forame Mental-Mental) + (-0.279 \* Forame MD-MD)]. Conclusion: The logistic regression model achieved showed an accuracy of 74.9%, and should be used as an auxiliary method in estimating sex in the mandibles of Brazilians.

## SEXUAL DIMORPHISM ANALYSIS THROUGH WEIGHT IN BRAZILIAN DRIED SKULLS AND JAWS

VIVIANE ULBRICHT; STEFANY DE LIMA GOMES; PEDRO DE SOUZA ANDRADE; VANESSA MOREIRA; DAIANE RICARDO SANTOS DA SILVA; JOÃO SARMENTO PEREIRA NETO; LUIZ FRANCESQUINI JUNIOR  
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Aim: Forensic human identification, unceasingly seeks methods that help the existing means of reaching the individual's identity, when he is in conditions of difficult identification by primary methods (DNA, Teeth, typing, orthopedic plaque numbering), because in Brazil the miscegenation is high. This study aimed to verify the existence of sexual dimorphism in skulls belonging to CT and Prof. Biobank osteological Dr. Eduardo Daruge of FOP-UNICAMP.

Method: A cross-sectional observational study was carried out, where the sample elements used were 231 skulls and jaws from Biobank. The sample was divided into four groups, namely: toothed skulls (n = 60), edentulous skulls (n = 171), toothed jaws (n = 78) and edentulous jaws (n = 153). The skulls and jaws were weighed using a semi-analytical digital scale. In-class and intra-examiner calibration was performed according to Szkio and Nieto (2014).

Results: Both in the group of edentulous skulls and in the group of toothed skulls, sexual dimorphism was not found. In the groups of toothed and edentulous jaws, sexual dimorphism was verified. The edentulous jaws were the ones that obtained the most significant weight differences between male and female.

Conclusion: The edentulous mandibles are significantly dimorphic, however, it was not possible to build the logistic regression model. Thus, weight is contraindicated as a method for estimating sex in isolation in Brazilians

## SEXUAL DIMORPHISM IN BRAZILIAN ADULTS THROUGH CRANIAL MEASUREMENTS

ANA FLAVIA DE CARVALHO CARDOZO\*; STÉFANY DE LIMA GOMES; VANESSA MOREIRA; THAIS HELENA DOS SANTOS SALGADO; GABRIEL MENDONÇA MARCHINI BLOIS; CAROLINA DENILO MARCELO; JOÃO SARMENTO PEREIRA NETO; LUIZ FRANCESQUINI JÚNIOR  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The validation of methodologies for estimating sex in national sample is the goal of forensic physical anthropologists. In this study we tried to validate the methodology of Galvão in Vanrell (2016).

Method: Eleven linear measurements were analyzed taking as reference the External Acoustic Meatus (EAM) in dry skulls (n=200) of the Osteological and Tomographic Biobank of Legal Dentistry (109 male and 91 female), aged 23 to 100 years. To obtain the measurements, a craniometer developed in SENAI/Piracicaba was used. After compiling the data obtained, Kolmogorov-Smirnov test and T-tests were applied for data analysis and stepwise-forward logistic regression (Wald).

Results: Sexual dimorphism was observed in seven measures (EAM-GNATHION, EAM-PROSTHION, EAM-Anterior Nasal Spine, EAM-GLABELLA, EAM-LAMBDA, EAM-Left MASTOID and EAM-GONION), but in the EAM-BREGMA, EAM-VERTEX, EAM-OPISTOCRANION and EAM-INION measures, no dimorphism was found. A logistic regression model was obtained to estimate sex with 73.6% sensitivity, 78.0% specificity and 76.0% accuracy.

Conclusion: It was concluded that the model obtained can be used as an auxiliary method to estimate sex in Brazilians.

## SHEAR BOND STRENGTH EVALUATION OF COMPOSITE WITH SILVER NANOPARTICLES COATED WITH SILICON DIOXIDE FOR ORTHODONTICS

LARISSA PEREIRA NUNES; ROGÉRIA CHRISTINA DE OLIVEIRA AGUIAR; EDUARDO SILVA BATISTA; MARINA MARIANTE VIANA; GUSTAVO SIVIERI-ARAUJO; MARCELA CHARANTOLA RODRIGUES; MARINA GUIMARÃES ROSCOE  
ARAÇATUBA DENTAL SCHOOL - UNESP

Aim: The purpose of this study was to investigate the shear bond strength (SBS) of orthodontic brackets to bovine enamel using experimental composites with different concentrations of silver nanoparticles coated with silicon dioxide (Ag@SiO<sub>2</sub>).

Method: Fifty bovine incisors were randomly divided into 5 groups according to the composite (n = 10): G1 - Commercial Control Group (Transbond XT Resin), G2 - Experimental Composite without Ag@SiO<sub>2</sub> nanoparticles; G3 - Experimental composite with 0.5% of Ag@SiO<sub>2</sub>; G4 - Composite with 1% of Ag@SiO<sub>2</sub>; G5 - Composite with addition 3% of Ag@SiO<sub>2</sub>. The shear bond strength test was performed in a universal mechanical testing machine and the analysis of the adhesive remnant index (ARI) by optical microscopy. For analysis of SBS, Analysis of Variance (ANOVA) was used, followed by Tukey test, at 5% statistical significance level. The ARI results were analyzed descriptively.

Results: There was no statistically significant difference between the experimental groups (G2, G3, G4 and G5) and the commercial control (G1) (p > 0.05). However, it was observed that the incorporation of 3% of Ag@SiO<sub>2</sub> reduced the values of SBS, and this difference was statistically significant when compared to group with 1% of Ag@SiO<sub>2</sub> (p < 0.05).

Conclusion: The incorporation of nanoparticles of Ag@SiO<sub>2</sub> to composites did not negatively interfere in SBS of orthodontic brackets to bovine enamel when compared to commercial control. All the tested materials showed shear bond strength values suitable for clinical use.

## SILANES FORMULATED WITH DIFFERENT THIO-URETHANES FOR ADHESIVE BONDING OF FIBERGLASS POSTS TO ROOT CANALS

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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The study evaluated the effect of experimental silanes based on thio-urethanes in restoring root tooth with conventional fiberglass (CP) or anatomical (AP) posts.

Method: After endodontic treatment and rehabilitation with a fiberglass post, the roots of the bovine teeth were separated in these groups (n = 10): G1: CP + commercial silane (control); G2: CP + HDDI silane; G3: CP + HDMI silane; G4: CP + BDI silane; G5: AP + commercial silane (control); G6: AP + HDDI silane; G7: AP + silane HDMI; G8: AP + BDI silane. All groups were submitted to mechanical (1.2 x 106 cycles) and thermal (500 cycles) cycles. Two 1 mm thick slices were obtained from each root third, one submitted to the bond strength test (BS)

and failure pattern (FP) and the other submitted to marginal micro-infiltration (MI) through 2% methylene blue dye. The data obtained was subjected to exploratory analysis with the aid of the R program (Core Team, 2019) at a significance level of 5%.

Results: The results revealed a higher BS in groups G3 and G4 in all roots thirds for CP (p < 0.05) and a higher BS in G5 in cervical and middle thirds for AP (p < 0.05). Most of the samples had mixed (dentin-cement adhesive) failure in all groups. There was a predominance of score 3 (interface stained more than 2/3) in CP, except for the middle third in G3 group and the apical third in G2 and G4 groups. In AP there was a predominance of score 2 (interface stained more than 1/3 and less than 2/3) in all groups.

Conclusion: Thus, it is concluded that the experimental silanes based on thio-urethanes promoted greater BS in CP and the anatomy of the fiberglass posts reduced the MI in all groups.

## SILK FIBROIN MEMBRANE AS ADJUNCTIVE THERAPY FOR PALATE WOUND HEALING: CASE REPORT

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São PAULO STATE UNIVERSITY (UNESP), INSTITUTE OF SCIENCE AND TECHNOLOGY, São JOS: DOS CAMPOS

Aim: It is known that the use of free gingival graft (FGG) in several periodontal plastic surgery procedures can cause great morbidity. To reduce this complication, adjunctive therapies to protect and improve healing of the donor area should be explored. Silk fibroin membranes can be used as a method to protect open wounds in the palatal mucosa after removal of FGG.

Case Report: A 42-year old male patient, systemically healthy, with indication of tooth extraction and socket preservation for implant installation was treated at UNESP-SJC. After anesthesia and tooth extraction, FGG was removed with a punch scalpel with 8 mm diameter and 2 mm thick. FGG was dimensioned to seal the socket entrance and sutured. The donor area received a silk fibroin membrane at its base, covering its entire area. Simple sutures were made to stabilize the membrane in the bottom of the wound.

Conclusion: The silk fibroin membrane did not present any adverse reaction and was well tolerated by the patient. Other clinical studies are needed to evaluate the use of this membrane in palatal wounds.

## SOCIODEMOGRAPHIC FACTORS ASSOCIATED WITH DENTAL TRAUMA IN BRAZILIAN CHILDREN AND ADOLESCENTS: A SYSTEMATIC REVIEW

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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The aim of the present study was to investigate the association between socio-demographic characteristics and the prevalence of dental trauma in Brazilian children and adolescents, through a systematic review and meta-analysis.

Method: The systematic review was registered with PROSPERO. The search was carried out in eight databases. Only observational studies conducted in Brazil were included. The risk of study bias was assessed using the "JBI Critical Appraisal Tools for Systematic Reviews" tool. A random effect meta-analysis was performed. The heterogeneity between the studies was calculated using the I<sup>2</sup> test. The certainty of the evidence was assessed by GRADE. In all, seventy-seven articles were included in the review.

Results: Most studies (70%) had a low risk of bias. The summary effect demonstrated that males (PR: 1.42; 95% CI: 1.35-1.51) and children who live with single parents (PR: 1.25; 95% CI: 1.03 - 1.53) are associated with a higher prevalence of dental trauma. The type of school and education of the mother did not influence the prevalence of TD. The certainty of evidence was rated very low for all outcomes.

