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001

Evaluation of the irregularities produced on the dental surface of cavities for amalgam restorations comparing diamond and carbide burs

The main imperfection of an amalgam restoration is related to the inadequate preparation of the cavity to be restored, which must be as smooth as possible to allow a better adaptation of the restorative material to the tooth. This study compared the superficial smoothness of cavities prepared with cylindrical diamond and carbide burs of similar sizes, respectively #1090 and #56. Five cavities (4mm x 3mm wide and 2 mm deep) were prepared on the buccal surface, cervical region of sound molars, with each of rotary instruments. Thereafter, the cavities were duplicated with an elastomeric impression material (Permelastic - Kerr) and the impressions were analyzed and photographed in an optical microscope at $\times 12.8$ magnification. The use of diamond burs promoted more irregularities, whereas the surface prepared with carbide burs was smoother, more regular and flatter, therefore more adequate for adaptation of an amalgam restoration.

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002

Reconstruction of maxillary bone defects using Ricinus communis polyurethane implants. Histomorphometric study in monkeys

Several studies have been developed with a variety of inorganic or synthetic grafts and compounds for bone reconstruction. Therefore, this study evaluated the bone repair process after osteotomies done in the anterior maxillary sinus wall and filled with Ricinus communis polyurethane implants. Four monkeys (*Cebus apella*) were used in this study. Ricinus communis polymer was implanted in the left maxillary sinus and no type of implant was placed in the right maxillary sinus. The analyses were performed 145 days after implant placement by means of histological and histometric examinations. The histological cuts were analyzed using the optic microscope and the computer program Image Lab 98. The perimeter of the bone implant contact was quantified and the numbers were converted in percentage. The results shows the bone-implant interface perimeter was 28.24% in the mamona polymer group and 58.4% in the control group. There was conjunctive fibrous tissue and moderate quantity of chronic inflammatory reaction in the mamona polymer group.

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003

Balters Bionator and cervical headgear in Class II Division 1 malocclusion with mandibular retrognathism

Craniofacial alterations derived from the treatment of Class II Division 1 malocclusion with mandibular retrognathism by Balters Bionator and cervical headgear (KHG) were compared in a homogeneous sample of 88 lateral radiographs of 44 patients. Group I (KHG): 22 patients (6 boys, 16 girls), initial and final mean age (11.1; 14.1 years); Group II (Bionator), 22 patients (9 boys, 13 girls), initial and final mean age (10.7; 15.3 years), respectively. Lilliefors test, Student's t-test (for independent and paired samples), chi-square test and of Fisher's exact test were applied. The cervical headgear appliance restricted significantly the maxillary growth ($p < 0.05$). The Bionator stimulated significantly the mandibular growth ($p < 0.05$) leading to a harmonic maxillomandibular relationship in the anteroposterior and vertical directions with better implantation of the incisors in their apical bases and better dental relationship. The treatment with KHG and Bionator had taken distinct craniofacial changes. In conclusion, our outcomes demonstrated that the appliances that modify the amount and direction of mandibular growth, such as, the Balters Bionator are more appropriate for treating Class II Division 1 malocclusions with mandibular retrognathism than those that restrict the maxillary growth.

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004

Effect of different photo-activation methods on the degree of conversion of direct and indirect composite resins

The polymerization of composite resins constitutes one of the main factors for the success in restoration resistance and durability. In general, the higher the carbon double-bond conversion, the better the composite's mechanical properties. This study evaluated the degree of conversion of direct and indirect composite resins polymerized with different light-curing systems. Sixteen specimens (7 mm diameter; 1 mm thick) of Filtek Z250 (3M/ESPE) and Sinfony (3M/ESPE) composite resins were made and polymerized using two light-curing units: XL2500 (3M/ESPE) and Visio Beta Vario system (3M/ESPE). After 24 h, the absorption spectra of both composites were obtained on a FTIR Nexus 670 spectrometer (Nicolet) in order to calculate the degree of conversion. Degree of conversion data were submitted to two-way ANOVA and Tukey's test ($\alpha = 0.05$). Filtek Z250 showed higher degree of conversion (61.89%) compared to Sinfony (58.58%) when the polymerization was carried out with XL2500 ($p < 0.05$). However, for the Visio Beta Vario system, there was no statistically significant difference between the materials ($p > 0.05$). The Visio Beta Vario system showed a higher degree of conversion for Filtek Z250 (63.25%) and Sinfony (63.43%) than that obtained using XL2500 light-curing unit (61.89 and 58.58%, respectively). Although the Visio Beta Vario system increased the values of the degree of conversion for the tested direct and indirect composite resins, compared to the conventional halogen light-curing unit, a great amount of monomers did not undergo conversion during the polymerization cycle.

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005

Finite element analysis of the stress distribution on natural tooth varying the ceramic restorations. IPS Empress X Procera Systems

Ceramic restorations have been used supported by the biomimetic concept. However, the data about the stress distribution at the interface tooth-restoration in function of the different available systems are not conclusive. The purpose of this study was to evaluate the stress distribution on the dental structures varying the restorative type (laminare veneer and total crown), the ceramic systems (IPS Empress and Procera) and the loading pattern (palatine and incisal). Six two-dimensional finite element models were built varying the restoration type: laminate veneer (IPS Empress, IPS Empress Esthetic and Procera) or total crown (IPS Empress 2 and Procera AllCeram); and the loading condition (L): L1 – 50N in the lingual face, in 45° with the tooth long axis, and L2 – 50N perpendicular to the incisal edge. The model with the intact tooth was used as the control. The von Mises equivalent stress criteria (σ_M) and the principal stress (σ_{max}) were used for numerical analysis (Ansys 10.0). For L1, the total crown increased σ_M in 80% comparing the control model with the IPS Empress 2 system, and 220% for Procera AllCeram. For L2, the laminate veneers provided higher σ_M , being 24% higher for the IPS Empress and 62% higher for the Procera. It was observed that the ceramic restoration increased the σ_M in the adhesive interface, mainly with the Procera system. The total crowns showed higher stress in the adhesive interface under L1. The laminate veneers showed higher stress in L2. Independently of the restoration and loading condition, the Procera system provided higher σ_{max} than IPS Empress. It was concluded that the ceramics restorations (laminare veneer or full crown) increased the stress on the dental substrate independently of the ceramic system. The IPS Empress and Procera systems presented different clinical behaviors due to their mechanical properties and loading condition.

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006

Evaluation of the tissue response to CPM Sealer® and Sealapex®

A new mineral trioxide aggregate (MTA) composition named CPM Sealer® (EGEO) has been introduced into the market and indicated to be used as a root canal sealer. The aim of this study was to evaluate the response of rat subcutaneous tissue to the implantation of polyethylene tubes filled with CPM Sealer® and Sealapex®. Thirty rats received two individual implants of polyethylene tubes containing the sealer to be tested and another empty tube as a control. After 7, 15, 30, 60 and 90 days, six animals were sacrificed and the tubes along with the surrounding tissue were removed and

processed histologically using the glycol methacrylate method and stained with HE and Von Kossa, and without staining for polarization. The criteria for histological evaluation ranged from 0 to 3, depending on the amount of inflammatory cells; the fibrous capsule was considered thin or thick; and necrosis and calcification were recorded as present or absent. The results were analyzed statistically by ANOVA and Tukey's test. Both materials caused mild to moderate reactions at 7 days, decreasing with time ($p < 0.001$). The response was similar to that of the control at the 30th day for CPM Sealer® and at the 60th day for Sealapex® ($p < 0.001$). Mineralization and birefringent granulations to the polarized light were observed with both materials. It was concluded that CPM Sealer® and Sealapex® were biocompatible and stimulate mineralization.

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007

Evaluation of the wear produced on dental enamel by whitening toothpastes

Several toothpastes claim to have a whitening effect, making the teeth lighter with continuous use. Observing the formula of these products, it can be noticed that they do not contain oxygen-releasing components, which is the only way to modify the pigments on dental structure and produce tooth whitening. In fact, most of these toothpastes contain strong abrasives that scratch the dental enamel, removing its brightness, and titanium dioxide, a white dust that could impregnate these irregularities created on enamel surface. Eight toothpastes were evaluated, being 3 regular (Close-Up red fruits + mint- Unilever; Sensodyne Original- ; Sorriso Proteção que Refresca- Colgate Palmolive) and 5 whitening toothpastes (Close up fresh whitening- Unilever; Close-Up xtra whitening- Unilever; Colgate ultra branco- Colgate Palmolive; Sensodyne branqueador + antitártaro- Glaxo Smith Brasil LTDA; Sorriso Branqueador brite- Colgate Palmolive), regarding their capacity to wear out the enamel. Each toothpaste was applied on three bovine teeth using a soft-bristle toothbrush (Oral B 30 Indicator Plus), in a brushing machine running with 25,000 cycles, simulating a 3-month brushing. Results showed the following wear-out rates starting from the lower: Close-Up red fruits + mint (163.941); Sorriso branqueador brite (222.992); Close-Up fresh whitening (313.653); Sorriso Proteção que Refresca (315.229); Sensodyne Original (344.168); Colgate ultra- branco (355.697); Close-Up extra whitening (356.059) and Sensodyne branqueador + antitártaro (379.093). Structural loss was determined by profilometric experiment using a profilometer.

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008

Comparative analysis between paracetamol and dipyron in postoperative pain control in impacted third molar surgery

Pain is defined as an unpleasant emotional and sensorial experience, often associated with a tissue injury. It is essential for human beings due to its defensive nature, as it acts as a signal of either an imminent or an actual lesion of an organ or tissue (ANDRADE, 2000). Postoperative pain after a third molar surgery affects most patients and reaches maximum intensity 6 to 8 h postoperatively (BERGE, 1997). Therefore, the administration of analgesic and non-steroidal antiinflammatory (NSAI) drugs is advocated to control the extension of the inflammatory process. The objective of the present study was to compare the efficacy of paracetamol and dipyron in postoperative pain control in impacted third molar oral surgery. Methods: Thirty patients of the Discipline of Surgery of the Dental School of Araçatuba, UNESP, who needed impacted third molar extraction were selected. Fifteen of the patients received paracetamol and the other 15 received dipyron postoperatively. The intensity of pain was evaluated by the patients using an analogical visual scale, in a postoperative period of 48 h, with intervals of 6 h throughout. Exclusion criteria were: presence of systemic disorders, medication hypersensitivity, pregnancy, lactation, and local contraindications. The scores were submitted to Mann-Whitney test ($\alpha = 0.05$) in order to compare the intensities of pain in the different time intervals assessed. There was no statistically significant difference between the studied analgesic drugs in the 6-h intervals. However, during the final 24 h and throughout the overall 48-h observation period, dipyron showed significantly lower mean values when compared to paracetamol. In conclusion, the analgesic efficacy of dipyron was superior to that of paracetamol during the final 24 h of evaluation and throughout the overall period of 48 h.

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009

Chronic periodontitis in smokers and non-smokers of a population of Anápolis, GO, Brazil

This study aimed to evaluate the severity and extension of chronic periodontitis in smokers and nonsmokers of a population of Anápolis-GO. Records of 994 patients of the Dental Clinic of the Dental School of UniEVANGÉLICA were analyzed. From the total valid records, 139 (14%) were from smokers, 839 (84%) from non-smokers, and 16 (2%) from former smokers. The mean age was 39.56 years for smokers, 40.25 for former smokers and 37.86 for non-smokers, without statistical significance. The mean number of remaining teeth for smokers was 21.7, 24.21 for non-smokers and 21.94 teeth for former smokers, with statistically significant difference. The severity of periodontitis was 4.11 mm for smokers, 3.56 mm for former smokers and 4.03 mm for nonsmokers, without statistical significance. The extension was 39.05% for smokers, 30.03% for former smokers and 30.24% for non-smokers, with statistically significant difference. Smokers had less PSR up to grade 2 than non-smokers and former smokers. It was concluded that smoking influenced the extension of periodontal disease in the evaluated population.