Conclusion: Among the sociodemographic characteristics investigated, only sex and the type of family structure were associated with dental trauma.

## STABILITY OF NON-SURGICAL CORRECTION OF GINGIVAL SMILE AND CLASS II DIVISION 1 MALOCCLUSION THROUGH MINI-IMPLANTS

IZABEL CRISTINA VIEIRA DE OLIVEIRA; FLÁVIA CARVALHO DE OLIVEIRA PAIXÃO; HELOÍZA VIANA FREITAS DE MELO; VANDILSON PINHEIRO RODRIGUES; BENEDITO VIANA FREITAS

FEDERAL UNIVERSITY OF MARANHÃO

Aim: The purpose of this case report was to describe a six-year follow-up stability of gingival smile correction through intrusion of maxillary incisors with the use of orthodontic mini-implants.

Case Report: A 21-years-old woman with Class II division 1 malocclusion, convex profile, excessive gingival display, lack of passive lip sealing, excessive labial tipping, extruded maxillary incisors, and retrognathic mandible, was evaluated for orthodontic treatment. Orthodontic mini-implants were used as anchorage for intrusion and retraction of maxillary anterior teeth, after extractions of first maxillary premolars.

Conclusion: Six years later, there was no significant change in most cephalometric measurements or relapse.

## STRESS AND ITS ASSOCIATION WITH ANXIETY AND SELF-ESTEEM AMONG UNIVERSITY STUDENTS

ANA JULIA CAPUTTO SILVA; JORGE EVANGELISTA GONÇALVES; LUIS OTTAVIO FERREIRA DA SILVA; MAYARA FIDELIS SILVA; ROSANA DE FÁTIMA POSSOBON

PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The aim of this study was to investigate the level of stress among university students and to verify whether there is an association with anxiety and self-esteem.

Method: The participants were students from the 1st to the 5th year of the undergraduate course in dentistry, from FOP-Unicamp, who answered research instruments validated in Brazil for the variables: stress, anxiety and self-esteem. Socioeconomic and demographic data were also collected. Individual analyzes using the chi-square test, at a significance level of 5%, were performed to test the association between the dependent variable (stress) and the independent ones (socioeconomic, demographic, anxiety and self-esteem).

Results: The results showed a high prevalence of students affected by high levels of anxiety and stress, but there was no association between stress and the other variables tested. It is inferred that students need help to learn to face their academic and social demands, in order

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to avoid the damage that can be caused by these emotional states altered to the integral formation of the future Dentistry professional.  
Conclusion: It was concluded that most students are experiencing anxiety and stress at high levels, without this being associated with socioeconomic status or self-esteem.

#### STRUCTURAL ANALYSIS OF BLOOD CLOT FORMATION IN IMMATURE TEETH AFTER DIFFERENT IRRIGATION PROTOCOLS – AN IN VITRO STUDY

GIOVANNA HIROMI KITAMURA; BRENDA PFA GOMES; WALBERT DE ANDRADE VIEIRA; JOSÉ FLÁVIO A. DE ALMEIDA; CAIO CÉZAR RANDI FERRAZ; MARINA ANGÉLICA MARCIANO; ADRIANA DE JESUS SOARES  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The aim of the present study was to evaluate the morphology of the blood clot formed after a regenerative endodontic procedure in immature teeth submitted to different irrigation protocols.

Method: Fifteen uniradicular bovine teeth were prepared to simulate open apices and randomly divided into three groups according to the following protocols: (G1) Saline; (G2) Sodium hypochlorite 1.5% + SF + EDTA 17%; (G3) EDTA 17% + SF. Human blood was collected from a healthy volunteer and placed inside the root canal. The roots were kept in a humidifying chamber for 15 minutes until the formation of the clot. The fibrin density of the clots, as well as the morphological characteristics of the erythrocytes and platelets were observed using a scanning electron microscope and evaluated using the ImageJ software. The differences between fibrin densities in all groups were analyzed statistically using the Kruskal-Wallis test.

Results: It was possible to observe that the main morphological alterations were flat, biconcave red blood cells, some with irregular edges and formation of rouleaux (stacking of red blood cells). In addition, the G1 group showed the highest fibrin density (23.306 fibers / 100 µm<sup>2</sup>) when compared to the G2 (4.083 fibers / 100 µm<sup>2</sup>) and G3 (2.028 fibers / 100 µm<sup>2</sup>) groups.

Conclusion: Thus, it was concluded that all the tested irrigation protocols cause changes in the blood clot morphology, being necessary the accomplishment of future studies for greater knowledge and deepening in the subject in question.

#### STUDY OF BILATERAL ALVEOLAR PRESERVATION WITH BOVINE AND HYDROXYAPATITE BONE, HISTOLOGICALLY, TOMOGRAPHICALLY AND TORQUE

ANTÔNIO SIMÕES DE SOUZA FILHO; PROF.DR. DANILO MAÉDA REINO; PROF. DR. MARCELO HENRIQUE NAPIMOGA; CRISTINA RECH FELDMANN; VICTÓRIA ALBERTON DA SILVA; JOÃO PEDRO DE ARAÚJO ALVES PEDROSA; PROF. DR. DANILO LAZARI CIOTTI

SÃO LEOPOLDO MANDIC

Aim: This clinical study compared histologically, clinically and tomographically, the results of alveolar preservation performed with bovine xenogen bone and hydroxyapatite.

Method: Five patients were selected, aged between 26 and 75 years, with indication of bilateral extraction who received both types of biomaterials, Hydroxyapatite and Bovine Bone. Tomography was performed at baseline and another after 6 months. The alveoli were prepared by means of mechanical cleaning and filled with biomaterials applied alone and protected with anodized membrane for three weeks. After 6 months, the implants were installed and a tissue sample was removed for comparative histological analysis of the preserved areas. During the insertion of each implant, the primary stability torques were recorded.

Results: In the thickness preservation, the group treated with bovine xenogenous bone, presented greater maintenance potential in comparison with the group treated with hydroxyapatite. In the torques during the insertion of the implants, the group preserved with Hydroxyapatite showed a greater primary stability than the group preserved with bovine xenogenous bone. In histological analyzes, in none of the collected samples, new bone tissues were found.

Conclusion: Both hydroxyapatite and bovine xenogenous bone showed satisfactory results in the preservation of bone thickness and in the measurement of Torque during the insertion of the implants, but did not present new bone cells in the histological slides.

#### STUDY OF TOTAL EDENTULOUS JAWS AND REFERENCE ANATOMICAL STRUCTURES FOR LOWER ALVEOLAR NERVE ANESTHESIA

CAIO FOSSALUSSA DA SILVA; VITOR LUIS RIBEIRO; ANNY ISABELLY DOS SANTOS SOUZA; VINÍCIUS HENRIQUE FERREIRA PEREIRA DE OLIVEIRA; GISELE RODRIGUES DA SILVA; JOÃO CÉSAR GUIMARÃES HENRIQUES; FÁBIO FRANCESCHINI MITRI  
FEDERAL UNIVERSITY OF UBERLÂNDIA

Aim: The facial skeleton suffers structural alterations resulted from the general loss of bone mass in senile age. These alterations can be intensified with the loss of the teeth, which leads to the progressive reabsorption of the alveolar process, especially in the maxilla, altering as distances between the important anatomical accidents for the infraorbital nerve anesthesia technique.

Method: For this study, 46 adult skulls were used, of which 23 toothed and 23 edentulous, 46 toothed maxillae (right and left) and 46 edentulous maxillae (right and left), without regard to gender or race. Thus, the following factors will be under study: presence or not of teeth (dentate maxilla and edentulous maxilla) and antimer (right and left).

Results: Statistical analysis revealed a significant difference between toothed and total edentate skull, with a smaller distance between anatomical points in the edentulous. In contrast, an interaction between the antimeres in their respective maxillae revealed no significant statistical difference.

Conclusion: The study leads us to conclude that the significant decrease in distances between the notch and the infraorbital were in the total edentulous execution of the technique anesthesia of the infraorbital nerve, resulting in a greater comfort for the patient.

#### SUPERVISED CONSERVATIVE TREATMENT OF MANDIBULAR SUBCONDYLAR FRACTURE – A SEVEN YEARS FOLLOW-UP

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FEDERAL UNIVERSITY OF GOIÁS

Aim: Relate the diagnosis, treatment and follow-up for seven years of a right low subcondylar fracture.

Case Report: Male patient, 13 years old, with complete permanent dentition and in previous orthodontic treatment with a fixed orthodontic appliance, collaborative behavior and good general and mental health, victim of an automobile accident with direct trauma to the symphysis. The patient evolved with a low right subcondylar fracture and was treated non-

surgically, consid-ering the type of rupture, severity, general health and expectations of the patient. The treatment proposed was immobilization for a short period (21 days) to pain relief and restore occlusion, a choice favored by the presence of a fixed appliance already installed, capable of anchoring for maxillo-mandibular fixation (MMF). This simplified the treatment and brought comfort to the patient. After the MMF was released, physiotherapy with wooden spatulas was recommended for three months. The patient was monitored for seven years.

Conclusion: The fracture was stabilized, mandibular movements and occlusion reestablished, and the mouth opening evolved from 30 millimeters, right after the trauma, to 63 millimeters in one year of follow-up, until now. The case had a good prognosis, with excellent functional and aesthetic recovery. The treatment allowed him to return the function and normal activities, without major sequelae, with the lowest possible morbidity.