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010

Bond strength between acrylic teeth and two dentures base acrylic resin. Effect of surface treatment

The debonding of acrylic teeth from the denture base remains a common clinical occurrence in prosthodontic practice, and occurs in 22% to 30% of denture repairs. In addition, as the implant-supported denture improves the masticatory function, the incidence of debonding has increased. The aim of this study was to evaluate the microtensile bond strength (μ TBS) between acrylic teeth (Biotone) and denture base acrylic resin by assessing 2 factors: type of resin (heat-polymerization/Clássico and microwave-polymerization/OndaCryl), and surface treatments (with and without methyl methacrylate-MMA). Six specimens were made for each tooth/resin combination, resulting in the following groups: (G1a) Clássico/with MMA; (G1b) Clássico/without MMA; (G2a) OndaCryl/with MMA; (G2b) OndaCryl/without MMA. Bar specimens were produced with an interface area of approximately 1 mm², and subsequently the μ TBS tests were performed in a universal testing machine (crosshead speed: 1 mm/min). Data were analyzed statistically by two-way ANOVA ($\alpha = 0.05$). The mean results (MPa \pm standard deviation) were: (G1a) 37 \pm 2; (G1b) 43 \pm 2; (G2a) 43 \pm 2; (G2b) 40 \pm 2. The results showed no significant interaction and difference (ANOVA, $P > 0.05$). In conclusion, the μ TBS values between acrylic teeth and denture base acrylic resin were not influenced by the tested materials and surface treatments. In other words, the property evaluated in this study was not sensitive to the experimental differences.

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011

Use of PCR as an aid in the diagnosis of osteomyelitis of the jaws: detection of fastidious microorganisms

This study evaluated the associated microbiota from 18 clinical cases of osteomyelitis of the jaws diagnosed between 2000 and 2008 in a low-income Brazilian population with history of poor oral health. After clinical and radiographic examinations, samples of purulent secretion, bone sequestra and biopsied tissue were collected, cultivated and submitted to detection of the main oral pathogens by polymerase chain reaction (PCR) and by real-time PCR. Microbial isolation was performed on fastidious anaerobe agar (FAA) supplemented with hemin (5 μ g/mL), menadione (1 μ g/mL), yeast extract (0.5%) and horse blood (5%), and on tryptic soy agar (TSA) supplemented with yeast extract (0.5%) and horse blood (5%). The plates containing FAA were incubated at 37°C in anaerobiosis (90% N₂ + 10% CO₂) for 3, 7, 14 and 21 days, whereas those containing TSA were incubated at 37°C in aerobiosis for 48 h. The isolates were identified by commercial kits, morphological analysis, and carbohydrate fermentation. Detection of the main oral pathogens was also performed by PCR and real-time PCR

with specific primer pairs. Bacterial culture was obtained from 55.55% of the clinical samples, while PCR and real-time PCR were able to detect bacteria from 77.78% and 83.33% of the samples, respectively. Regardless of the detection method, most microbial genera observed in the patients were originated from dental biofilm, especially the genera *Actinomyces*, *Campylobacter*, *Fusobacterium*, *Peptostreptococcus*, *Porphyromonas* and *Streptococcus*. FAPESP 98/06555-2, 02/07371-0 and 07/54851-0.

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012

Electromyography as an aid to the restorative treatment in the reestablishment of the function and esthetics of the anterior guidance

Pathological dental wear (PDW), mainly related to bruxism, represents an esthetic and functional problem of multifactorial etiology, whose prevalence in the dental clinical has recently increased. Electromyographic (EMG) studies have demonstrated the relationship between hyperactivity of the masticatory, cervical and craniofacial muscles with PDW occurrence. Thus, in order to promote functional balance to the stomatognathic system, interdisciplinary treatments between Speech Therapy and Dentistry are necessary for a better understanding of the physiologic processes related in the reestablishment of the function and esthetic of the teeth. The aim of this study was to analyze the EMG activity of the masticatory muscles, before and after the restorative treatment, in a 22-year-old patient with PDW. EMG was carried out before and after the reestablishment of the anterior guidance by means of composite resin restorations, associated with occlusal adjustment and use of Michigan splint. The amplitude of the activity, measured in microvolts (RMS), in the right and left masseter muscles, and anterior right and left temporalis muscles (RM/LM, RT/LT), during clenching and rubber chewing, was evaluated. Mean values for muscles RM/LM and RT/LT clenching-activity were: 193/303 and 97/193, before treatment; and 196/184 and 81/89, after treatment. Therefore, after-treatment functional improvements were obtained, as characterized by the reduction of EMG activity of the left masseter and temporal muscles. In the rubber-chewing-evaluation, the before-treatment mean values were the following: habitual chewing RM/LM: 29/44, and RT/LT: 19/30; unilateral right RM/LM: 64/55 and RT/LT: 33/36; unilateral left RM/LM: 27/76 and RT/LT: 22/41. After-treatment results were: habitual chewing 48/40 and 19/17; right unilateral chewing 87/46 and 28/23; and left unilateral chewing 37/81, 22/33. The association of restorative procedures and occlusal adjustment provided greater harmony to the conscription of the masticatory musculature and functional balance to the patient, justifying the importance of the interdisciplinary work involving Speech Therapy and Dentistry.

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013

Covering of denuded root surface therapy

In current days, gingival esthetics cannot be overlooked because of dental esthetics only neglected. The search and interests of the "red esthetic" is considered essential for the success of any treatment. Therefore, the integration between periodontics and other areas is now more than ever a reality. Due to the evolution of the periodontal surgical procedures and the better knowledge of tissue healing processes, the gingival reconstruction therapy has become a common procedure mainly in cases where restorative procedures do not provide a satisfactory esthetic outcome. In cases of denuded root surface the simple restoration of the root could resolve the problem of dentinal hypersensitivity; however, esthetics is frequently compromised. In such way, especially in the cases of denuded root surfaces, periodontal cosmetic surgery represents the best treatment option to fulfill the patients' esthetic needs. We present a case of generalized gingival recession with subsequent covering of the denuded root surface with a cosmetic tissue surgery.

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014

Biofilm development of *Candida albicans* strains from periodontal isolates on titanium discs

Candida albicans is the most frequently isolated yeast of oral sites associated with biomaterials. The first step for the formation of biofilms of this yeast is the adhesion to these biomaterials. Recently, titanium has been employed for fabrication of implant-supported prostheses, and has become a new surface for the adhesion of these yeasts. Seven *C. albicans* strains isolated from periodontal pockets were submitted to biofilm growth on titanium discs and their development was measured by dry-weight, CFU/mL count and analysis under scanning electron microscopy (SEM). All strains formed biofilm on the titanium discs. The SEM micrographs revealed the biofilm structure as being a network of hyphae and filamentary forms with hyphal fusions and anastomoses.

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015

Occurrence of *Aggregatibacter actinomycetemcomitans* in six ethnic groups of Umutina Indian Reservation-State of Mato Grosso, Brazil

Aggregatibacter actinomycetemcomitans is associated with aggressive periodontitis and produces a leukotoxin capable to act on neutrophils and other leukocytes. Its distribution in the population seems to be closely related to ethnic and racial aspects. The aim of this study was to evaluate the distribution of this microorganism by culture, PCR and real-time PCR, as well the occurrence of highly leukotoxic strains in 86 patients with periodontitis or gingivitis in 6 ethnic groups (Umutina, Paresi, Bororo, Bakairi, Kayabi, Irantxe, Nambikwara and Terena) of native Brazilians in Umutina Indian Reservation-State of Mato Grosso. Clinical samples of subgingival, supragingival and saliva were collected and transferred to VMGA III medium and to ultra pure water. Samples were cultivated on TSBV agar and incubated for 3 days, at 37°C, in anaerobiosis. The presence of this microorganism was also determined by amplification of *ltx* promoter region by PCR and real-time PCR with specific primer pairs and probe. The presence of 530 bp deletion in the promoter region, associated with a high expression of leukotoxin, was evaluated by PCR using specific primer pair (PRO primers). *A. actinomycetemcomitans* was detected by culture from 16.67% and 28.95% of subgingival samples of patients with gingivitis and periodontitis, respectively. The detection by PCR revealed the presence of this microorganism in 25% of the patients with gingivitis and in 42.11% of periodontitis patients, while real-time PCR revealed this microorganism in 39.58% and 44.74% of the samples of gingivitis and periodontitis patients. All isolates were low-leukotoxin producing strains. These results revealed that highly leukotoxic strains of *A. actinomycetemcomitans* are uncommon in groups of South Americans and their role in the pathogenesis of periodontitis in these populations must be evaluated. FAPESP 07/51016-3.

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016

Habits and occurrence of periodontal pathogens in native Brazilians

Different external factors may interfere with the microbiota associated with periodontal diseases, such as ethnic and racial characteristics, hygiene and diet, as well as use of alcoholic beverages and tobacco. The present study evaluated the distribution of 14 periodontopathic microorganisms in 90 native Brazilians of Umutina, Paresi, Bororo, Bakairi, Kayabi, Irantxe, Nambikwara and Terena ethnic groups, presenting different periodontal conditions, personal habits and levels of integration with non-native societies. After clinical periodontal examinations, samples of supragingival, subgingival biofilms and saliva were collected and transferred to ultrapure Milli Q water for microbial DNA extraction. Detection of periodontal microorganisms was performed by PCR with specific primer pair and the amplicons stained with ethidium bromide were photographed on a UV transilluminator after electrophoresis in 1% agarose gel. After evaluation of data by stepwise multiple regression analysis and Chi-square test, it was verified that tobacco affected positively the distribution of *Eikenella corrodens* in supragingival biofilm, while alcoholic beverages seems to be associated with a higher detection *Prevotella nigrescens*. Low frequency of toothbrushing and no use of dental floss were related to a higher occurrence of *E. corrodens*, *Aggregatibacter actinomycetemcomitans*, *Porphyromonas gingivalis* and *Fusobacterium nucleatum*. It was concluded that different factors may interfere with the distribution of periodontal

pathogens, particularly alcoholism, tobacco use and oral hygiene conditions. FAPESP 07/51016-3

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017

Analysis of the influence of autoclave sterilization on osteosynthesis screw corrosion under light microscopy

Titanium and titanium alloys have achieved considerable success in various surgical procedures, including oral maxillofacial surgeries, due to their remarkable mechanical properties and corrosion resistance. However, when removal of the titanium components is necessary, pigmentation and dark fragments in surrounding soft and bone tissues are often observed. Material manipulation for preparation holes and installation of titanium screws seem to contribute to these occurrences. In order to contribute to the detection of other factors that might influence the release of metal particles, the present study evaluated the influence of successive sterilizations, from one to four times, in autoclave on titanium screws fixed in tibias of rats. For such purpose, the surrounding soft and bone tissues were retrieved 7, 14, 21, and 60 days after implantation and observed under light microscopy. From these analyses, it was concluded that the successive sterilizations in autoclave, limited to four in this study, did not alter the corrosion resistance of the titanium screws. However, the duration of the material in contact with human tissues seems to be the major factor for the accumulation of corrosion products, without, however, damaging or altering the repair of soft and bone tissues.

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018

Intentional replantation – clinical case

Intentional replantation is an alternative treatment for tooth preservation. It consists of the extraction, hand holding and replantation of the tooth in its alveolus. A.R.M., a 40-year-old female patient, sought the Discipline of Endodontics of the Dental School of Araçatuba, UNESP, with complaint of pain started 6 months after completion of the endodontic treatment in tooth 37. The radiographic examination revealed root canal overfilling and a crown cemented with intraradicular glass fiber posts. The option of paraendodontic surgery was discarded because of the difficulties in the access to the region. Endodontic retreatment was considered, but there was a high risk of root perforation during post removal associated with the impossibility to remove the filling material from the periapical tissues. The treatment of choice was the technique of intentional replantation, consisting of “atraumatic” extraction, apicoectomy and retrofilling with MTA. Immediately after extraction, tooth 37 was secured with a gauzed soaked in saline and root-end resection was done with a carbide bur under saline irrigation. The canal was prepared with a #169 bur at a depth of 4 mm and filled with MTA/saline paste. During tooth preparation, the alveolus was slightly curetted and irrigated with saline. The tooth was repositioned in the alveolus immediately after root canal obturation. The whole extra-alveolar endodontic procedure did not exceed 10 min. After 7 days, the sutures were removed and radiographs were taken. The 12-month radiographic control shows apical repair.

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019

Evaluation of the tissue response to inactivated microorganisms associated with aqueous and hydroalcoholic araquá (*Psidium cattleianum*) solutions

This study evaluated the biocompatibility of aqueous and hydroalcoholic solutions prepared with “araquá” (*Psidium cattleianum*) or saline (control) associated with inactivated microorganisms. An amount of 0.1 mL of a suspension containing *P. gingivalis*, *P. intermedia*, *F. nucleatum*, *E. faecalis*, *P. micros* e *P. endodontalis* inactivated by heat, was mixed to 1 mL of saline or araquá (*Psidium cattleianum*) aqueous or hydroalcoholic solution. For the edemogenic analysis, 18 rats were anesthetized and received an intravenous injection of 1% of Evan's blue. After 30 min, 0.1 mL of the tested solutions were injected in the dorsal area. The animals were killed after 3 and 6 h. The analysis of the edema was performed in a spectrophotometer at 630 nm

wavelength. For the microscopic analysis, polyethylene tubes containing saline or the “araquá” (*Psidium cattleianum*) solutions with addition of the solution of inactivated microorganisms were implanted in the dorsal region of 30 rats, which were sacrificed after 7 and 30 days. There was no statistically significant difference in the amount of edema. The histological results indicated that the repair period of 30 days was superior to that of 7 days ($p < 0.0001$). At 7 days, the hydroalcoholic solution presented a more favorable response than the aqueous solution ($p = 0.05$) and a tendency to a better result than the saline. In conclusion, the aqueous and hydroalcoholic solutions of “araquá” (*Psidium cattleianum*) extracts associated with inactivated microorganisms presented similar biological responses to those of the control, indicating not to interfere with the toxic effects from the bacterial components, in such a way to favor the repair. The associations did not interfere in the repair either

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020

Possibility of transmission of periodontal microorganisms between humans and non-human primates: evidence from 6 Indian groups

The occurrence of periodontal diseases is directly associated with colonization of gingival crevice by microorganisms capable to attack periodontal tissues, and transmission of periodontopathic microorganisms between different animal species has received attention. This study evaluated the occurrence of *Porphyromonas gulae*, a species closely related to human pathogen *P. gingivalis* and associated with periodontitis in monkeys and dogs, in samples from native Brazilians, non-native Brazilians, and non-human primates, investigating correlations between occurrence of this anaerobe and periodontal conditions. Detection of *P. gulae* was performed in samples from 90 Indians of Umutina, Paresi, Bororo, Bakairi, Kayabi, Irantxe, Nambikwara and Terena ethnic groups, 52 non-human primates (*Cebus paella*) and 175 non-Indian Brazilians seen at Dental School of Araçatuba, Brazil. After clinical and periodontal examinations, clinical samples of saliva, supragingival and subgingival biofilms were collected and transferred to microtubes containing ultrapure MilliQ water. After DNA extraction by commercial kits, the amplification of target DNA was carried out by PCR with specific primer pairs and the amplicons stained with ethidium bromide were photographed on a UV transilluminator after electrophoresis in 1% agarose gel. *P. gulae* was detected in samples from 40.39% non-human primates, 42.22% native Brazilians with periodontitis or gingivitis, but it was not detected in samples from non-native Brazilians as well as from native consumers of a non-traditional diet. Therefore, the traditional way of life and diet of native Brazilians may increase the contact between human and animal oral microbiota, and might create favorable conditions for transmission of periodontopathic microorganisms. FAPESP 07/51016-3

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021

IL-1B+3954 SNP and red complex periodontopathogens modulate independently and synergistically the levels of IL-1 α in chronic periodontitis

Inflammatory cytokines, such IL-1 α , are involved in the pathogenesis of periodontal diseases. A high individual variation in the levels of IL-1 α mRNA is verified, possibly determined by genetic polymorphisms and/or by the presence of periodontopathogens, such as *Porphyromonas gingivalis*, *Tannerella forsythia*, *Treponema denticola* and *Aggregatibacter actinomycetemcomitans*. In this study, we investigated the role of IL-1B promoter + 3954 single nucleotide polymorphism (SNP) and the presence of the periodontopathogens in the determination of the IL-1 α levels in the periodontal tissues of non-smokers chronic periodontitis (CP) patients (N=117) and control (C) subjects, N=175), and the possible correlations with clinical parameters of disease. IL-1B+3954 SNP was investigated by PCR-RFLP, while the IL-1 α levels and the presence of the periodontopathogens were determined by real-time-PCR. Similar frequencies of IL-1B+3954 SNP were found in C and CP groups, in spite of a trend towards a higher incidence of T allele in CP group. The IL-1B+3954 SNP CT/TT genotypes, as well *P. gingivalis*, *T. forsythia* and *T. denticola* (analyzed independently or as red complex), were associated with higher IL-1 α levels and with higher values of the clinical parameters of disease severity. Concomitant analyses demonstrate that IL-1B+3954 and the red complex periodontopathogens were found to modulate independently and synergistically the levels of IL-1 α in periodontal tissues. Similarly, the concurrent presence of both factors was associated with increased scores of disease severity. IL-1B+3954 genotypes and red complex periodontopathogens, individually

and associated, modulate the levels of IL-1 α in diseased tissues of non-smokers chronic periodontitis patients, and consequently, are potentially involved in the determination of disease outcome.

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022

Subgingival restoration of traumatized tooth as an treatment option for external root resorption. A case report

The treatment for the maintenance of traumatized teeth in the oral cavity is important to the patient from both psychological and functional points of view. External root resorption is a phenomenon which can occur in consequence of a dentoalveolar traumatism. The treatment of this pathology consists in the endodontic treatment; however the resorption process still continues in some cases. The aim of this study was to report a case of subgingival restoration in a traumatized tooth for the treatment of external root resorption. RSP, a 12-year-old patient, came to the FOA-UNESP Postgraduate Periodontal Clinic, complaining of the esthetic of the maxillary right central incisor. The patient reported to have suffered a traumatic injury 2 years before and that the tooth was treated endodontically at the time. In the clinical examination, the tooth was laterally displaced and presented a dentinoenamel fracture. The probing depth examination showed an extensive root resorption at the buccal side. Radiographically, the endodontic treatment was satisfactory and the presence of external root resorption was observed. Based on these clinical findings, crown-root scaling was first performed, followed by subsequent subgingival restoration and recountering of the tooth crown with composite resin. The outcome of this case shows that the presence of the tooth in the oral cavity contributed to the patient's self-esteem maintenance and the preservation of the support periodontal structures.

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023

Distinct roles for genetic (MMP1-1607 and -519 SNPs) factors and periodontopathogens in the modulation of MMP-1 levels in healthy and diseased periodontal tissues

Matrix metalloproteinase (MMP-1) is a potent proteolytic enzyme that degrades compounds of the extracellular matrix that is involved in the development of periodontal diseases. High individual variations in the MMP-1 mRNA levels have been described, which are possibly determined by genetic polymorphisms and/or by the presence of periodontopathogens such as the red complex and *A. actinomycetemcomitans*. The aim of this study was to investigate the relationship between the genetic variations (MMP1-1607 and -519 SNPs) and periodontopathogens, and the levels of MMP-1 mRNA in the periodontal tissues of in chronic periodontitis (CP) patients (N=106) and control (C) subjects (N=67). MMP1-1607 and -519 SNPs were investigated by RFLP-PCR, while the MMP-1 mRNA expression and the presence of the periodontopathogens were determined by real-time-PCR. No significant differences were found in the frequency of MMP1-519 genotypes in C and CP groups. However, the MMP1-1607 genotypes 1G/2G and 1G/2G+2G/2G were found to be more frequent in CP group. In healthy tissues, MMP1-519 AG/GG genotypes and MMP1-1607 1G/2G and 2G/2G were associated with increased MMP-1 mRNA expression. However, in diseased tissues (CP group), increased MMP-1 expression was found to be associated with the presence of red complex bacteria, and not with the SNPs investigated. Interestingly, *Porphyromonas gingivalis* was found to be associated with increased levels of TNF- α expression, which are supposed to account for the increase in MMP-1 levels. Indeed, MMP-1 levels were found to be positively correlated with TNF- α and P.g. expression. Taken together, our data demonstrates distinct roles for genetic (MMP1-1607 and -519 SNPs) factors and periodontopathogens in the modulation of MMP-1 levels in periodontal environment: while SNPs influence the levels of MMP-1 mRNA in healthy tissues, red complex periodontopathogens present a major role in their upregulation in diseased tissues.

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024

Human identification from analysis of frontal sinuses

The frontal sinuses are bilateral structures and, in the same way as fingerprints, are unique in each person. The aeration of frontal sinuses is radiographically visible after 5 or 6 years of age, and their complete development occurs between the ages of 10 and 12 years. Due to their peculiar structure, the maxillary sinuses can be used as a trustworthy method for human identification in cases where the analysis of fingerprints (papiloscopia) is not possible. Being aware of the need to obtain several parameters to identify a human body, the aim of this literature review is to demonstrate that human identification based on the analysis of the frontal sinuses has been performed successfully, and can be considered as a real possibility for positive identification of individuals. It is a relatively simple, practical and low-cost technique, mainly when compared to other methods of human identification, like DNA-based techniques.

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025

Buccal exostoses: main features and clinical procedures

Exostoses are defined as localized benign bony protuberances that arise from the cortical bone and sometimes from the spongy layer. According to the location, the growths are classified into buccal exostoses, on the buccal aspect of the maxilla or mandible; and palatal exostoses, on the palatal aspect of maxilla, especially in the tuberosity area. Histologically, exostoses are described as hyperplastic bone, consisting of mature cortical and trabecular bone. The radiographic image shows radiopacity in the affected region, which rarely can be confused with osteoma, ossifying fibroma or osseous sclerosis areas. The well-performed clinical examination, the duration time and the aspect of the normal covering mucosa are usually sufficient for the diagnosis. There are many etiologic factors mentioned in the literature, such as: genetic influence; dietary habits; stress due to masticatory hyperfunction; parafunctional habits (e.g.: bruxism) and environmental factors. There is no gender preference and, according to some authors, its occurrence can be directly related to age. Exostoses are benign development anomalies and do not require surgery, unless they affect the function, compromise severely the esthetics or cause for more serious dental problems. The present work will discuss the clinical aspects and treatment procedures of some cases of buccal exostoses.

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026

Early loss of primary teeth in the early childhood: case report

The premature loss of primary teeth, with subsequent esthetic problems, may induce disturbances in the child's social skills, and these aspects must be taken into account during treatment planning. This study presents a review of the literature and a case report on early loss of primary teeth caused by early childhood caries in a child aged 3 years and 2 months old. The etiology, clinical implications and treatment of this condition are described. In the present case, the placement of removable partial dentures was chosen for patient rehabilitation. The treatment was based on the adequacy of the oral environment, tooth extraction, followed by the installation of upper and lower dentures. The placement of removable partial dentures reestablished the esthetics, and consequently, the patient's self-esteem, in addition to improving mastication and phonetics. The diagnosis and early intervention are mandatory to prevent psychological harm to the child.

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027

Ludwig's angina after tooth extraction: case report

Ludwig's Angina is an aggressive cellulite that spreads rapidly through the mouth floor, submandibular and sublingual regions, caused most often (70% of cases) by an acute infection of lower molars. It presents mixed colonies of bacteria spread by tissues

with little or no secretion. If untreated can lead to a pharyngeal, mediastinum and pericardium spaces spread, which are potentially fatal complications. Its prevention is associated with oral hygiene habits, early treatment of dental caries and periodontal disease as well as the use of antibiotics before and after surgical procedures. The case reported presents a 73-year-old male patient with poor oral hygiene and history of alveolitis after extraction of a mandibular second molar that evolved to an extensive and voluminous abscess, diagnosed as Ludwig's Angina due to its swelling characteristics of firm and painful palpation, slight elevation of floor of the mouth, subsequent tongue displacement and mediastinum involvement. The patient was admitted to a hospital and submitted to antibiotic therapy and surgical drainage. After 10 days of hospitalization, a positive progress was observed with infection regress. It may be concluded that prophylactic use of antibiotics in tooth extraction procedures in patients with large coronal destruction, systemic involvement, poor oral hygiene and history of alveolitis, is important for the prevention and treatment of infectious diseases.

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028

Oral squamous cell carcinoma: diagnosis and supportive dental treatment

Squamous cell carcinoma is the most common malignant neoplasm of the head and neck region, having origin in the lining epithelium. Its prevalence is higher in males, after the fourth decade of life, and its main etiologic associated factors are chronic use of alcohol and tobacco. The aim of the present study was to describe a case of squamous cell carcinoma in a 55-year-old total edentulous white male patient, smoker for 30 years, which was located in the lower alveolar ridge and floor of the mouth. During radiotherapy and chemotherapy, the patient was followed up in this Oral Medicine Santa and presented some complications like mucositis, hyposalivation, candidosis, pain and feeding difficulties. After the treatment, the patient continues to be followed up by his private physician and the medical team of this Service, presenting improvement of the complications. This study also discusses the importance of having a dentist in the team of professionals that assist these patients. It may be concluded that the early diagnosis is the main prognostic factor in the treatment of oral cancer. The dentist has an important role in the multi-disciplinary team responsible for the conduction of antineoplastic treatments, both in the initial phases of diagnosis and during the therapy, performing stomatological evaluations and giving conditions to the patients so that they can be submitted to therapeutic modalities, with higher healing rates and quality of life, preventing or reducing the occurrence of oral complications.