#### SURFACE PROPRIETIES OF LOW COST BRAZILIAN LIGHT-CURABLE COMPOSITES AFTER TOOTH BRUSHING

MARCELA ALVAREZ FERRETTI; RENATA PEREIRA; RODRIGO ESTEVES BARROS LINS; MARIANA GUSMÃO CORSINI SOARES; LARISSA JACÓ HESSEL PINTO; LUIS ROBERTO MARCONDES MARTINS; FLÁVIO HENRIQUE BAGGIO AGUIAR  
PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: This study aimed to evaluate microhardness, roughness, color, gloss and topography of low-cost Brazilian light-curable composites

Method: 120 specimens (8mmx2mm) were prepared and divided in 5 groups (n=24): Ultrafill (Biodinâmica), Lis (FGM), Fill Magic (Coltene), Appic (Makira), Filtek Z250 XT (3M Oral Care). Surface microhardness (KHN) (n=10) were analyzed after and before simulated tooth brushing. Another 10 specimens for each group were also analyzed for surface roughness (Ra), color parameters ( $\Delta L$ ,  $\Delta a$ ,  $\Delta b$ ,  $\Delta E$  and  $\Delta E00$ ) and gloss unit (GU) at the same times. The sample topography were evaluated by Scanning Electron Microscopy (SEM) (n=4). Data were statistically analyzed by two-way repeated measures ANOVA with Bonferroni post-hoc test (KHN, Ra and GU), and one-way ANOVA with Tukey post-hoc test ( $\Delta L$ ,  $\Delta a$ ,  $\Delta b$ ,  $\Delta E$  and  $\Delta E00$ ) ( $\alpha=0.05$ ). Topography images were submitted to descriptive analysis.

Results: Simulated tooth brushing statistically influenced of KHN, Ra and GU, and the color variation was not clinical perceptible. Filtek Z250 XT presented the highest KHN and GU in both times. Domestic composites presented similar values of all properties evaluated. SEM images showed filler exposition after simulated mechanical brushing for all composites.

Conclusion: Simulated tooth brushing was a mechanical process capable of modifying the equilibrium between organic matrix and filler. Furthermore, Brazilian low-cost composites have no short-term damages to their physical proprieties in comparison to the international composite used in this study.

#### SURGERY OF RED AESTHETIC HARMONIZATION WITH CLINICAL CROWN INCREASE SURGERY WITHOUT SURGICAL ACCESS

ATILA DE FREITAS; MARCO WAKASA; CASSIO KAMPTITS

SÃO LEOPOLDO MANDIC

Aim: Currently, cosmetic dentistry has been seeking to be minimally invasive in its procedures and this has brought advances in all areas of dentistry, in periodontics aesthetic procedures have increased significantly, as well as invasive procedures. The harmonization of red aesthetics, with the increase of the clinical crown (Gingivoplasty), could not be different. This procedure, where the correction of the patient's clinical crown is made, according to the size of the anatomical crown, where the cementum enamel junction and the maintenance of the biological space, will be done through an access via the gingival sulcus, without the need for Access. surgical flap. With a conservative view, we analyzed in this work, a periodontal surgery to increase the aesthetic clinical crown, without surgical access, for the maintenance of the biological space. There were 10 patients, with measurement of the clinical crown before and after surgery, in a period of 1 month.

Case Report: The aim of this study is to measure the amount of tissue removal after clinical crown augmentation surgery without flap opening, evaluating stability in 3 months.

Conclusion: The proposed technique promoted an aesthetic improvement by reducing the gingival excess and exposing the clinical crowns, with the absence of suturing, suturing, major interventions, and the shorter transoperative time and faster gingival repair make this technique a good alternative for surgical treatment of gingival smile. The excess of gingival tissue and the inadequate contour of the gingival margin were improved with the use of surgical technique.

#### SURGICAL MANAGEMENT OF A RECURRENT ENDODONTIC INFECTION - CASE REPORT

GABRIEL GONÇALVES RIBEIRO; NAIRA GEOVANA CAMILO; ISMAEL FERNANDES DA SILVA JÚNIOR; LUAN CARLOS GOMES TEIXEIRA; GIULIANO CAIXETA SERPA; MÔNICA MISAÉ ENDO; ORLANDO AGUIRRE GUEDES; HELDER FERNANDES DE OLIVEIRA  
UNIVERSITY CENTER OF ANAPOLIS - UNIEVANGÉLICA

Aim: The persistence of endodontic infection signals the need for a complementary surgical approach in order to eradicate the infectious process. The purpose of this study was to present a clinical case of endodontic surgery justified by the recurrence of a fistula in the region of the vestibular mucosa of the 21 after the completion of treatment, after completing the entire sanitation process, intracanal medication and technical filling and sealing.

Case Report: Patient S.B.B., 39 years old, female, attended a dental clinic at UniEvangélica complaining of discomfort in the region of 21. On intra-oral physical examination, the presence of a fistula was noted apically to the region, but without evident signs of coronary infiltration. Periapical radiography showed the presence of a satisfactory filling within the recommended limits. The CBCT showed a wide area of periapical bone destruction with disruption of the vestibular cortex. The permanence of the diagnosis of periapical abscess with fistula justified the indication of a surgical. The procedure included periapical curettage of the lesion, exposure and root apicectomy, the preparation of a retro-cavity with subsequent retrofilling, using the white MTA material associated with Sealapex endodontic cement. Histopathological diagnosis was periapical granuloma.

Conclusion: Clinical and radiographic follow-ups carried out between 15 days and 12 months have shown repair of the affected area, complete closure of the fistula and absence of pain. The surgical strategy represents, when properly indicated, a favorable and viable alternative in the endodontic failures due to microbial causes.

#### SURGICAL REMOVAL OF MUCOCELE IN CHILD PATIENTS: CASE REPORT

GIOVANNA TORQUETO CASTILHO; FRANCYENNE MAIRA CASTRO GONÇALVES; NAYARA GONÇALVES EMERENCIANO; MARÍLIA ANDRADE FIGUEIREDO DE OLIVEIRA; NATÁLIA MARIA CASTORINO DE OLIVEIRA; MARCELLE DANELON  
UNIVERSITY OF RIBEIRÃO PRETO-UNAERP

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**Aim:** The aim of this study was to report a clinical case of mucocele that developed after a local trauma.

**Case Report:** A child, 7 years old, female, attended the Pediatric Dentistry Clinic- University of Ribeirão Preto-UNAERP, Brazil, together with his mother, who complained of the appearance of a "little ball that swells and swells" in the lower lip, approximately 40 days ago. The intraoral clinical examination showed that the lesion had a nodular, exophytic, pink coloration, flaccid on palpation, with a diameter of approximately 0.5 cm. As clinical conduct, it was decided to totally excise the lesion, taking care to remove any smaller salivary gland that might be involved with the lesion, so that no relapse would occur. Then, the lesion was then submitted for histopathological analysis, in which the diagnosis of mucocele was confirmed. In the postoperative period of 7 days, the child was not present, however after 14 days he returned for clinical evaluation, and it was possible to observe good healing in the area, normal clinical aspect tissue in the region.

**Conclusion:** It is concluded that in the case of mucocele the surgical removal is a safe treatment, reducing the risk of recurrence of injury.

#### SYMPTOMATIC ENDODONTICALLY TREATED TEETH: EVALUATION OF THEIR PERIODONTAL STATUS USING CBCT SCANS

NICOLLY OLIVEIRA-SANTOS; EDUARDA HELENA LEANDRO DO NASCIMENTO; HUGO GAËTA-ARAÚJO; CHRISTIANO DE OLIVEIRA-SANTOS; MONIKELLY DO CARMO CHAGAS NASCIMENTO; DEBORAH QUEIROZ FREITAS  
PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** The aim was to evaluate the association between the technical quality of endodontic filling and the periodontal status of symptomatic endodontically treated teeth by means of cone-beam computed tomography (CBCT) exams.

**Method:** CBCT images of 297 endodontically treated teeth were evaluated by two oral radiologists and classified regarding the quality of endodontic filling (adequate and inadequate) and periodontal status (healthy and unhealthy). The following periodontal lesions were considered: apical periodontitis (AP), isolated lateral lesion, periodontal bone loss and endo-perio lesion. The presence of intracanal post was also assessed in cases of isolated lateral lesion. The chi-square test was used to compare endodontic filling quality and periodontal status ( $p < 0.05$ ).

**Results:** Endodontic filling was classified as adequate in 112 (37.7%) cases and as inadequate in 185 (62.3%) cases. The presence of intracanal post was associated with the presence of isolated lateral lesion in most cases for the maxillary anterior teeth and mandibular premolars. In general, the cases with inadequate endodontic filling were significantly associated with an unhealthy periodontal status ( $p < 0.05$ ). Also, the presence of AP and isolated lateral lesion were significantly associated with teeth with inadequate endodontic filling ( $p < 0.05$ ).

**Conclusion:** Symptomatic teeth with inadequate endodontic filling are highly associated with presence of apical periodontitis and isolated lateral lesion. In addition, in symptomatic endodontically treated teeth, regardless of endodontic filling quality, apical periodontitis is the most frequent periodontal status.

#### SYSTEMIC LUPUS ERYTHEMATOSUS WITH DENTAL EMPHASIS: DENTAL SURGERY IN FRONT OF THE LUPIC PATIENT

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EURO-AMERICAN UNIVERSITY CENTER FOR EDUCATION, SCIENCE AND TECHNOLOGY (UNIEURO)

**Aim:** Systemic lupus erythematosus is an autoimmune inflammatory disease that can affect one or more systems, especially the kidneys. For the dental surgeon it is necessary to know the particularities of this type of patient so that he can adapt dental treatment to the reality of the chronic patient.

**Method:** The study was by reviewing literature in Portuguese, English and Spanish, with an emphasis on publications from the last 5 years, including previous classics of relevance on the subject.

**Results:** The importance of an anamnesis well performed by the dentist was explicit. It was through it that it was possible to know about the use of immunosuppressants, cutaneous and oral disorders, as well as the systemic disorders that was configure changes in medication and treatment in certain cases. There was a relationship between SLE and xerostomia arising from it or from an association with Sjogren's syndrome. Recurrent mouth ulcers were common in patients with lupus activity, as well as a higher prevalence of caries.