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029

In situ evaluation of the mineral loss of the enamel with the administration of fermented milk containing probiotic bacteria

An increasing number of products containing probiotic bacteria are available for consumption, and can provide benefits to the host's health when administered in appropriate amounts. The aim of this study was to evaluate *in situ* the effect of fermented milks containing probiotic bacteria on dental biofilm by the analyses of the concentration of fluoride, calcium, phosphate ions, alkali-soluble carbohydrates and demineralization of bovine dental enamel. Ten volunteers received palatal devices containing 4 blocks of bovine enamel for use during three phases of 14 days each. In each phases, the treatment was accomplished with 20% sucrose solution (treatment I), fermented milk A (treatment II) or fermented milk B (treatment III). At the end of each phase, the formed dental biofilm was collected, processed and the ionic concentration was analyzed. The initial and final microhardness values were determined for analysis of the mineral loss. The results showed that the ionic concentration (F, Ca and P) was significantly higher ($p < 0.05$) when treatment III was performed in comparison to treatments I and II, which, in turn, did not differ significantly from each other. Both experimental groups (treatments II and III) had greater mineral losses than the control (treatment I), but did not present significant differences between themselves. After analysis of normality and homogeneity, the data were found to be heterogeneous and were submitted to Kruskal-Wallis test. The analyses were performed using GMC statistical software version 2002 at 5% significance level. It was observed that although all treatments produced demineralization on enamel surface, treatment III produced significantly smaller mineral loss compared to the treatment I (20% sucrose), though without significant difference from treatment II. Treatment III also presented the highest concentration of fluoride, calcium and phosphate ions and the lowest concentration of

alkali-soluble carbohydrates in the dental biofilm.

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030

Third and fourth mandibular molars fused: consideration about the diagnostic, planning and surgical treatment

Fusion is the union of two developing dental germs, resulting in a single dental structure, usually larger than the other teeth. It may occur between normal dental germs or supernumerary germs. The supernumerary teeth are more frequent in the maxilla (10:1 in relation to the mandible) and the prevalence of fused teeth is 0.2% in the permanent dentition. This is a rare case and refers to a 26-year-old white female patient that sought dental treatment for extraction of the third molars. The panoramic radiograph revealed the presence of a fourth molar, but it was not possible to determine its relationship with tooth 48. Other radiographic techniques (occlusal and Donovan's method) were carried out, but did not provide the required information. Due to the proximity with the mandibular canal and the limitations of radiographic techniques performed, computed tomography (CT) was requested. The CT revealed accurately the details of teeth at issue, confirming the diagnosis of fusion and aiding in the surgical planning. In some European countries, CT scans are mandatory for planning the surgical removal of impacted teeth. In Brazil, the high cost of CT allied to the fact that panoramic, occlusal and periapical radiographs almost provide the needed information, leads to a non-indication of CT in most of cases. However, in the present case the information provided by CT was decisive to establish the best surgical planning.

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031

Clinical report: Cornélia of Lange's syndrome

Cornelia de Lange syndrome is a dominant autosomal genetic anomaly that was described and published by Cornelia Catharina de Lange in 1933. However, its features were previously described by Winfried Robert Clemens Brechmann, in 1916, and so this condition is also known as Brachmann-de Lange syndrome. The most frequent clinical characteristics include typical facial dysmorphism, variable degree of mental delay, anomalies of the hands and feet, multiple malformations, prenatal and postnatal growth deficiency and microcephalia with variable intellectual deficit. Some facial characteristics are unique and blend with the traits inherited from the families, such as the joined eyebrows, long lashes, small nose, round face and thin, lightly inverted lips. The most common oral manifestations are micrognathia, tooth crowding, periodontal disease, delayed dental eruption, enamel hypoplasia, enamel and dentin erosion caused by acid attack due to gastro-esophageal reflux and narrowing of the dental arches. This work presents the case of a boy diagnosed with this syndrome who was treated at CAO/FOA/UNESP by a multidisciplinary team. The dental treatment had to be performed with physical restraint because the patient wit was no possible to have patient cooperation. The clinical and the oral characteristics observed in this patient as well as the dental treatment performed are described.

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032

Atrophic alveolar ridge surgical expansion. A systematic review

Dental implants have been constantly indicated and considered as a viable choice for supporting prosthetic rehabilitation in patients that had lost their teeth. In some cases, however, the ridge is atrophic and presents bone defects that may prevent implant installation. The aim of the present study was to systematically review the literature related to the atrophic alveolar ridge expansion technique for subsequent implant placement. The systematic review of the literature was performed on the "Medline" and "Cochrane" Library electronic databases between 1966 and 2007. In addition, a hand-search in dental journals was done. The results of this literature review identified only 18 studies related to this technique that met the inclusion criteria. The results presented in the studies indicated that the alveolar ridge width increased significantly after the surgical expansion of the ridge. The implants installed immediately after this

surgical procedure presented high rates of survival/success. Besides, the annual marginal bone loss rate was limited in the few studies where this parameter was analyzed. Within the limits of this review, it was possible to conclude that there are few longitudinal and controlled studies about the effects of surgical expansion of the ridge followed by implants installation. The few studies presented indicated that the implant installation followed by this surgical procedure may be predictable within periods up to 5 years. However, there is in literature, no information about the conditions of the periimplant soft tissue and the future of expanded vestibular bone wall. Therefore, further research is necessary to confirm that alveolar ridge surgical expansion followed by implant installation is an efficient procedure.

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033

BMP2 expression in autogenous bone graft: Immunohistochemical analysis in rats

Autogenous bone is considered as the golden standard biomaterial for the reconstruction of bone defects. The formation, development and maintenance of this tissue are highly regulated complex processes. Proteins, hormones, growth factors and cytokines are actively involved and act in their differentiation and metabolic activation. BMP2 protein promotes differentiation of mesenchymal cells in osteoblasts, increasing bone formation and repair. The aim of this study was to assess the behavior of BMP2 protein expression in autogenous bone graft. For such purpose, 5 adult male rats with bilateral bone defects in the calvarial region were used. The defects were assigned to 2 groups: Control (clot) and Graft (autogenous bone). The animals were euthanized 7 and 30 days postoperatively and the obtained pieces were subjected to immunohistochemical analysis. The employed methodology led to the following conclusions: 1) the autogenous bone produced a decrease of BMP2 expression in the analyzed periods, as compared to the control group; and 2) the analysis of BMP2 protein expression during bone repair cannot be considered alone in the evaluation of bone defect repair, but it allows observing the dynamics of this process.

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034

Esthetic treatment in anterior teeth with direct composite resin

Esthetic dentistry is in continuous development and has become very popular in the last few years due to the improvement of adhesive procedures and restorative materials, which seek to reproduce the natural characteristics of dental structures. Among the several restorative options for anterior teeth, the dentist must, whenever possible, choose the most conservative treatment. The treatment plan must be established in a way that allows for a good short-term and long-term prognosis, considering not only esthetics, but also the biological and functional aspects. The purpose of this work was to present an esthetic solution for a clinical case of anterior teeth. Treatment included tooth bleaching, occlusal adjustment, distalization of tooth 11 with Ivory separator and restoration of an oblique fracture in the maxillary right central incisor with direct composite resin and a silicone guide and the restoration of an enamel hypoplastic alteration in maxillary left central incisor with direct composite resin. Case outcome achieved satisfactory esthetic restorations with simple clinical procedures, fulfilling the patient's and dentist's expectations.

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035

Brief psychotherapy: psychological support on the treatment of oral lesions

Xerostomia is the sensation of dry mouth and oral lichen planus (OLP) is a chronic mucocutaneous disease with variations between exacerbation and absence of symptoms, which can be related to emotional stress moments. The aim of this study is present the importance of brief psychotherapy on the management of oral lesions. Case 1: A 62-year-old woman presented to the Oral Medicine Service (OMS) complaining of an uncomfortable sensation on her tongue and dry mouth. It was observed hyposalivation and a nodular mass, clinically diagnosed as traumatic fibroma. During the examination the patient showed to be emotionally disturbed and then referred to the psychotherapy

service. On the psychological interview, the patient revealed to be suffering with familiar conflicts and, consequently existential crisis. It was applied the Lipp's Inventory for Stress Symptoms and the Beck's Inventory of Depression. After 12 sessions of brief psychotherapy, it was observed improvement on her emotional condition and symptomatology. Case 2: A 54-year-old woman, presented to the OMS complaining of "burning mouth and injury in the mouth". During clinical examination, it was observed an alteration suggestive of OLP. The patient showed accentuated stress and anxiety, being referred to the psychotherapy service. During the psychological interview, the patient reported matrimonial conflicts, which were indicative of emotional disturbance, causing the symptomatology. Lipp's Inventory for Stress Symptoms and the Beck's Inventory of Depression were applied. After 7 sessions of brief psychotherapy, the patient showed an important improvement on her emotional status. She found a way to face the difficulties on her relationship, which resulted on the reduction of symptomatology. Based on these findings, it may be concluded that the brief psychotherapy as support on the treatment of some oral lesions presented satisfactory results from both dental and psychological standpoints.

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036

Reestablishment of the anterior guidance: effect in the esthetics, function and electromyographic activity of masticatory muscles

Pathological dental wear related to bruxism is undoubtedly one of the most severe alterations in dental practice. This type of wear represents not only an esthetic impairment, for the anterior teeth and the smile, but also a functional problem for the stomatognathic system, compromising the activity of the masticatory muscles and affecting the musculature of the craniofacial and cervical complex. This parafunctional habit has a multifactorial etiology and has been related mainly to the occlusal interferences, stress and current life style. Treatment success depends on the correct diagnosis in order to establish an adequate treatment plan, being many times necessary an interdisciplinary management of the case. The purpose of the present work is to present a technique for reestablishment of the anterior guidance by direct composite resin build up associated with the occlusal adjustment technique, allied to monitoring of the electromyographic activity before and after treatment. From the association of these procedures, it was observed a stable and harmonic anteroposterior relationship, reflecting in the activity of the masticatory muscles. The electromyographic records showed a balance of the constriction of the masseter and temporalis anterior muscles in the activities of maximum isometric voluntary contraction and chewing. An improvement in the patient's dentofacial esthetics was also observed.

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037

Indirect posterior composite inlay

In recent years, patients' demand for esthetic restorations, even in posterior teeth, has increased. Amalgam and metallic restorations still have a higher cost-effectiveness, but many patients do not accept these materials alleging that the esthetics is impaired with their use. For this reason, indirect composite restorations have been indicated for teeth with extensive tissue destruction. Advantages of indirect composite restorations include: composite polymerization outside the mouth, which prevents contraction stress; better control in preparation of the interproximal contact point; low cost of the material compared to ceramics; ease of repairing; possibility of using various techniques to improve the material properties, such as the use of heat and pressure while constructing the restoration. For these reasons posterior indirect composites has been used successfully in dental practice. We present, step by step, the clinic and laboratorial phases of a case in which two inadequate restorations with marginal excess and poor anatomy were replaced by two composite inlays achieving excellent esthetics, function and meeting the patient's expectation.

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Occurrence of periodontal pathogens in native Brazilians with different periodontal conditions

The microbiota associated with periodontal diseases seems to be affected by several factors, such as ethnic and racial characteristics of the population, oral hygiene conditions and diet. Thus the present study evaluated the distribution of 14 periodontopathic microorganisms in 90 native Brazilians of Umutina, Paresi, Bororo, Bakairi, Kayabi, Irantxe, Nambikwara and Terena ethnic groups, presenting different conditions of periodontal health. After periodontal examinations, samples of supragingival, subgingival biofilms and saliva were collected and transferred to ultrapure Milli Q water for microbial DNA extraction. Detection of periodontal microorganisms was performed by PCR with specific primer pair and the amplicons were photographed on a UV transilluminator after electrophoresis in 1% agarose gel. After evaluation of data through stepwise multiple regression analysis and chi-square test, it was verified that *Porphyromonas endodontalis*, *P. gingivalis*, *Aggregatibacter actinomycetemcomitans*, *Fusobacterium nucleatum*, *Tannerella forsythia*, *Prevotella intermedia*, and *P. nigrescens* were more associated with gingivitis, while *A. actinomycetemcomitans*, *F. nucleatum*, *T. forsythia*, *P. intermedia*, *P. nigrescens*, *P. gingivalis* and *Eikenella corrodens* were statistically associated with periodontal bone loss. The frequency of *P. endodontalis*, *A. actinomycetemcomitans*, *F. nucleatum*, *T. forsythia*, *P. intermedia*, *P. gingivalis* and *P. nigrescens* was higher in patients with spontaneous gingival bleeding while *E. corrodens*, *A. actinomycetemcomitans*, *F. nucleatum*, *P. gingivalis* and *P. gulae* were observed especially in patients of higher plaque index. *Treponema denticola* was detected in 8.89% of the subgingival samples. Therefore, the results suggested that the microbiota associated with periodontal diseases in these ethnic groups shows particularities, and some questions need to be evaluated properly, such as the participation of extraoral microorganisms in the pathogenesis of periodontitis. FAPESP 07/51016-3

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039

Clinical evaluation of pit-and-fissure sealants in primary molars after 48 months in patients of the baby clinic

Recent studies have shown very satisfactory results with regard to prevention of dental caries in patients included in the program of dental assistance to infants. Even so, recent surveys indicate the occurrence of caries disease, mainly in the occlusal surface, in patients in the 4-6-year-old age range who attended the Baby Clinic. In this way, the purpose of this study was to evaluate the effectiveness of pit-and-fissure sealants in the prevention of dental caries in patients aged 3 to 4 years and in the final stage of dental care in the Baby Clinic. Thirty-one patients who presented 212 primary molars indicated for occlusal sealing, using 5 sealant trademarks (Fluorseal, Fruorshield, Conseal, Bioseal and Climpro) applied according to the manufacturers' recommendations. The sealed teeth were assessed every six months for 48 months, using the clinical parameters of sealant presence and the condition of the sealed surface. The results showed that, after 4 years, the seals remained intact 60 teeth (32%), partially present in 50 (26%) and absent in 79 (42%). The sealed surfaced were caries free in 136 cases (72%) and decayed in 28 cases (15%). The results confirm the literature regarding the low retention rate of pit-and-fissure sealants in primary teeth. Prevention reached a reasonable level, needing follow up on a regular basis.

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040

Ankyloglossia and other oral anomalies and pathologies in six different ethnic groups of native Brazilians in the State of Mato Grosso

This study evaluated the incidence of oral anomalies and pathologies in native Brazilians of Umutina, Paresi, Bororo, Bakairi, Kayabi, Irantxe, Nambikwara and Terena ethnic groups living in Umutina Indian reservation, State of Mato Grosso. Initially, an interview was performed to evaluate the social, economic and cultural conditions of the natives, followed by intraoral and extraoral clinical examinations. It was verified that in a sample of 291 natives, 132 (45.36%) presented at least a single oral anomaly or pathology excluding dental or periodontal pathologies. The most prevalent anomaly was ankyloglossia (35.75%), followed by benign migratory glossitis (1.72%). Focal epithelial hyperplasia, pyogenic granuloma, simplex herpes, were also detected, but in a low prevalence. After analysis of data by stepwise multiple regression analysis and chi-square test, it was verified that age, gender, tobacco use, oral hygiene and diet did not interfere with the occurrence of these pathologies or anomalies. However,

alcoholic beverages, traditional way of life, exposure to the environment and dental assistance were associated with a small but significant reduction in the occurrence of oral pathologies. Ankyloglossia was the only oral anomaly statistically associated with these populations ($p < 0.001$). It was concluded that habits and the adherence to traditional way of life affected the occurrence of oral pathologies only peripherally, and prevalence of ankyloglossia probably is related to genetic particularities of these communities. FAPESP 07/51016-3

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041

Effect of different concentrations of fluoridated dentifrices on dentin erosion subjected or not to abrasion *in situ/ex vivo*

This *in situ/ex vivo* study assessed the effect of different concentrations of fluoridated dentifrices (F) on dentin subjected to erosion or to erosion plus abrasion. Ten volunteers took part in this crossover and double-blind study performed in 3 phases. In each phase (7 days), they wore acrylic palatal appliances containing 4 bovine dentin blocks divided in two rows: erosion and erosion plus abrasion. The blocks were subjected to erosion by immersion in a cola drink (60 s, pH 2.6) 4 times daily. During this *ex vivo* erosion, the volunteers brushed their teeth with one of the dentifrices (Duraphat®-D: 5,000 ppm F, NaF, silica; Crest®-C: 1,100 ppm F, NaF, silica and placebo Duraphat®-P: no F, silica). Then, the respective dentifrice slurries (1:3) were dripped on dentin surfaces (1 drop/block). While no treatment was performed in one row (1), the other row (2) was brushed using an electric toothbrush (Colgate®) for 30 s *ex vivo*. The appliances were replaced into the mouth and the volunteers rinsed with water. After 7 d, dentin loss was determined by profilometry. Data were tested using 2-way ANOVA and Tukey test ($p < 0.05$). For the condition erosion plus abrasion, the wear was significantly higher compared to erosion alone. Regarding the different fluoride concentrations, the wear was significantly higher for the P compared to the F dentifrices, which were not significantly different from each other. In conclusion, the presence of fluoride in the dentifrice is important to minimize dentin wear, regardless of its concentration.

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042

Evaluation of the irregularities produced on the dental surface of cavities for amalgam restorations comparing 3 different types of three shapes of diamond burs

The main cause that leads to the replacement of an amalgam restoration is directly related to an inadequate cavity preparation, which often does not allow for an adequate adaptation of the restorative material to the tooth walls and distribution of forces. This study compared the shape and irregularities present on the cavity walls prepared with three different types of diamond burs: cylindrical (#1090), inverted cone (#1034) and spherical (#1014). Five cavities (4mm x 3mm wide and 2 mm deep) were prepared on the buccal surface, cervical region of sound molars, with each of rotary instruments. Thereafter, the cavities were duplicated with an elastomeric impression material (Permelastic - Kerr) and the impressions were analyzed and photographed in an optical microscope at $\times 12.8$ magnification. The cylindrical diamond bur seemed more suitable for preparation of cavities for amalgam restoration because it promoted more regular walls that the inverted cone and spherical diamond burs, the latter leaving impressions of their shape, which may reduce the adaptation of the restorative material and compromise the form of resistance of the cavities.

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043

Reaching to the age of 80 with more than 20 teeth in function: case study

The probability of a well-succeeded aging can be related to the autonomy, self-acceptance, support network, religious belief and life goals. The objective of this study was to identify and to analyze the variables that influence the adaptation of the

individual to the aging process in relation to the maintenance of teeth. This case study presents an 80-year-old patient who presented 28 teeth in function. The following parameters were assessed: DMFT, tooth wear index (TWI), periodontal disease (CPI), use and need of denture, soft tissue alterations and salivary flow. The self-perception was evaluated using index GOHAI (Geriatric Oral Health Assessment Index). The patient presented: DMFT = 15.0; CPI = periodontal pocket of 4-5 mm; use of upper and lower fixed dentures; no soft-tissue alterations; salivary flow = 0.5 mL/min; dental wear more frequent in dentin (incisal/occlusal surfaces), and GOHAI = 29 (considered low). The results of this study corroborated to understand the new profile of oral health in elderly people. The patient interviewed in this study seems to have adapted herself to aging due to the skills developed throughout her life.

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044

Morphological reconstruction of maxillary incisors with composite resin

In this stage of evolution of restorative dental materials and techniques, cases of difficult resolution are current solved in a simpler and more conservative manner. This study reports and describes a case of reconstruction of malformed maxillary anterior teeth using composite resin. An 11-year-old male patient came to the Dental Clinic of the Londrina State University with the permanent teeth, more specifically, the maxillary anterior teeth with malformation. After analysis of the case, the treatment plan was defined as tooth restoration with composite resin. A similar restorative technique was adopted for the four maxillary incisors and the composite resin used was MIRIS system (Coltène Whaledent). Composite build up started with the construction of the palatal enamel layer with trans-neutral shade, followed by dentin building with shade 2 in the cervical third and shade 1 in the middle third to incisal. The incisal characterizations were made with the blue and white dye. To complete the restoration, the buccal enamel was built using the White Bleach shade. After 2 weeks, the patient returned for finishing, polishing and completion of the case. Based on the outcome of this case, it may be concluded that a proper planning, correct selection of materials and direct composite resin build up it is possible, in a conservative and significant manner, to promote a morphological and esthetic reestablishment of the malformed anterior teeth and consequently recover the patient's smile.

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045

Micromechanical analysis of the dentin/adhesive interface at different dentin depths. 3-D study by the finite element analysis

The influence of the diameter and number of the dentinal tubules on the stress distribution according to different dentin depths are not established in the literature. We hypothesize that the microstructure of dentin may affect the stress transfer pattern, being more influenced by deeper dentin. The objective of this study was to analyze the stress distribution at the dentin/adhesive interface (d/a) by 3-D finite element analysis (FEA) with different dentin depths, varying the number and diameter of the dentin tubules, keeping constant the hybrid layer (HL) thickness and TAG's length (3 µm and 17 µm, respectively). Three 3-D FEA models (M) of dentin specimen (41 x 41 x 41 µm, HL = 3 µm and TAG = 17 µm) restored with a composite resin were built varying the diameter (d) and the number (#) of the dentin tubules: M1 - superficial dentin, # = 8, and d = 0.9 µm; M2 - medium dentin, # = 12, and d = 1.2 µm; and M3 - deep dentin, # = 16, and d = 2.5 µm. The maximum main stress in tension was obtained using ANSYS. Loading (L) was distributed on the top surface of the composite resin. The maximum main stress in tension was found in the deep dentin, followed by medium and superficial dentin (M1 = 3.283 MPa; M2 = 7.346 MPa; M3 = 8.084 MPa). Stress pathway (from higher to lower tension, in MPa) was: peritubular dentin, adhesive layer, inter-tubular dentin and hybrid layer. The peak of main stress in tension was in the peritubular dentin for all models. In conclusion, the increase in the number and diameter of the dentin tubules, increases the main stress in tension at the d/a interface. The peritubular dentin showed the most evident variation of main stress in tension. (FAPESP 2006/01988-6)

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046

TNFA-308G/A SNP and red complex periodontopathogens independently modulate the levels of TNF-alpha in diseased periodontal tissues

Inflammatory cytokines such as TNF-α are involved in the pathogenesis of periodontal diseases. A high individual variation in levels of TNF-α mRNA has been verified, possibly determined by genetic polymorphisms and/or by the presence of periodontopathogens, such as *Porphyromonas gingivalis*, *Tannerella forsythia*, *Treponema denticola* (called the red complex) and *Aggregatibacter actinomycetemcomitans*. In this study, we investigated the role of TNFA-308G/A polymorphism and of the periodontopathogens in the determination of the TNF-α levels in the periodontal tissues of non-smokers chronic periodontitis (CP) patients (N=127) and control subjects (C, N=177). TNFA-308G/A SNP was investigated by PCR-RFLP, while the TNF-α levels and the presence of the periodontopathogens were determined by real-time-PCR. No statistically significant differences were found in the frequency of TNFA-308 SNP in C and CP groups, in spite of the higher frequency of A allele in CP group. Our results demonstrate a trend towards higher TNF-α expression in GA/AA genotypes, since *P. gingivalis*, *T. forsythia* and *T. denticola* detection was also positively associated with increased TNF-α levels. The concomitant analyses of genotypes and periodontopathogens demonstrate that TNFA-308 and the red complex periodontopathogens independently modulate the levels of TNF-α in periodontal tissues, and no additive effect was seen when both factors were present. TNFA-308 genotypes were not associated with the periodontopathogens detection odds. Our results demonstrate that TNFA-308 A allele and red complex periodontopathogens individually modulate the levels of TNF-α in diseased tissues of non-smokers chronic periodontitis patients, and consequently are potentially involved in the determination of disease outcome.