**Conclusion:** Oral disorders in SLE patients make the dentist one of the main evaluators capable of initiating an individualized systemic investigation. The treatment of this group must be careful and highly elaborated in order to avoid drug interactions of chronic drugs and those used in dentistry.

#### TAXONOMIC AND FUNCTIONAL COMPOSITION OF BIOFILM AFTER 2-10 YEARS OF MAINTENANCE IN AGGRESSIVE PERIODONTITIS PATIENTS

CAMILA SCHMIDT STOLF; RENATO CORRÊA VIANA CASARIN; HÉLVIS ENRI DE SOUSA PAZ; ENILSON ANTÔNIO SALLUM; MÁRCIO ZAFFALON CASATTI; FRANCISCO HUMBERTO NOCITTI JÚNIOR; KARINA GONZALES SILVÉRIO RUIZ; MABELLE DE FREITAS MONTEIRO

PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** Periodontal treatment of patients with aggressive periodontitis (AgP), currently grade C periodontitis affecting young adults, is challenging and often accompanied by poor clinical response and residual sites associated with the maintenance of a more pathogenic microbiota. Thus, the objective of this study was to evaluate the effect of periodontal treatment and periodontal support therapy (PST) on AgP.

**Method:** 10 patients with AGP (treated with subgingival debridement associated with systemic antibiotics and in PST between 2 and 10 years) and 15 periodontal healthy patients (H) were selected for the study. Clinical parameters were evaluated and subgingival biofilm was collected in groups H and AgP pre- (B) and post-treatment (T). The bacterial DNA was extracted and the 16S rRNA was sequenced by the Miseq platform. Bioinformatics tools were used for taxonomic analysis and the PICRUST2 tool was used to predict the metagenomic content of the biofilm.

**Results:** There was clinical improvement after periodontal treatment and PST ( $p < 0.05$ ). Taxonomically, there was a difference in beta diversity between H and AgP ( $p < 0.05$ ). Despite changes in the abundance of some species, there was no change in diversity between B and T ( $p > 0.05$ ). There was greater expression of genes associated with virulence and antimicrobial resistance in the biofilm of the AgP group, with some genes being perpetuated even after treatment and PST ( $p > 0.05$ ).

**Conclusion:** It is concluded that even after clinical improvement, AgP maintains its own and perpetual taxonomic and functional characteristics in the biofilm that may be associated with its etiopathogenesis.

#### TELEDENTISTRY AS SUPPORTING TOOL IN PEDIATRIC DENTISTRY DURING COVID-19 PANDEMIC

CAMILA RIBEIRO SILVA; ALINE ROGÉRIA FREIRE DE CASTILHO; CAMILLA KAROLINE DE CARVALHO BECKMAN; LETÍCIA MARTINS PEREIRA; REGINA MARIA PUPPIN RONTANI

PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** The COVID-19 pandemic has brought new challenges to dental practice. This study aimed to assess the availability and routine use of teledentistry by dentists in Brazil.

**Method:** A national web-based questionnaire survey was delivered to Brazilian dentists through Facebook, WhatsApp, and Instagram.

**Results:** The surveys were completed by 377 pediatric dentists. Overall, 90.1% of respondents considered teledentistry as an important tool for communication with caregivers during pandemic. Teledentistry was used by 82.7% of the respondents to obtain information of dental emergencies prior face-to-face assistance. A total of 25.4% offered a copy of the Consent Patient Form to caregivers by teledentistry before in-person visit. Only 50.4% of dentists used teledentistry by digital means to perform the medical and dental history before regular dental appointments. Most professionals (95%) considered themselves able to pass information on about contagion, most common symptoms and protective measures against COVID-19. Whatsapp was the most used means of communication among professionals, followed by Instagram.

**Conclusion:** Teledentistry had a wide acceptance by dentists and it may be considered an interesting tool for delivering information and communication between caregivers and dental teams during COVID-19 pandemic.

#### THE ECONOMIC IMPACT OF NEW BIOSAFETY GUIDANCES FOR DENTAL PRACTICE PRE AND POST COVID-19 PANDEMIC

LEONARDO DE FREITAS FERREIRA; RENNIS OLIVEIRA DA SILVA; EDSON HILAN GOMES DE LUCENA; ANDREZA MARIA LUZIA BALDO DE SOUZA; DENISE DE FÁTIMA BARROS CAVALCANTE; MARCELO DE CASTRO MENEGHIM; ANTONIO CARLOS PEREIRA; YURI WANDERLEY CAVALCANTI  
FEDERAL UNIVERSITY OF PARAIBA

**Aim:** The aim of this study was to evaluate the economic impact of new biosafety recommendations for oral healthcare assistance during COVID-19.

**Method:** An Activity-Based Costing evaluation was used to estimate the purchase costs of personal protective equipment (PPE) and decontamination solutions for dental practice during the COVID-19 pandemic in Brazil. PPE and decontamination solutions quantity and frequency of use were based on the newly COVID-19 guidances. Costs (in Brazilian Real - R\$) for biosafety recommendations pre- and post- COVID-19 were defined and calculated for each patient, service shift, and year. A sensitivity analysis made a 20% variation of costs.

**Results:** Previously to the COVID-19 pandemic, costs of biosafety conducts were of R\$0.84 per patient, R\$6.69 per service shift, and R\$3,413.94 per year. Post-COVID-19 costs of biosafety conducts were R\$16.01 per patient, R\$128.07 per service shift, and R\$32,657.96 per year. Yearly costs may be around R\$26,126.37 and R\$39,189.56. The annual budget increment required to apply post-COVID biosafety recommendations was R\$29,244.02.

**Conclusion:** Newly biosafety guidance increased remarkably the costs of oral healthcare assistance during the COVID-19 pandemic. Decisions of healthcare managers must consider the rational and equitable use of financial resources.

#### THE EFFECT OF PHOTODYNAMIC THERAPY ON POST-OPERATIVE PAIN IN TEETH WITH PRIMARY INFECTION

ESDRAS GABRIEL ALVES-SILVA; CAROLINA STEINER-OLIVEIRA; ADRIANA DE JESUS SOARES; CAIO CÉSAR RANDI FERRAZ; JOSÉ FLÁVIO AFFONSO DE ALMEIDA; MARINA ANGÉLICA MARCIANO; VANESSA GALLEGUE ARIAS PECORARI; BRENDA PAULA FIGUEIREDO DE ALMEIDA GOMES  
PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** This study aimed to investigate the action of photodynamic therapy on pain control after endodontic treatment in patients with primary infection.

**Method:** Sixty teeth with pulp necrosis and periapical lesion were selected, randomly divided into 2 groups: control group ( $n = 30$ ) and group using photodynamic therapy (PDT,  $n = 30$ ). The channels were instrumented, irrigated with 2% chlorhexidine gel and filled with Endomé thasone N® cement. Pain intensity was assessed at 4, 8, 12, 24, 48, 72 h and 1 week after endodontic treatment, using the visual analog scale. The level of pain was classified as none (0), mild (1-3), moderate (4-7) or severe (8-10). The data were analyzed using the Mann-Whitney and Friedman tests, with a significance of 5%.

**Results:** There was a statistically significant difference ( $p < 0.05$ ) in the periods of 4, 8, 12, 24, 48, 72 h between the control and PDT groups. After 1 week there was no difference between groups.

**Conclusion:** It was concluded that photodynamic therapy had a significant effect in decreasing pain after endodontic treatment in the first 72 hours, in teeth with necrotic pulp and periapical lesion.

#### THE EFFECT OF REMOVABLE PARTIAL DENTURE ON THE RECOVERY OF AESTHETIC COMFORT AND MASTICATORY FUNCTION

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FEDERAL UNIVERSITY OF ALFENAS

**Aim:** Evaluate the level of satisfaction of partially edentulous patients with regard to aesthetics, comfort and function during the chewing process before and after being rehabilitated with removable partial dentures.

**Method:** In this study, 30 partially edentulous patients were selected from the Removable Partial Denture Clinic of the Dentistry Course at the Federal University of Alfenas - UNIFAL-MG. The patients answered a questionnaire before and after receiving the rehabilitation treatment where evaluated their level of satisfaction in relation to oral aesthetics and the feeling of comfort and safety with the process of chewing food.

**Results:** 73.33% of patients reported having better comfort and safety during the chewing process, among these, it was reported that the improvement in the ability to chew food was 50%. 26.66% of the patients reported difficulties to chew with the new dentures, which can be observed due to their lack of adaptation in relation to the treatment received. 86.67% reported being more satisfied and happy with their teeth in relation to oral aesthetics. 6.66% of patients

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reported aesthetic discomfort due to presence of the prosthesis support clamp in the anterior region 6.66% did not report aesthetic improvement due to the prosthesis rehabilitating posterior teeth without impacting the appearance of the smile.  
Conclusion: It was possible to observe that the rehabilitation treatment with removable partial denture was significant for improving the aesthetics and function of patients in relation to chewing food, impacting, in this context, their quality of life.

THE FUTURE OF DENTISTRY POST-COVID-19 PANDEMIC  
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FEDERAL UNIVERSITY OF RIO DE JANEIRO - UFRJ

Aim: The present study aimed to discuss, in the form of a literature review, strategies for dental practice, with emphasis on Minimal Intervention Dentistry (MID), given the new sanitary scenario.

Method: A search was then conducted in the MEDLINE database accessed through PubMed with the keywords "COVID-19", "Aerosol" and "Preventive Dentistry". The inclusion criteria were articles published in the year 2020, in English, in their full and free versions.

Results: It became evident that there is a high risk of infection for dentists and contamination of their patients by SARS-CoV-2 due to the production of aerosols during dental practice. In view of this, the rigor with biosafety increased and measures to control the production of aerosols were indispensable to reduce the risk of infection transmission during visits. In addition, the MID, characterized by conducts and procedures that preserve dental structure, minimize exposure to aerosols, result in longer tooth longevity, avoid restorative surgical cycles and reduce treatment costs, should be pointed out as the most coherent philosophy of practice post-pandemic.

Conclusion: In conclusion, the sanitary scenario imposed by SARS-CoV-2 required a restructure of biosafety and dental care for a less invasive, more preventive and more democratic approach, in which MID corroborates with the decrease in exposure to droplets and aerosols from both the dental team and patients.

THE IMPACT OF DIFFERENT IMPLANT INSERTION TORQUES ON BONE DAMAGE: A LITERATURE REVIEW

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FEDERAL UNIVERSITY OF JUÍZ DE FORA

Aim: Several authors have investigated the variables responsible for the success of osseointegration of dental implants. This study reviewed the literature on some factors correlated with implant prognosis, with a special focus on the link between peri-implant bone microdamage generation and insertion torque.

Method: Studies published in the PubMed, Scielo and Bireme databases between 1977 and 2019 were reviewed.

Results: The data obtained showed that the success of implant rehabilitation therapy is related to factors such as bone quantity and quality, geometry, surgical technique, surface treatment, systemic factors, insertion torque, among others. Bone microdamage promote signaling for repair and remodeling, and the pattern observed around implants is dependent on tissue density, amount of load employed, geometry and milling diameter. However the accumulation of damage may be responsible for bone fragility and osseointegration failure. The results are controversial, with high peri-implant tension and compression indices related to high torque, and greater marginal bone loss compared to the ideal torque (30-40 Ncm). On the other hand, favorable results were found regarding the prognosis of these implants, associating them with greater primary stability, avoiding micromovements. Surgical bed preparation osteotomy has been shown to be responsible for most of the damage to the bone around implants.

Conclusion: It was concluded that further studies are needed, using methodologies that reproduce the conditions found in the oral cavity and provide more concrete data on this correlation.

THE IMPORTANCE OF PREOPERATIVE ANTISEPSIS IN THE PREVENTION OF INFECTIOUS ENDOCARDITIS

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SPEED UP IDIOMAS

Aim: This literature review aims to clarify the importance of preoperative antiseptic in preventing this pathology. This procedure has extreme need to be performed mainly in patients with cardiac prosthesis and rheumatic heart disease.

Method: A literature review was performed in articles of the APCD, Pubmed and SciELO database, using the key words: infectious endocarditis, antiseptic.

Results: According to the reviewed literature, it was found that patients with cardiac valve abnormalities, rheumatic heart patients and cardiopathies, are the most likely to contract endocarditis due to bacteremia during dental procedures. Therefore, preoperative antiseptic, which acts in the significant reduction of oral microbiota, is indispensable.

Conclusion: In view of the findings in the literature, we have shown that it is extremely important that the dentist be attentive to the signs of his patients, especially those with cardiac impairment, thus always performing preoperative antiseptic on them.

THE JUDICIALIZATION OF ACCESS TO SPECIALIZED TREATMENTS: A JURISPRUDENTIAL ANALYSIS

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PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: The present study aimed to associate the type of judicial demand with final proceedings, with the procedural characteristics and health care municipalities in the State of Ceará.

Method: This is a cross-sectional study consisting of all cases before the Court of Justice of the State of Ceará, between 2010 and 2018. The data were collected through the court's website, analyzed descriptively and expressed in absolute frequencies and percentages depending on the type of demand of the process. For inferential analysis, models of simple and multiple logistic regression between the outcome variable and contextual variables. All variables with  $p < 0.20$ , remaining those with  $p \leq 0.05$  after adjustments for the other variables, with a significance level of 5%.

Results: A further 224 actions were selected for the analysis, the highest demand being the State of Ceará (65.6%), followed by the municipality (30.4%). The city of Fortaleza (68.3%) was the one that most required actions. There was an increase in the number of processes

with drug/other demand until 2015, contrary to the processes with demand for ICU beds/surgical procedures are noted the increase in the number over time.

Conclusion: It was concluded that the legal claims vary depending on the year and the characteristics complexity of the demand, but not being able to specify whether there is a social iniquity, given the lack of information in judgments to characterize the profile of the authorship.

THE PSYCHOLOGICAL IMPACT OF SOCIAL DISTANCING ON FORP USP UNDERGRADUATE AND POST GRADUATE STUDENTS

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SCHOOL OF DENTISTRY OF RIBEIRÃO PRETO - USP

Aim: The aim of this study was to evaluate the psychological impact (quality of life and anxiety) of COVID-19 on undergraduate and post graduate students.

Method: The Institutional Research Ethics Committee (N34719220.0.0000.5419) approved the research. 257 students from School of Dentistry of Ribeirão Preto – University of São Paulo agreed to participate and answered an online form consisting of 3 questionnaires: sociodemographic questionnaire, Abbreviated Inventory of Quality of Life of the WHO and General Anxiety Disorder-7. The data were analyzed using the Graph Pad Prism 7a ( $\alpha = 5\%$ ). It was used the Mann-Whitney or Kruskal-Wallis and Dunn's s post-test for statistical comparisons. For the correlation test, the Spearman test was used.

Results: On a scale of 1 to 100, with 100 being the best quality of life, the average obtained for life's quality was 64.71 ( $\pm 13.36$ ). 87.6% of the students rated their quality of life as Good or Very Good. Also, 74.7% of them reported Good or Very Good health. Anxiety analysis resulted in an average of 10.04 (4.5), indicating a moderate anxiety. Inverse proportional correlation was observed between age and anxiety degree ( $p = 0.008$ ,  $r = -0.1628$ ). A positive correlation ( $r = 0.69$ ) was obtained between student's self-perceived learning and commitment.

Conclusion: We concluded that despite the students' good life quality and good health self-perception, they showed a high anxiety degree during the social distance caused by COVID-19, also demonstrating an interest and commitment decrease during distance education.

THE ROLE OF 10-MDP IN THE ADHESION PROCESS

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UNIDOCUTUM

Aim: Dentin bonding is a complex process for dental restorations, requiring the formation of chemical interactions for effective bonding. In this context, the molecule of the monomer 10-methacryloyloxydecyl dihydrogen phosphate (10-MDP) has a phosphate group that interacts with calcium, present in enamel and dentin, and a methacrylate group that reacts with resin composites promoting strong chemical bonds. The aim of the study was to relate, through a literature review, the properties of monomer 10-MDP with its benefits for adhesion in the field of restorative dentistry.

Method: To perform this review, a search was realized in the Medline, BVS and Lilacs digital databases using the search terms: Dental Restoration Failure; Dental Cements; Dentistry; Adhesive. In addition, the articles found were reviewed to find additional information in their references.

Results: The addition of functional monomers in adhesive systems promoted the expansion of adhesive forces through chemical bonds and, thus, increased the quality of restorative treatments. The differential of the 10-MDP monomer is in its molecular structure, which allows bonds of greater stability and duration due to the functionality of the phosphate and methacrylate groups that adhere to the dental substrates, metal oxides and composite resins.

Conclusion: It is concluded that the 10-MDP monomer stands out for making the adhesion between dental tissues, composites, zirconia and resin cements more stable and lasting, being considered the gold standard monomer for dentin adhesion.

THE ROLE OF ANATOMY ON ODONTOGENIC INFECTION PROPAGATION: LITERATURE REVIEW

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JUÍZ DE FORA FEDERAL UNIVERSITY - UFJF

Aim: Infections due to dental caries, periodontal or periapical diseases can disseminate through continuity, meaning that it spreads to the bone tissue, and to the bone cortical tissue, it also can spread to conjunctive tissue and into the fascial spaces, causing the odontogenic infection. The anatomy of the tooth and adjacent structures exerts impact on the dissemination of infection. The thickness of the root apex covering bone and the relation between the muscles insertion sites on the bone are the main factors which determine the place where to dissemination will happen. The objective of this study is to show the importance and influence of anatomic structures on propagation of odontogenic infections and the complications derived from the involvement of various fascial spaces.

Method: This study is a review from articles published in the PubMed and Scielo published between 2006 and 2019.

Results: The infection could be mild with a good prognostic, but depending on the fascial space affected, it can generate severe complications such as sinusitis, descendent mediastinitis and cerebral abscess. In this regard, the treatment of odontogenic infections in mild and moderate cases need medication therapy, removal of etiological factor and surgery drainage. On the severe cases, hospitalization of patient is needed.

Conclusion: The knowledge of anatomy, pathways and means of progression of the pathogen enable the practitioner to preview the possible regions that would be affected, making the direct treatment possible. The sooner the intervention, the better are the outcomes since it reduces the infection spreading, and consequently the chance of complication.

THE ROLE OF THE DENTAL SURGEON IN THE RECOGNITION AND DENUNCIATION OF SEXUAL VIOLENCE AGAINST CHILDREN

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Aim: The aim of this work is to explain through a literature review, the importance of the dentists in recognition, diagnosis, treatment and denunciations in cases of child patients victims of violence.

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Method: It was performed a bibliographic research in the databases PubMed, Scielo and Academic Google with the terms “child sexual abuse”, “dentist”, “cirurgiãodentista” and “abuso infantil”, 16 articles were selected in portuguese, english and spanish, in their free versions, from 2010 until now.

Results: Half of the world’s children and teenagers are exposed to some form of violence. In Brazil, in 2019, there were 86.800 calls to “Disque 100” denouncing violation of the rights of this group and 17.000 of which were about sexual violence. Child sexual abuse generates psychological damage, such as aggression and stress. Physical signs such as lesions in the oral cavity, head and neck, and oral manifestations of Sexually Transmitted Diseases (STDs), can be observed during the performance of the dentist. The professional needs to be able to recognize clinical signs in the oral mucous of STDs, such as Gonorrhea and Syphilis. Besides, they should pay attention to suspicious lesions in the child’s body and also to changes of behavior.