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047

1-year clinical evaluation of conventional and modified Atraumatic Restorative Treatment restorations placed on primary molars

This clinical trial evaluated, within a 1-year period, class I restorations placed in primary molars using the atraumatic restorative treatment (ART) and modified ART techniques, taking into account reports of postoperative sensitivity, the clinical performance of the restorations and presence/absence of caries. 46 ART restorations were placed using Ketac Molar Easy Mix conventional glass ionomer cement as the restorative material, and 57 modified ART restorations were placed using Fuji II LC resin-modified glass ionomer cement as the restorative material. The restorations were evaluated 24 h, 3 months, 6 months and 12 months after placement for assessment of the predetermined clinical criteria (postoperative sensitivity, clinical performance of the restorations and presence/absence of carious lesions). Data were submitted to transversal and longitudinal statistical analyses by the Mann-Whitney and Friedman tests, respectively. Significance level was set at 5%. The transversal analysis did not show statistically significant differences between the restorative techniques for any of the evaluated criteria. The longitudinal analysis revealed similarity among the evaluation periods (24 h, 3 months, 6 months and 12 months) for postoperative sensitivity and carious lesions in both techniques. However, statistically significant differences were observed in the clinical performance of the ART restorations between 3 and 12 months, and between 6 and 12 months. For the Mod-ART restorations, significant differences were observed between 3 and 12 months. In conclusion, reports of postoperative sensitivity were similar for both restorative techniques and occurred shortly after placement of the restorations. The restorative techniques presented similar clinical performance at the end of the 1-year study duration; however, the ART restorations presented a decrease in their clinical performance after 6 months, while the Mod-ART restorations had their clinical performance decreased after 12 months. At all evaluation periods, the number of teeth with carious lesions was small and similar for both restorative techniques.

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Influence of resin coat technique on bond strength of indirect restorations after thermal and load cycling

The resin coat technique (RCT) is a clinical treatment that seals the cavity before undertaking impression and cementation of the indirect restoration. The aim of this study was to evaluate the influence of the RCT on bond strength of indirect restorations, after thermal and load cycling. Fifteen third molars were selected and had the occlusal enamel removed to expose flat dentin. The teeth were assigned to three groups (n=5). G1: without RCT; G2: the dentin was hybridized with a single-bottle self-etching adhesive system (Clearfil S3); and G3: self-etching adhesive + low-viscosity resin (Clearfil Protect Liner). After RCT, Sinfony system (3M/ESPE) indirect restorations were made and cemented with dual resin cement (Panavia F). The teeth were submitted to thermocycling (2,000 cycles/5-55°C) and load cycling (250,000 cycles). Thereafter, the teeth were cut to obtain sticks and submitted to microtensile bond strength. The results were analyzed by ANOVA and Tukey's test (p<0.05). The mean values (MPa) were G1: 9.51; G2: 12.26; G3: 14.89. The statistical analysis showed difference between groups, G3 being superior to the other groups. It can be concluded that, not protecting the dentin with RCT produced lower bond strength values compared to the other groups. Therefore, the association of adhesive plus low-viscosity resin provided higher bond strength than the other groups.

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Prenatal events and their relation with the infant behavior during dental treatment

The present work assessed, by a retrospective study, the possible influence of the prenatal events, involving the fetus and the mother, on the infant's behavior facing the dental treatment. A total of 120 mothers of babies seen at Clinic for Babies at the Dental School of Araçatuba-UNESP were answered to a questionnaire that argued about the mother's emotional and psychological status at the beginning of pregnancy, the economic and social factors, the maternal health status and the parent-child relationship, in addition to the fetal behavior. Having established the maternal prenatal profile, it was compared to the babies' behavior profile displayed during the assistances at Clinic for Babies. The relationship between the mother's dental experience and the babies' behavior was also assessed. Most mothers denied negative experiences during the dental treatment, and their babies presented a cooperative behavior, with restrictions. The number of mothers with favorable prenatal profile prevailed and the majority of the babies presented a cooperative behavior. It may be concluded that there was no statistically significant relationship between the maternal dental experience and the patient's behavior, as there was no influence of the prenatal events over the infant behavior during the dental treatment.

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Bilateral paresthesia of upper and lower alveolar nerves resulting from Lyme disease simile: case report

Lyme disease (LD) is a systemic inflammatory changes resulting from the direct action and the immune response to the spirochete *Borrelia burgdorferi*, which spreads into the blood stream from the bites or feces of the genus *Ixodes* ticks, and most commonly found in outbreaks in North America, Europe and Asia. Considering the differences etiological and clinical and laboratory when compared with Lyme borreliosis of North American or European, the infection in Brazil should be referred to as Lyme borreliosis simile, the first published cases dating back from the early 1990's. This report refers to a 41-year-old patient with peripheral neurological sequelae, due to the delayed correct diagnosis. Paresthesia of bilateral alveolar nerves and the upper and lower ends of the upper and lower limbs are the main complaints of the patient. This severe paresthesia ultimately leads to daily annoyances and has direct implication in dental treatment. Other events reported in the literature, such as Bell's palsy, temporomandibular joint disorders and ophthalmological alterations were not observed or reported. The diagnosis of DL should primarily be based on clinical presentation (erythema migrans on the skin) and epidemiological information provided by the patient. The recognition of the first manifestations of DL by health professionals is essential to the correct antibiotic treatment, which would prevent the progression of the disease. It should also be emphasized the need for preventive measures for those who live or work in endemic areas, such as use of clear clothes, long socks, trousers with boots outside the sewing sheaths in rural areas, and careful examination of clothing, skin and even domestic animals, as well as the control and eradication of ectoparasites.

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Cytotoxicity of a 35% H₂O₂ bleaching agent to an immortalized odontoblast cell line

The aim of this *in vitro* study was to evaluate the cytotoxicity of extracts obtained from a 35% H₂O₂ bleaching agent (Whiteness HP (FGM, Joinville, SC, Brazil) to the odontoblast-like cells MDPC-23. Fifteen enamel-dentin discs obtained from bovine teeth were adapted to artificial pulp chambers. The specimens were divided into 3 groups according to the treatment applied on the enamel surface: G1- bleaching agent (15 min); G2- bleaching agent (15 min) + halogen light (20 s); and G3 (control) - no treatment. After the 5th application of the bleaching agent on enamel, the complete culture medium in contact to the dentin (extract) was collected and applied for 24 h on the cells, which were previously seeded (50,000 cells/cm²) in wells. Cell metabolic activity (MTT assay), cell morphology (SEM) and total protein expression were evaluated. In G1 and G2, cell metabolism decreased by 62.09% and 61.83%, respectively. The total protein expression and cell metabolism reduction were statistically significant when compared to the control group (G3) (Mann-Whitney; p<0.05). Notable alterations in cell morphology were also observed in G1 and G2.

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Fracture of the coronoid process of the mandible - etiology, prevalence and treatment: Literature review and case report

The coronoid process represents the region with the lowest incidence of mandible fractures. When occurring alone, this type of fracture is due to a low-intensity trauma, but it is usually associated with other fractures in the face. The diagnosis is based on clinic evaluation and conventional radiographic techniques, and the treatment consists in radiographic controls or surgical procedures. The purpose of this study is to present a literature review about fractures of the coronoid process, in order to demonstrate their epidemiology and discuss their treatment modalities and clinical indications.

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Occurrence of *Aggregatibacter actinomycetemcomitans* and *Porphyromonas gingivalis* in patients with Down's syndrome

Down's syndrome individuals present high susceptibility to periodontal diseases. However, the occurrence of periodontal disease in patients seen at the "Centro de Assistência Odontológica a Excepcionais" (CAOE/UNESP) is quite reduced. Therefore, the goal of this study was to evaluate the occurrence of *Aggregatibacter actinomycetemcomitans* and *Porphyromonas gingivalis* in 22 patients with Down's syndrome submitted to periodontal examinations at the CAOE-UNESP. After periodontal examinations, samples of subgingival and supragingival biofilm and saliva were collected and transferred to ultra pure water and the presence of these microorganisms was detected PCR and real-time PCR. Data were evaluated by stepwise multiple regression analysis and chi-square test. *A. actinomycetemcomitans* and *P. gingivalis* were detected by PCR from 4.55% and 31.82% of subgingival samples, respectively, while real-time PCR identified these periodontal microorganisms in 4.55% and 40.91% of the subgingival specimens. These results revealed that Down's syndrome patients submitted to periodical examinations are periodontally healthy and the occurrence of *A. actinomycetemcomitans* is rare, while frequency of detection of *Porphyromonas gingivalis* was significantly higher. Thus, the role of these pathogens in periodontal pathologies associated with Down's syndrome individuals must be evaluated, as well the susceptibility of these patients to periodontitis.

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Surgical treatment by marsupialization. Clinical, histopathological, immunohistochemical and surgical considerations

The marsupialization refers to the creation of a surgical window on the wall of a cyst, draining its contents and maintaining the continuity between the cyst and the oral cavity, the maxillary sinus or the nasal cavity. In this way, this procedure leads to a decrease of the intracystic pressure that promotes reduction of the lesion and consequently bone filling. The surgical treatment by marsupialization can be used as a single therapy for a cyst or as a preliminary step of the treatment, postponing the enucleation to a second stage. The main advantage of its treatment is to be a simple procedure and avoid an immediate enucleation can cause damage to vital structures. This paper aims to discuss the surgical treatment by marsupialization with the presentation of clinical cases, as well as describe their clinical, histopathological, immunohistochemical and surgical characteristics.

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055

Peripheral odontogenic keratocyst: a case report

The term peripheral odontogenic keratocyst was first proposed by Dayan et al. (1988) for a gingival cyst of the adult with epithelial lining characteristics of an odontogenic keratocyst. Currently, peripheral odontogenic keratocyst has been described as the extraosseous counterpart of the potentially aggressive intraosseous odontogenic keratocyst that is considered a benign neoplasm by World Health Organization. Clinically, the lesion occurs as an asymptomatic nodule, usually in the gingiva or alveolar mucosa in the canine-premolar region, mimicking the gingival cyst of the adult. Although this lesion exhibits the histopathological features of the aggressive odontogenic keratocyst, it remains is not yet clear from few reported cases whether peripheral odontogenic keratocyst has the same tendency to recur following surgical enucleation. In this case report, we present a peripheral odontogenic keratocyst arising in a 57-year-old white female patient involving the posterior mandibular gingiva that recurred after 12 months of follow-up. This case report reinforces that patients presenting peripheral odontogenic keratocyst should be carefully followed up after conservative surgical treatment.

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056

Autogenous adhesive tooth fragment reattachment as an alternative rehabilitation

Coronal fractures are frequent events in the permanent dentition due to traumatic injuries. When the tooth fragment is preserved, the fractured tooth can be restored by adhesive tooth fragment reattachment. When the fragment is from the patient's tooth, the procedure is known as autogenous fragment reattachment. The advantages of this technique are its low cost, greater superficial smoothness, presence of physiological wear, maintenance of the dental anatomical characteristics and shortening of clinical chairtime. However, fragment adaptation to the tooth remnant can be difficult. Contraindications to this technique include cases of complete crown fracture, in addition to situations that impair the maintenance of the tooth in the oral cavity, such as indication for extraction, due to irreversible pulpal or periodontal problems, or teeth close to the moment of exfoliation. The objective of this work is to present the case of a patient of the Pediatric Dentistry Clinic of the Dental School of Araraquara- UNESP, who presented a coronal fracture in the mandibular permanent incisor treated by autogenous adhesive tooth fragment reattachment. It may be concluded that biological reattachment is a viable treatment option for dentists to manage routine problems, such as fractures, in dental office as conservatively as possible, aiming at the patient's satisfaction, cost reductions and esthetic and functional recovery.

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057

Incidence of the foramen of Vesalius in human skulls and its clinical-surgical importance

This study evaluated the incidence of the foramen of *Vesalius* in human skulls and analyzed its clinical-surgical importance. Eighty dry human skulls and with gender distinction were used (40 males and 40 females). An incidence of 40% (skulls with at least 1 foramen), 13.75% were considered in this study (skulls with bilateral presence of the foramen), 26.25% (skulls with unilateral presence of the foramen), 31.25% (skulls with foramen only on the right side), 22.50% (skulls with foramen only on the left side), 25% (male skulls with at least 1 foramen), 52.25% (skulls with at least 1 foramen). It may be concluded that it is necessary a more detailed anatomical study of the foramen of Vesalius in order to add not only to the anatomical knowledge of this structure, but also to the clinical-surgical situations for comprehending an area in which neurosurgical techniques are performed.