Conclusion: It is up to the dentist not only to be vigilant about the signs, but also to report the cases of child sexual abuse and notify the Guardianship Council or similar institution. Therefore, it is important that dentists are trained to manage and face situations of child sexual abuse the proper way.

#### THE ROLE OF THE GUBERNACULAR CANAL FOR THE DETERMINATION OF THE ERUPTIVE PROCESS

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Aim: The gubernacular cord is a structure of connective tissue that connect the lamina propria of the overlying gum to the dental follicle of the permanent tooth. This cord is sheltered by the gubernacular canal (GC), a path that is formed during the intra-osseous eruptive phase of the tooth, which guides the tooth to its eruptive position. For being an intra-osseous structure, the GC can be rated radiographically. The present study aims to show the role of the gubernacular canal, evaluated by tomography images, for the determination of the eruptive process.

Method: A search was performed in the PubMed and Google Scholar databases, using the descriptors: “gubernacular canal” and “tomography”, and their respective variations obtained through MeSH descriptors. Eight studies were included in this review.

Results: The analysis demonstrated that in disturbed eruption cases is more likely to the GC be absent or has altered form. Besides that, the tooth with anormal eruption and horizontal position presented GC detection rates slightly higher than those with normal or angled position. The study also showed that where the GC is connected to the follicle’s space also influences in the probability of having an anormal eruption. The closest tooth to the eruption presented a shorter GC, indicating that their length may vary according to the patient’s age.

Conclusion: In conclusion, the presence and the condition of the GC are strongly related to the eruption pattern, therefore the evaluation of this structure through the tomographic images can help to predict possible complications in the dental eruption.

#### THE USE OF APPETITE SUPPRESSANTS: THE HIGH PRICE OF THINNESS

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Aim: To understand about the use of appetite suppressants, addressing the associated problems, side effects, and medications.

Method: This is a bibliographic review with a survey of articles indexed in the Scielo and Google academic databases.

Results: The consumption of appetite suppressants in Brazil is one of the largest in the world. Problems are pointed out, such as self-medication, inadequate prescription practices, the irrational use of appetite suppressants, the inappropriate use of psychotropics and a greater use of anti-obesity drugs among university students. Sensations of impatience, irritability, nervousness, insomnia, malaise, dizziness and anxiety have been described as side effects. Among the most cited anti-obesity drugs are Orlistate, Sibutramine, Amfepramone, Saxenda, and Fluoxetine (antidepressant medication). One of the ways to reach the energy deficit and reduce body weight is to limit the total caloric intake, only if it is impossible to adhere to this clinical approach, particularly in the most severe cases, would the use of anorectic drugs be justified. Its use is strongly related to the culture of thinness. The prevalence of anorexic drugs among women and adolescents is higher.

Conclusion: The use of appetite suppressants was a cause for concern, mainly due to the high proportion of use without medical indication or prescription, and for having several important side effects. The most cited anti-obesity drugs are Orlistate, Sibutramine, Amfepramone, Saxenda, and Fluoxetine (antidepressant medication).

#### THE USE OF TOYS AS A FORM OF INTERACTION WITH CHILDREN IN DENTAL CARE

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Aim: In order to improve the dentist-patient relationship, the “Centro de Pesquisa e Atendimento Odontológico para Pacientes Especiais” (CEPAE) started using a ‘Mascot’, a small animal toy carried along with the professional for interacting with the child. Aiming at investigating the guardian’s perception of their child’s behavioral changes, we compared the dental visit that went on before and after the team started using the toy.

Method: A total of 66 guardians took part in the study. They were interviewed in the waiting room at the end of each consultation as to collect data regarding the child’s behavior. Descriptive analysis of the data was carried out using frequency tables (n and %). The McNemar test was applied for comparing before and after the use of the Mascot, with a significance level of 5%.

Results: In the waiting room, 31.8% did not collaborate with the professional but started collaborating after the Mascot figure was instituted. During anthropometry, 50.0% did not fully collaborate but started collaborating after the Mascot was used by the professional. 60.6% did not collaborate with the dentist in the clinical examination before and started to collaborate afterward. When performing plaque disclosure, 30.3% of the patients needed physical restraint before and did not need it afterward. Regarding the dental brushing performed by the mother during the consultation, 37.9% cried and started not to cry after interacting with the Mascot.

Conclusion: Using the Mascot contributed to improving the child’s behavior in all stages of dental care, including during preventive procedures.

#### THE UTILIZATION OF REAL-TIME POLYMERASE CHAIN REACTION (Q-PCR) AS DIFFERENTIAL DIAGNOSIS OF ORAL CANCER

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CENTER UNIVERSITY OF CATHOLIC AT QUIXADÁ

Aim: the objective was to do a literary review about using the real-time polymerase chain reaction (Q-PCR) as a diagnostic method of oral cancer.

Method: A search for data was performed in the Pubmed and Science Direct databases using the descriptors: Real-Time Polymerase Chain Reaction, Mouth, Neoplasms and Diagnosis registered in MeSH. A total of 9 articles were reached, after applying the inclusion criteria were articles published in the period from the years 2019 to 2020, containing english language and relevance to the theme, therefore, 6 articles were selected after a critical reading of titles and abstracts. The clinical cases and literature reviews were excluded.

Results: The studies revealed the possibility of analyzing genes, highlighting possible biomarkers of malignant lesions using Q-PCR, it was also observed that the modulation of the Long noncoding RNA LINC00958 in the face of tumorigenesis through the regulatory axis miR-185/YWHAZ may be useful in the diagnostic investigation associated with the therapeutic target of oral squamous cell carcinoma. The studies also evaluated genes for malignant lesions using the Quantitative Q-PCR diagnostic technique using taqMan.

Conclusion: In short, most articles explained that Q-PCR is a promising method for diagnosing oral cancer, as well as for monitoring other malignancies.

#### THIRD MOLAR MATURITY INDEX FOR ADULT AGE INDICATING - A BRAZILIAN SAMPLE VERENA RODOLPHO OLIVEIRA; ROCHARLES CAVALCANTE FONTENELE; DEBORAH QUEIROZ DE FREITAS FRANÇA; PAULO HENRIQUE FERREIRA CARIA PIRACICABA DENTAL SCHOOL - UNICAMP

Aim: To estimate the aging of living or dead people is an important part of forensic science. It can be useful in different situations such as mass disasters, civil or criminal reasons. Teeth are important in this context because they are more resistant than bones that are hardly affected by exogenous or endogenous factors. Third molars (3M) are in development from the 14 years old, they are useful in determining if a person has reached the legal age of 18 or not. Our study aimed to evaluate the effectiveness of the 3rd molar maturity index (I3M) in a Brazilian population to estimate age (over or under 18) and compare sensitivity and specificity of this method with stages G and H of Demirjian.

Method: A total of 230 radiographs were evaluated according to the method of Cameriere et al. (2008) to obtain I3M, which corresponds to the sum of the distances between the internal sides of the two open apices divided by the length of the tooth. If the root development of the third molar is complete, then I3M = 0.08mm. All measurements were made by two examiners.

Results: The inter-examiner reliability test indicated homogeneity of assessment among the observers (Dahlberg &#8804; 1 mm). The ANOVA test showed that gender has no effect on the average value of age distributions (p=0.315), however, has an effect between the maturity of apical formation with the age of the volunteers (p&#8804;0.001). The likelihood ratio showed that in phase H and when I3M &#8804; 0.08 there is greater specificity in the tests.

Conclusion: Was possible to conclude the use of I3M &#8804; 0.08 is adequate to determine adulthood (18 years) for forensic purposes.

#### TREATMENT OF BILATERAL CONDYLAR FRACTURES ASSOCIATED WITH MANDIBULAR SYMPHYSIS FRACTURE: CASE REPORT

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DENTAL SCHOOL OF FEDERAL UNIVERSITY OF GOIÁS

Aim: This following case report describes the treatment of a patient with bilateral condylar fractures and mandibular symphysis fracture.

Case Report: A 23-year-old male, normal vital signs, absence of systemic diseases, motorcycle accident victim. Admitted to Emergency Hospital of Aparecida de Goiânia, conscious with pain as well as difficulty opening his mouth. In oroscopy, was observed dentoalveolar trauma in the anterior maxilla, limitation and pain of mouth opening, mobility of bone fragments in the mandible and occlusal dystopia. Imaging examination revealed open symphysis fracture, indirect intra-capsular fracture in the left condyle and extra-capsular fracture in the right condyle with medial dislocation. In the symphysis and in the right condyle, surgical treatment was performed after 06 days of trauma. Under general anesthesia, was realized a reduction and fixation of the fractures using mini-plates and screws.

Conclusion: One of the main causes of condylar fractures is dissipation of tension from trauma in frontal face region. In these cases, an accurate diagnosis and individualized treatment of the patient is essential for functional rehabilitation of the jaw. The patient in question showed absence of mouth opening limitation and mandibular movements preserved, such as protrusion and laterality.

#### TREATMENT OF ORAL CANDIDIASIS WITH PHOTODYNAMIC THERAPY (PDT): LITERATURE REVIEW

LETICIA CARDANA ZAFANI; MÔNICA RIBEIRO DE OLIVEIRA SANTANA; CILSON VINICIUS DE SOUZA RAMOS ALCÂNTARA; NATÁLIA FRANÇA LUCATTO; RENAN LEMOS DA SILVA; NILTON CÉSAR PEZATI BOER; RODRIGO BORGES DE OLIVEIRA; LUCIANA ESTEVAM SIMONATO  
UNIVERSITY BRAZIL

Aim: Oral candidiasis is a pathology that, having a multifactorial etiology, has increasing incidence and resistance. Therefore, photodynamic therapy (PDT) has been used in its treatment with positive results. PDT is composed of visible light, photosensitizer and oxygen, combining time, frequency and sessions necessary for cell death and elimination of injury. The objective of this work was, through a literature review, to describe and highlight the efficiency of PDT in the treatment of oral candidiasis.

Method: A bibliographic survey was carried out from articles indexed in Scielo and PubMed using the keywords: photodynamic therapy, oral candidiasis, candida.

Results: According to the literature reviewed, it was found that due to the use of drugs, prostheses, medication and low immunity, candidiasis has a high recurrence rate and is resistant to drug therapy in most cases. Thus, PDT has been indicated with the use of methylene blue dye, which is used as a photosensitizer and applied to the entire extent of the lesion, with the visible light and oxygen they contain in the cells, the molecules of the photosensitizer are excited and when they normalize cell death occurs. The most effective treatment is the use of drug therapy associated with photodynamic therapy.

Conclusion: In view of the findings in the literature, it has been shown that it is extremely important for the dentist to have the control of oral microorganisms in his patients, using a new



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modality such as PDT, being a less invasive treatment, without side effects and at an affordable cost.

#### TREND OF HOSPITALIZED CASES OF ORAL CANCER IN BRAZIL AND ORAL HEALTH COVERAGE IN THE PUBLIC HEALTH SYSTEM FROM 2009-2017

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FEDERAL UNIVERSITY OF PARÁIBA

**Aim:** This study aimed to analyze the trend in the number and the severity of hospitalized cases of oral cancer in Brazil, according to the coverage of public oral health services and clinical characteristics. This cross-sectional study considered the period between 2009-2017.

**Method:** Data from the Hospital Registry of Cancer from the National Cancer Institute were used, considering the primary locations (C00-C06). The frequency of hospitalized cases was correlated with the coverage of Primary Care Oral Health Teams (ESB) and the number of Dental Specialty Centers (CEO). The chance of advanced oral cancer cases was estimated, according to healthcare and clinical characteristics. Data were analyzed using Tweedie and Binary logistic multivariate regression ( $\beta$ 945;<0.05).

**Results:** There was an increasing trend in the number of hospitalized cases of oral cancer in Brazil between 2009 and 2017 ( $B=0.043$ ,  $p<0.001$ ,  $PR=1.044$ ). The increase in ESB coverage was associated with an insignificant increase in the number of hospitalized cases of oral cancer ( $B=0.001$ ,  $p=0.003$ ,  $PR=1.001$ ). The increase in the number of CEO was associated with a reduction in the number of hospitalized cases of oral cancer ( $B=-0.085$ ,  $p<0.001$ ,  $PR=0.918$ ). The increase of ESB ( $OR=0.998$ ) and in the number of CEO ( $OR=0.974$ ) contributed to the reduction of stage IV oral cancer cases, whilst the history of alcohol and tobacco use ( $OR=1.574$ ) was associated with the increasing in the number of cases.

**Conclusion:** Even with an increasing trend, the expansion of the public health system reduced the number of hospitalized cases and the frequency of advanced oral cancer cases in Brazil.

#### TRIGEMINAL NEURALGIA OCCASIONED BY CYSTIC ADENOID CARCINOMA IN PALATE REGION: CLINICAL CASE REPORT

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PIRACICABA DENTAL SCHOOL - UNICAMP

**Aim:** The present study aims to report the case of a patient with trigeminal neuralgia caused by cystic adenoid carcinoma on the palate, taking into account the treatment and prognosis.

**Case Report:** Patient S.F.A., female, 26 years old, came to the Head and Neck Surgery service of the Hospital dos Fomecedores de Cana complaining of a nodule in the region of the soft palate and intense odynophagia. During the anamnesis, the patient reports having noticed the injury 8 years ago and being a cocaine user, ex-alcoholic and ex-smoker, without other comorbidities. On physical examination, fibroelastic and submucosal lesions were noted, affecting the posterior region of the soft palate and the posterior portion of the left hard palate.

**Conclusion:** Salivary glands can show a diverse range of neoplasms and cellular changes, being a diagnostic challenge for even the most experienced clinician and pathologist. Although the ACC of the minor salivary gland is a very common tumor, its diagnosis should be made with caution. Complete surgical excision with free surgical margins is the key to the successful treatment of these tumors. Besides, clinical and imaging follow-up will determine the tendency for cystic expansion, identifying and categorizing clinicopathologically ultimately guiding the most appropriate treatment.

#### TRISMUS PREVALENCE AND SEVERITY ACCORDING TO THE TYPE OF TREATMENT AND ITS IMPACT ON QUALITY OF LIFE OF CANCER SURVIVORS

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FEDERAL UNIVERSITY OF SANTA MARIA

**Aim:** The aim of this cross-sectional study was to evaluate the prevalence of trismus, its degree of severity, as well as its association with treatment modalities and implications on quality of life (QoL) of oral and oropharynx cancer survivors.

**Method:** Measurements of the maximum mouth opening (MMO) were performed with a millimeter ruler in a sample of 52 patients who completed treatment with radiotherapy, associated or not with chemotherapy and/or surgery. Trismus was defined when the MMO was  $\leq 35$ mm. To assess the severity of trismus, the sample was divided into moderate trismus ( $MMO \leq 35$ mm and  $\geq 25$ mm) and severe trismus ( $MMO < 25$ mm). QoL was assessed using the University of Washington questionnaire.

**Results:** 63.46% of the patients presented trismus, and among these, 42.42% had severe trismus. The prevalence of trismus was higher in patients treated with radiotherapy and concomitant chemotherapy ( $p=0.036$ ), but there was no association between the type of treatment with the severity of trismus. Patients who reported previous difficulty in opening mouth were associated with a higher prevalence of severe trismus ( $p=0.013$ ). There was association between trismus and worse QoL ( $p=0.005$ ), although the scores of patients with moderate trismus (690.58) or severe trismus (680.00) were similar.

**Conclusion:** Therefore, trismus had a high prevalence in the sample studied and it was higher in patients treated with radiotherapy and concomitant chemotherapy. The severity of trismus may be associated with aspects related to the tumor, and not to the type of treatment performed. Only the presence of trismus, regardless of severity, had a negative impact on QoL.

#### UNION OF FIBERGLASS POST TREATED WITH EXPERIMENTAL SILANS BASED ON TIO-URETHANES FIXED WITH RESIN CEMENTS

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**Aim:** This study was to evaluate the shear bond strength, infiltration and failure pattern in roots with fiberglass posts treated with commercial or experimental thio-urethane silanes, fixed with resin cements and submitted to thermal and mechanical cyclings.

**Method:** The roots were sectioned and separated: RX-RU2 (RelyX CP and RelyX U200); PETMP-HDDI-RU2 (PETMP-HDDI and RelyX U200); PETMP-BDI-RU2 (PETMP-BDI and RelyX U200); RX-RU (RelyX CP and RelyX Ultimate); PETMP-HDDI-RU (PETMP-HDDI and RelyX Ultimate) and PETMP-BDI-RU (PETMP-BDI and RelyX Ultimate). One slice was

submitted to the strength test and analysis failure pattern; and another was evaluated for infiltration by dye.

**Results:** Comparing thirds, RX-RU showed greater resistance in the cervical and apical; PETMP-HDDI-RU2 with similar values in the three thirds; and PETMP-BDI-RU2 in the apical. RX-RU showed greater resistance in the apical third; and PETMP-HDDI-RU or PETMP-BDI-RU similar values in the 3 thirds. Comparing each third, PETMP-HDDI-RU2 provided greater resistance in the 3 thirds and similar in the apical third in the RX-RU and PETMP-BDI-RU. Most showed mixed failures. In the cervical, the majority was cement-dentin-post for RX-RU2 and dentin-cement adhesive in the PETMP-HDDI-RU2 and PETMP-BDI-RU2. There was a predominance of score 3 (stained more than 2/3) followed by score 2 (stained up to 2/3) in all thirds, except for the apical in the RelyX Ultimate (score 2 followed by 3).

**Conclusion:** Silanes promoted different values of shear strength of the bond of fiberglass posts, with a better result in the PETMP-HDDI. There was a predominance of mixed failure and score 3 in the microleakage.

#### USE OF A TRIPLE ANTIBIOTIC PASTE IN ENDODONTIC TREATMENT OF DECIDUOUS MOLARS: CASE REPORT

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**Aim:** Non-instrumental endodontic therapy has stood out for being a minimal intervention approach that uses a mixture of antibiotics to disinfect the root canals. This case report describes the treatment and 36-month follow-up of a deciduous necrotic molar using the modified technique of “Injury Sterilization and Tissue Repair” (LSTR).

**Case Report:** A 5-year-old female patient sought dental care complaining of pain in the region of tooth 85. The clinical oral examination revealed the presence of caries with pulp involvement in tooth 85. In the preoperative period (T1), the patient had a fistula, abscess and edema and had no pain. The endodontic treatment was performed under absolute isolation, following the LSTR technique with triple antibiotic paste. In the follow-up, T2 (one month), T3 (6 months), T4 (12 months) and T5 (36 months) showed no changes in the clinical aspects evaluated. From the radiographic aspects, T1 was found to have a large inter-radicular lesion and at the end of the follow-up in T4 and T5, complete bone regeneration was observed in the region.

**Conclusion:** The LSTR technique showed satisfactory results in the pulpectomy of a deciduous necrotic molar.

#### USEFULNESS OF METAL ARTEFACT REDUCTION ALGORITHMS IN REDUCING VOLUMETRIC DISTORTION OF TITANIUM AND ZIRCONIUM IN CBCT

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**Aim:** This study set out to assess the usefulness of metal artefact reduction (MAR) algorithms in reducing the volumetric distortion of titanium and zirconium in cone-beam computed tomography (CBCT) images.

**Method:** Four titanium cylinders and four zirconium cylinders were manufactured, and their physical volumes were obtained by means of the Archimedes principle. The four cylinders of the same material were placed inside a polymethylmethacrylate phantom at a time and CBCT images were acquired using the Picasso Trio and the OP300 systems with their MAR enabled and disabled. The tomographic volume of each cylinder was obtained by semi-automatic segmentation. Volumetric distortion was expressed as the difference between tomographic volume and physical volume. Intraclass correlation coefficient (ICC) and analysis of variance (ANOVA) for repeated measures with Tukey post-hoc test ( $\alpha=5\%$ ) were performed.