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058

Color change evaluation of direct and indirect composite resins stored in staining solutions

The aim of this study was to evaluate the color stability of direct and indirect composite resins after the storage in staining solutions. Thirty-two samples (measuring 15 mm in diameter and 1.2mm in thickness) of Filtek Z250 (3M ESPE) and Sinfony (3M ESPE) composites were made and photo-cured in a vacuum-light chamber (Visio system, 3M ESPE) and LED source (Ultralead, Dabi-Atlante). The color of all specimens was analyzed in a UV reflection spectrophotometer (UV-2450, Shimadzu), using the CIE L*a*b* parameter (Comission Internationale de l'Eclairage). Samples (n=8) were immersed in solutions of Coca-Cola, orange juice, red wine and distilled water (control) during four weeks. The color difference (ΔE) was calculated. Data were analyzed by three-way ANOVA and Tukey's test ($\alpha=0.05$). The Filtek Z250 showed less color stability than Sinfony when the samples were immersed in Coca-Cola and red wine ($p<0.05$). There is no statistically significant difference between the curing sources ($p>0.05$). Among the staining solutions, the red wine caused the highest color change, compared with orange juice, Coca-Cola and distilled water. (FAPESP 06/56111-1).

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059

In vitro analysis of the cariogenic activity of oral liquid drugs

Dental caries is a worldwide disease, occurring without distinction of culture or socioeconomic development. Oral liquid drugs, such as syrups, are sugared to have a good acceptance in treatment. They are therefore a concern to public health since most of those medicines contain sucrose which can lower the pH, change the viscosity and cause fermentation of microorganisms such as *Streptococcus mutans*. The purpose of this study was to evaluate drugs' pH, viscosity and fermentation caused by *Streptococcus mutans* in syrups, with and without sucrose, and to associate them with the development of dental caries. Four substances with different pharmacological activities were chosen: ketotifen fumarate, carbocysteine, loratadine and ambroxol hydrochloride. For each drug, two formulations (with and without sucrose) were tested. Those medicines were submitted to determination of pH, viscosity and fermentation and the data were analyzed statistically by Tukey's multiple-comparison test to verify the significance of the results. The analysis of pH revealed that only medications containing carbocysteine exhibited pH above the critical value ($pH<5.5$). The other syrups presented pH below the critical, even the sugar-free ones. Comparing the drugs with and without sucrose, ketotifen fumarate, carbocysteine and loratadine showed significant differences in the viscosity ($p<0.05$). There were no significant differences in the test of fermentation, and all pH values were close to that of the positive control. Although the syrups without sucrose seem a better choice than the sucrose-containing ones, they may influence caries development due to their low pH and high viscosity. It is important that health professional are aware of the composition of drugs in order to help in the prevention of dental caries by instructions of prophylaxis after each ingested dose, and monitoring the patient to verify their oral health.

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The use of the home-bleaching technique in cosmetic restorative dentistry

Dental bleaching has historically been a conservative treatment for teeth with intrinsic staining. Since the introduction of the home-bleaching technique by Haywood and Heymann, in 1989, different techniques have been used for dental bleaching. Because of the good esthetic results, this procedure has been widely used by the dentists and can be associated with other esthetic/cosmetic restorative procedures. Bleaching treatment has been used as the most common cosmetic technique required by the patients. In some situations, bleaching is used mostly due to cosmetic reasons. Thus, the aim of this work is to present and discuss the home-bleaching technique, with clinical cases presentation.

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061

Use of platelet-rich plasma (PRP) in combination with the subepithelial connective tissue graft (SCTG) in root coverage procedure in a smoker patient: a clinical case report

Subepithelial connective tissue grafts (SCTG) have been shown to be effective in root coverage procedures. However, tobacco smoking, a habit present in a considerable percentage of patients, represents a risk factor in these procedures. The chemical products found in cigarettes seem to enhance peripheral vasoconstriction, which may impair or delay the wound healing process. An alternative to manage this problem could be the association of growth factors in combination with SCTG. Platelet-rich plasma (PRP), containing autologous growth factors (PDGF, TGF- α , IGF), has been shown to accelerate the initial biological events and, consequently, improve soft tissue healing. Therefore, the purpose of this study is to report the effects of PRP in combination with SCTG in a smoker patient. A case of a 50-year-old, smoker, female patient is presented. Following basic therapy, SCTG in combination with PRP was proposed to provide root coverage of Miller Class I recession on teeth 23 and 24. Four weeks after the surgical procedure, the tissue color was almost homogeneous with only some reddish regions. There was almost 100% of root coverage on teeth 23 and 24 after 6 months of postoperative follow-up. In addition, a gain in tissue thickness was observed. Based on the results of this case, the application of PRP and SCTG in a smoker patient resulted in favorable clinical outcomes, being an interesting periodontal esthetic alternative treatment for smokers.

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062

Occurrence of yeasts and enteric bacteria in patients undergoing head and neck radiotherapy

This study evaluated the occurrence of yeasts and enteric bacteria in oral cavity of patients undergoing radiotherapy for treatment of head and neck cancer. Forty patients receiving radiotherapy by means of a linear accelerator (5040-7020 cGy) were submitted to clinical examinations and conditions of soft tissues and periodontium were registered. Patients were instructed to use a nystatin suspension once daily to prevent fungal infections. Clinical and microbiological evaluations were performed before radiotherapy (RT), in the middle of RT, immediately after completion of RT and 30 days after RT. Samples of saliva, oral mucosa, subgingival and supragingival biofilm were collected, diluted and transferred to Sabouraud Dextrose agar with chloramphenicol, peptone water, EVA broth, EMB agar, SS agar, Bile Esculin agar and Brilliant Green agar. Isolation of yeasts was carried out at room temperature, for 3-7 days; for the isolation of enteric microorganisms, the plates were incubated at 37°C for 24-48 h. Yeasts were identified as *Candida albicans*, *C. tropicalis* and *C. krusei* and their occurrence was more common in edentulous patients and after RT. Enteric bacteria recovered from clinical specimens were identified as *Citrobacter freundii*, *Enterobacter cloacae*, *E. intermedium*, *E. sakazakii*, *Enterococcus faecalis*, *Klebsiella oxytoca*, *Proteus mirabilis* and *Providencia alcalifaciens* and they were detected in 68.75% of clinical samples from edentulous patients and from 53.85% and 45.45% of gingivitis and periodontitis patients 30 days after the completion of RT. In conclusion, non-oral pathogenic bacteria and *Candida* species were prevalent in patients undergoing radiotherapy for treatment of head and neck cancer and nystatin suspension was not effective to prevent oral colonization and infection by *Candida*

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063

The erosive potential of citric acid supplemented by different minerals: an *in vitro* study

One of the alternatives to minimize dental erosion is to decrease the erosive potential of acidic beverages by the supplementation of minerals. Thus, this *in vitro* study evaluated the effect of different minerals supplemented alone or in combination to 1% citric acid (pH 2.5) on dental erosion. Ninety bovine enamel samples (4x4mm) were randomly allocated to nine groups: G1-pure 1% citric acid solution (control); G2-with 1 mM Ca; G3- with 0.047 mM F; G4- with 1 mM Fe; G5- with 1 mM P; G6-with 1 mM Ca and 0.047 mM F; G7-with 1 mM Ca and 1 mM P; G8- with 1 mM Fe and 0.047 mM F; and G9- with 1 mM Ca, 1 mM P, 0.047 mM F and 1.0 mM Fe. The samples were submitted to 6 pH-cycles, each consisting of immersion in pure or modified 1% citric acid (1 min) followed by storage in artificial saliva (59 min). Enamel wear was assessed by profilometry. Data were analyzed statistically using ANOVA and Tukey's tests ($p < 0.05$). Enamel loss (mean \pm S.D.) ranged between 0.87 ± 0.30 and 1.74 ± 0.74 μm , but did not differ significantly among the groups ($p > 0.05$). The modification of 1% citric acid with different minerals did not have a protective effect on enamel erosion.

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064

The Twin Block appliance in the treatment of class II division 1 malocclusion with mandibular retrognathism

Twin Block is a functional orthopedic appliance developed by Clark in 1988 for treating Class II Division 1 malocclusion with mandibular retrognathism. It is a removable appliance of relative easy construction, clinical handling and with high level of comfort, acceptance and compliance for the patient. The upper and lower appliances interlock at the 70 degree angle set into the bite blocks and posture the mandible forward into the ideal Class I position preset by the wax registration. The bite registration is generally taken with the incisors in an edge-to-edge position correcting skeletal median line and not dental median line deviations. The components are: acrylic plate, vestibular arch (to upright or avoid vestibular inclination of upper incisors), upper and lower expansion screw (to control and correct upper and lower arch width and length at the same time that skeletal changes are being made), Adams's clasps at the upper molars and Ball clasps between premolars (to improve retention), acrylic coverage of the lower incisor (for avoiding protrusion or inclination), posterior acrylic biteplane (for the mandibular advance and lower tooth extrusion with selected adjustments on the acrylic). The main effects during 12-month mean treatment period are: Increase of the mandibular length and ANB angle reduction (maxillomandibular relationship correction). The correction of postnormal buccal segments is achieved by the combination of distal movement of the upper molars and forward migration of lower molars. The skeletal changes are associated with significant effects on the soft tissues, mainly consisting of changes in the vertical dimensions of the face and position of the lips. The treatment with Twin Block appliance is effective in reducing overjet and severity of malocclusion producing sagittal and vertical changes.

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065

Indirect cytotoxicity of a bleaching agent with 35% H₂O₂ to pulp cells

The aim of this *in vitro* study was to evaluate the indirect cytotoxicity of a bleaching agent with 35% H₂O₂ to the odontoblast-like cells MDPC-23. Forty enamel-dentin discs were obtained from bovine teeth and adapted to an *in vitro* pulp chamber. The cells were seeded (50,000 cells/cm²) on the dentin surface of these discs and incubated for 72 h. The enamel-dentin discs were divided into 4 groups according to the treatment applied on the enamel surface: G1 - bleaching agent (15 min); G2 - bleaching agent

(15 min) + halogen light (20 s); G3 - halogen light (20 s); and G4 - control. The treatments were performed two times in such way that in G1 and G2 the bleaching agent was applied for 30 min on the enamel. The cell metabolic activity was evaluated by the MTT assay and the cell morphology was assessed by SEM. In G1, G2, and G3 the cell metabolism decreased by 33.5%; 43.1%; and 11.9%, respectively. The cytotoxic effects observed in G2 were significantly higher than those observed in G3 and G4 (Mann-Whitney, $p < 0.05$). Despite the highest cytotoxicity observed in G2, no statistical difference occurred between this experimental group and G1. In G1 and G2 the number of cells attached to the dentin substrate decreased and some alterations in the cell morphology were observed. Based on the methodology employed in the present *in vitro* study it was concluded that components of the bleaching agent with 35% H_2O_2 may diffuse across enamel and dentin to cause toxic effects to the odontoblast-like cells MDPC-23, characterized by cell death and/or inhibition of the cell metabolism.

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066

Cytotoxic effect of Photogem® associated with blue LED on fibroblast culture

In evaluating the potential of the photodynamic therapy (PDT) for clinical treatment of bacterial and fungal infection, it is important to assess the cytotoxic effects toward normal cells. Therefore, the aim of this *in vitro* study was to evaluate the effect of PDT with LED and the photosensitizer Photogem® (PS) on fibroblasts cell culture. The experimental groups received the PS on the concentration of 50 mg/L, and three energy density 18; 25.5 and 37.5 J/cm² from a LED (460 nm). The PS was pre-incubated for 30 min, and then cells were irradiated for 24, 34 and 50 min, according to the energy density. To evaluate the dark toxicity of the PS and LED, a group of cells received the PS without light exposure, and another group was only irradiated at all the three periods. The negative control did not receive PS or light. After PDT, cell viability was evaluated after 0 and 24 h using MTT assay. In groups exposed to LED associated with PS, the cellular metabolism were statistically lower than the control (Mann-Whitney, $p < 0.05$), showing a reduction of 66 to 77% on mitochondrial activity. Groups exposed only to PS showed a decrease on cell metabolism, suggesting a potential cytotoxic effect of the photosensitizer. Cells that were only irradiated showed a reduction on metabolic activity as the illumination time increased, probably due to the increase of temperature. It can be concluded that the association of Photogem® and blue LED was capable to cause toxic effects to the fibroblasts, characterized by inhibition of the cell metabolism.