**Results:** The ICC values indicated excellent reproducibility for the tomographic volumes measurements. The MAR algorithm of Picasso Trio underestimated titanium tomographic volume ( $p<0.05$ ) and was inefficient in significantly reducing the volumetric distortion of zirconium ( $p>0.05$ ). The MAR algorithm of OP300 overestimated zirconium tomographic volume ( $p<0.05$ ) and had no significant effect on titanium volumetric distortion ( $p>0.05$ ).

**Conclusion:** In conclusion, the MAR algorithms tested herein were ineffective to reduce the volumetric distortion of zirconium and titanium in CBCT images.

#### VALIDATION OF THE MATHEMATICAL MODELS OF ULBRICHT; PEIXOTO; AND ARAÚJO, FOR THE DETERMINATION OF SEX IN BRAZILIANS

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**Aim:** Three mathematical models [(Ulbricht 2017 model), (Peixoto 2017) and (Araújo 2017)] were validated in order to prove the real accuracy, in terms of sex estimation, when applied to a new sample.

**Method:** This is an observational, cross-sectional and comparative study, approved by CEP-FOP/UNICAMP, CAAE 38522714.6.0000.5418. For this purpose, skulls from the Odontolegal Biobank (Ulbricht model  $n=102$ ), (Peixoto model  $n=102$ ) and (Araújo model  $n=96$ ) were measured, and a same skull could be included, within the sample of another model, depending on its anatomical integrity. The digital Caliper (Stainless® - hardened 150 mm, Mauá, São Paulo, Brazil) and the Curved Compass (Digital Caliper Gage®) were used in the measurements.

**Results:** Intra-examiner calibration was performed and a strong correlation was obtained (0.99). At the end of this step, the measurements were continued and the same were applied to the respective models and a degree of agreement was verified for the Ulbricht (2017) model of 70.59%, the Peixoto (2017) model of 73.52% and Araújo (2017) 67%.

**Conclusion:** After completing the measurements, and comparative analyses, it was verified that the degree of correctness of the referred models is around 70%, indicating that these models can be used to estimate gender in Brazilians, as auxiliary methods.

#### VALIDATION OF THE PADOVAN MODEL (2017)

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**Aim:** In this study, the 2017 Padovan logistic regression model was validated (LOGITO Padovan): Sex =  $-23.7 + (0.18 \times \text{antero-posterior of the vertebra}) - (0.08 \times \text{transverse of the vertebra})$

## All abstracts appear as submitted by the authors without editing

the spinal canal) + (0.25 × maximum transverse diameter), in the study of linear measurements of the Atlas vertebra, aiming to verify the real effectiveness of the Padovan model in terms of sex estimation, specific to the Brazilian population, as well as, if the method's accuracy remains greater than 82.2%.

Method: This is an observational, cross-sectional, and comparative study that used 99 Atlas vertebrae, 60 (60.6%) corresponding to males and 39 (39.9%) females. Some linear measurements were made using a digital caliper: antero-posterior diameter of the vertebra; transverse diameter of the spinal canal and maximum transverse diameter, based on the logistic regression model (Logito Padovan), with values greater than 0.5 being associated with males and less than 0.5 with females. Calibration of these measures was performed, for this purpose, 25 Atlas vertebrae were measured in different periods. The statistical test (Intraclass Correlation Coefficient) was performed and, for all values, and the correlation obtained was considered strong (0.99), afterwards the values obtained directly from the Padovan logotype were replaced, in order for the sex obtained and the real sex to coincide.

Results: In this study, the logistic regression model (Logito Padovan) showed an 81.81% agreement of the total sample.

Conclusion: This result proved that it is possible to use the Atlas vertebra to estimate sex in a Brazilian population.

#### VALIDATION OF TWO NEW IMAGE RECEPTOR HOLDERS FOR OVERLAPPING REDUCTION DURING BITEWING RADIOGRAPHY EXAMINATION

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Aim: To validate two new image receptor-holding devices for the overlapping reduction of proximal surfaces in bitewing radiography

Method: Two IRHDs for bitewing radiographs with a wedge on the biting surface were designed and 3D-printed. These IRHDs, with a large wedge (Pr-Lw) and small wedge (Pr-Sw), were compared with a commercially available IRHD (Rinn XCP®) during image acquisition of bitewing radiographs of 4 posterior regions in 2 dry skulls and mandibles. A total of 156 interproximal regions on bitewing radiographs were radiographed by 13 oral radiology postgraduate students and independently assessed by two experienced oral radiologists. IRHDs were compared by Cochran's Q test regarding the number of overlapped proximal surfaces with a significance level of 5%.

Results: The observers were in perfect agreement ( $\kappa = 1.0$ ) to classify the proximal surfaces overlapping. The Pr-Bw IRH presented the lowest number of surfaces overlapping (19.2%) followed by the Pr-Sw IRH (48.1%) and the XCP® IRH with the highest surfaces overlapping (71.2%). The Pr-Bw IRH surfaces overlapping was statistically different from the XCP IRH ( $p < 0.001$ ), and the small wedge device ( $p = 0.014$ ).

Conclusion: Both newly designed IRHDs were validated. The Pr-Lw IRHD demonstrated the most efficient performance in overlapping surfaces reduction, compared with the Pr-Sw IRHD and the XCP® IRHD in adult dry skulls and mandibles.

#### VARIABLES THAT CONTRIBUTE TO A DENTAL FEAR/ANXIETY, IN PATIENTS SUBMITTED PERMANENT TEETH EXODONTICS

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Aim: This pilot study evaluated associated variables with dental fear and anxiety in patients who underwent extraction of permanent teeth.

Method: We used a convenience sample with 21 patients aged  $\geq 18$  years, of various genders, educational level and social classes, selected from those seen at the Surgery Clinics of Juiz de Fora Federal University- MG, from May to August 2018. Before surgery, anxiety was measured using the Dental Anxiety Scale and personal information, socioeconomic information, the patient's dental and medical history were collected. The patient's vital signs (blood pressure (BP) and heart rate (HR) were recorded in the pre, trans and postoperative periods. The data were submitted to the Chi-square test with Fisher's correlation.

Results: Was proved that 43% of the patients presented moderate level anxiety and 24% at low level, with no change in BP levels. Women had a higher degree of anxiety than men ( $p < 0.05$ ) and third party reports were more impactful at this level than the patients' own experience. Those who declared themselves to be non-white reported more fear of surgery than whites, as those with an income below 3 minimum wages ( $p < 0.05$ ). As for HR there was a significant increase ( $p < 0.05$ ) from the pre to the trans-operative period.

Conclusion: It was concluded that anxiety level manifested by the patients was elevated (67%), being associated with negative reports from third parties. Skin color and family income were strongly linked to anxiety and fear.

#### VOLUMETRIC EVALUATION OF MAXILLARY SINUS ACCORDING TO DIFFERENT INDIVIDUAL PARAMETERS ON MSCT IMAGES

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Aim: This study aimed to assess the correlation between the different individual parameters (gender, age, side, superior posterior tooth absence, mucous thickening, and sinus septum) and maxillary sinus volume using multi slice computed tomography (MSCT).

Method: It is a retrospective and cross-sectional study, in which full face MSCT scans of 57 patients (114 sides), 27 males and 30 females, aged  $35 \pm 9.5$  years old were evaluated. The Horus DICOM Viewer (Horus Project, Genebra, Suíça) software was used and the measurements were acquired by a properly calibrated observer with experience in MSCT diagnosis. To determine sinus volume, the edge of the sinus was delimited in each coronal tomographic slice, every 3 mm, bilaterally. The images corresponding to the outline of the maxillary sinus were drawn in the innermost part of the sinus cortex using the "closed polygon" tool. The "calculate volume" tool was applied to generate the volume of the maxillary sinus automatically. Data were analyzed using the Minitab® 14.20 (State college Pennsylvania, EUA) software. The T-test was performed to correlate the sinus volume and all the individual parameters with significance level set at 5%.

Results: There were no statistically significant differences between the maxillary sinus volume and gender, side, superior posterior tooth absence, sinus septum, and mucous thickening ( $p > 0.05$ ). Nevertheless, age showed a statistically significant correlation, whereas the average volume was higher for individuals aged  $\leq 35$  years old ( $p = 0.016$ ).

Conclusion: It was concluded that the maxillary sinus volume is influenced only by age and tends to decrease after 35 years old.

#### WORK ACCIDENTS AND WORKER HEALTH: LEARN MORE ABOUT

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Aim: To learn about work accidents and workers' health in Brazil.

Method: This is a literature review, in the databases: SciELO, Ministry of Economy: Special Secretariat for Social Security and Labor, Ministry of Health.

Results: Work accidents in Brazil are a public health issue. According to data from the official Social Security, between 2014 and 2018, 1.8 million sick leave and 6,200 deaths were recorded in Brazil. Brazil occupies the fourth position in the world ranking, and registers around 700 thousand cases per year, and, according to data from the Digital Observatory for Occupational Safety and Health, the country reaches the number of deaths by accident on the job every three hours and 40 minutes. Of the occupations associated with deaths, the category of agricultural workers is the one with the most events, accounting for 9.8%; followed by the truck driver, nursing technician, construction worker, production line personnel, janitor, nurse, driver's assistant, bricklayer and mechanic. The Worker's Health goes beyond "all the walls of the factory". The actors who are part of it observe work as one of the social determinants that lead the individual to illness and extrapolate the vision to the environment and collectivity. In addition, it uses the precautionary principle, which precedes the vision to any type of risk that may lead the worker to illness, not being bound by pre-established norms. Conclusion: The greater understanding of what is an accident, why they happen, the reason for not adopting preventive and safety measures, should be widely discussed with the population, and the worker's health must be a priority.