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067

Cytopathic effects of extracts obtained from a bleaching agent with 35% H_2O_2

The aim of this *in vitro* study was to evaluate the cytotoxic effects of a bleaching agent with 35% H_2O_2 that diffuse through enamel and dentin on the cultured odontoblast-like cells MDPC-23. Enamel-dentin discs from bovine incisors were adapted to *in vitro* pulp chambers. The samples were divided into 3 groups according to the treatment applied on the enamel surface: G1- bleaching agent (15 min); G2- bleaching agent (15 min) + halogen light (20 s); G3- (control) - no treatment. After applying the bleaching agent on the enamel for three times, which characterizes one session of clinical dental bleaching, the extracts (culture medium + components released from the bleaching agent) in contact to the dentin surface of the discs were collected. The extracts were immediately applied for 24 h on the cells previously seeded (50,000 cells/cm²) on 24-well dishes. Following this period, the cell metabolic activity was evaluated by MTT assay and the cell morphology assessed by SEM. For G1 and G2 the cell metabolism was reduced by 92.03% and 82.47%, respectively. Statistically significant difference was observed when both experimental groups (G1 and G2) were compared to the control group (G3) (Mann Whitney, $p < 0.05$). Intense cytotoxicity occurred when the bleaching agent was activated or not with halogen light. In addition, in G1 and G2 important morphological alterations were observed on the cells. Based upon these results, it was concluded that, after 3 applications, components released from the experimental bleaching agent with 35% H_2O_2 , diffused through the enamel and dentin to cause intense cytopathic effects to the cultured odontoblast-like cells MDPC-23.

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068

Influence of the geometry of the cavity on microtensile bond strength and nanoleakage in indirect restorations by the resin coating technique

The aim of this study was to evaluate the influence of the geometry of the cavity on microtensile bond strength and nanoleakage of indirect restorations using resin coating technique (RC) after thermal (T) and load cycling (L). Twenty human molars were allocated to two groups (n=10). G1: the occlusal enamel of each crown was removed to expose flat dentin surface; G2: preparation of class II cavities with margins in dentin. For both groups was applied the RC using the combination of self-etching adhesive + flowable resin (Clearfil S3 + Protect LinerF). The restorations were made using the Sinfony system (3M/ESPE) and were cemented with resin cement Panavia F (Kuraray). The teeth were submitted to T (2,000 cycles /5-55°C) and L (250,000 cycles - 30N). Two teeth of each group were sectioned in slices and immersed in amoniacal silver nitrate, analyzed in SEM in the backscattered electron mode. The other teeth were sectioned in sticks and submitted to microtensile bond strength testing with a speed of 0.5 mm/min. The mean values were submitted to statistical analysis by Student's t-test ($p < 0.05$). The mean bond strength values of G1 (14.02) were significantly higher than those of G2 (4.48). In G1 showed infiltration by silver only in the base of the adhesive layer. G2 showed intense infiltration by silver, represented by images of "water trees", in the whole adhesive layer. It may be concluded that the geometry of the cavity influenced the infiltration by silver nitrate and bond strength of the indirect restorations.

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069

Gingival conditioning in implant-supported prosthesis – a case report

The absence of gingival volume in anterior regions is a great challenge during the fabrication of implant-supported fixed prostheses, especially when esthetics is needed in patients with high smile line. This work aims to report a case of gingival conditioning by the addition and removal of self-curing acrylic resin in provisional crowns in order to obtain desirable esthetic outcomes. The patient had healings installed in the regions of teeth 12, 21 and 22 and crestal bone with irregular resorption. Due to the presence of a large volume of gingiva, papilla could be formed, reestablishing appropriate form and contour of gingival tissue, improving esthetics and phonetics. From the provisional crown fabrication visit to the fourth visit, elevation of the gingival level in an incisal-to-gingival direction was tried on tooth 11 region, by adding a small amount of acrylic resin to the crown. The gingival margin of tooth 22 was displaced in a gingival-to-incisal direction by removing resin and preparing cervical channels. This gingival conditioning technique is easily performed, non-traumatic and can reestablish esthetics close to the aspect of natural teeth within the physiological limits. However, the success of the treatment depends on preexisting gingival volume, the individual response of each patient (doubtful predictability) and time availability for several sessions.

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070

The human teeth bank role against the illegal commerce of teeth

The use of human teeth is a usual habit in Dentistry in laboratory activities as well as in research studies. However, the manner of obtaining the teeth sometimes points to a dark practice: the illegal commerce of human teeth. The aim of this work was to establish a connection between the illegal commerce of human teeth and the actions of human teeth bank (HTBs) by a literature review. Scientific evidence shows that the organization of HTBs is very relevant, not only as a legal and ethical manner of obtaining teeth, but also in due to their role in the control of contamination and infection of teeth of unknown origin. It may be concluded that there is a necessity of spreading the HTBs activities to the academic community and to the general population in order to restrain the illegal commerce of teeth and direct the human teeth destination.

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071

Significant caries index (SiC) and the phenomenon of polarization of dental caries: a study about Guarani indigenous children in Santa Catarina, Brazil

The significant caries index (SiC) makes evident the phenomenon of polarization of dental caries in a population, because it shows the third of the population with the higher caries index. This study aimed to observe the phenomenon of polarization of dental caries according to the SiC Index in the population of Guarani indigenous children from Santa Catarina littoral. The sample consisted of 67 children from 18 to 71 months old. The oral health evaluation was determined by the caries index for primary teeth (dmft). For SiC Index calculus, the individuals were ordered according to the dmft index and selected by the third of the population (n= 22) with higher index. The mean dmft considering all the sample was 3.00 ± 3.67 , represented by the "d" component (decay), as no child presented missing ("m") and/or filled ("f") teeth. In the oral evaluation, according to SiC, it was obtained for the third with worst oral condition a dmft value equal to 7.45 carious teeth, becoming evident the presence of a more neglected group with regard to dental caries, considering that they presented a distant a high value regarding to the sample dmft average. In conclusion, the phenomenon of dental caries polarization is present in the studied population, and it is thus necessary to outline intervention and care strategies to oral health for this such subgroup.

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072

Dental necropsy protocols

The oral necropsy is a surgical technique performed to obtain an adequate access to the buccal dental study and the anatomopathological exam from several head and neck structures. These study indications are generally related with the oral and maxillofacial complex trauma and also with human identification cases by examination of the dental arcades. This study presents the most used oral necropsy techniques and their indications. A literature review and a description of the several oral cavity access techniques were done: the techniques showed by Luntz & Luntz (1972), Correa Ramirez (1990), Pueyo (1994), Gutiérrez & Daruge (1998) and Gaiotto Júnior (1992). It is also important to take notes from the detailed corpse dental events in order to check them out with the victim's dental files, in case of human identification. In conclusion, the selection of the method according to the case allows for a better record of the cadaver dental events, making the human identification process easier and faster.

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073

Dental treatment under general anesthesia for patients with special needs

General anesthesia can be defined as a deep sleep state with preservation of the vital functions and pain awareness in addition to muscular relaxing. Therefore, it is under these conditions that the subjects undergo most medical surgeries; otherwise, it would not be possible to perform long and emergency surgeries. General anesthesia can also be helpful to perform the dental care in subjects that are unable to be treated in the dental office, mainly in the patients with severe special needs. However, it is necessary to evaluate carefully the patients before he/she can be referred to a dental treatment under general anesthesia, because there are some medical contraindications that make this procedure impossible. Therefore, the treatment plan and the referral of patients with special needs require the participation of a multidisciplinary team formed by dentists, medical specialists of several areas and other health professionals working together based on the patient's clinical conditions, in order to improve the case prognosis and the quality of the treatment to be performed.

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074

Restraint methods of cerebral palsy patients for dental care

Cerebral palsy (CP) is defined as a posture and movement disorder due to cerebral damage before the complete development of the central nervous system. The purpose of this study is to describe some techniques of physical restraint and the use of auxiliary devices for maintenance of mouth opening performed at CAOÉ (Dental Center for Assistance to Patients With Special Needs) in CP patients during dental treatment because these individuals present some pathological reflexes that interfere with their dental assistance. The auxiliary techniques used during the dental treatment in CP patients include physical restraint with bands or sheet to wrap them up, cylindrical pad or cushion made from a soft material, as well as simple devices, including an alternative one, to keep the mouth open, and are used in a safe manner in CAOÉ. All these simple devices are necessary because there are no available funds for purchasing expensive dental materials or equipments. Therefore, it is possible and easy to assist these patients, in an effective manner, even in public dental clinics in order to improve their quality of life.

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075

Preliminary radiographic and histological evaluation of chitosan-based biomaterials for bone reconstruction

Polymeric aloplastic biomaterials, with potential to be used in tissue engineering, such as chitosan, have been widely studied. The purpose of this study was to make a preliminary histological and radiographic evaluation of chitosan-based biomaterials used in the correction of critical-size bone defects made in rat's calvaria. Bone defects of 8 mm in diameter were created in the calvaria of 15 Holtzman rats and filled with blood clot (control), low-molecular-weight chitosan and high-molecular-weight chitosan, totaling 10 animals, evaluated on an experimental period of 15 days, for each biomaterial. In the radiographic evaluation, two digital radiographs of animals' skulls, right after the creation of the bone defect and at the moment of the sacrifice providing the radiographic bone density in defect area. Histological evaluation was made based on the morphology of the newly formed tissues in the defect region. Results indicated that, in the evaluated experimental period, in all groups, new bone formation occurred only near to the defect border and that, except for the control group, different degrees of inflammation could be seen. It is concluded that, under the present experiment conditions, the tested chitosan-based biomaterials promoted inflammatory reaction in the sites of implantation, impairing new bone formation, although a longer evaluation period is necessary to confirm these results.

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076

Clinical report of patient with Moebius syndrome

Moebius syndrome is characterized by congenital palsy of the VI and VII cranial nerves, bilaterally in nearly all cases, in addition to other general and oral-dental characteristics. Even though the etiology is not fully understood, the occurrence of hypoxic-ischemic fetal injury is accepted. The syndrome can be diagnosed at birth. Treatment includes physicians, dentists, psychologists and speech therapists. This study describes a case of a patient with syndrome of Moebius associated with the use of the Misoprostol medication, during the first trimester of gestation. This boy was 10 years old, white, had mixed dentition, decayed primary molars, fractured central incisor out of the occlusal level, atresic palate, sibilant sounds, normal intelligence, convergent strabismus, right unilateral paralysis, bilateral plain foot valgus, corrected surgically. His dental care was performed at the University of Fortaleza, where an interdisciplinary team assists patients with a holistic approach, acting within the limits and exploring the patients' potentialities, making possible their social interaction and improvement of self-esteem.

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Oral clinical evaluation in patients with gastroesophageal reflux disease

Gastroesophageal reflux disease (GERD) is a condition of high incidence in which gastroduodenal contents leak back, or reflux, into the esophagus and/or adjacent organs, including the oral cavity, therefore possibly causing lesions on the soft and hard tissue structures. This study evaluated the oral alterations in patients with GERD. One hundred patients were studied, being 50 GERD patients (Group 1) and 50 controls (Group 2). All patients were submitted to an oral clinical exam and a specific survey. Patients in Group 1 were submitted to upper endoscopy, manometry and esophageal pH monitoring. Upper endoscopy revealed esophagitis in all patients, 20 with erosive esophagitis, 30 with non-erosive esophagitis and 38 with hiatal hernia. The mean pressure of the lower esophageal sphincter (LES) was 11 ± 4.8 mmHg and of the upper esophageal sphincter was 75 ± 26.5 mmHg. In 42 patients of Group 1 (84%) pathological gastroesophageal reflux was observed. Clinical examination revealed dental erosions in Group 1 (273 surfaces) and in Group 2 (5 surfaces) ($p < 0.001$); 23 carious lesions in Group 1 and 115 in Group 2 ($p < 0.001$); abrasion and abfraction in Group 1: 58 and in Group 2: 95 ($p = 0.28$); attrition wear: 408 in Group 1 and 224 in Group 2 ($p = 0.12$). The palatal surfaces were the most damaged. In Group 1, 21 patients complained about frequent episodes of canker sores, 35 of tooth sensibility, 26 of burning mouth and 42 of sour taste in the mouth. In Group 2, the complaints were observed in a smaller number of patients ($p < 0.001$). No significant differences between the groups were observed in relation to oral hygiene. This study showed that GERD facilitates canker sores, dental erosions, burning mouth, tooth sensibility and sour taste, but does not interfere on the incidence of caries lesions. Unhealthy dietary habits, like exaggerate intake of soft drinks can contribute to the referred results.

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Oral leukoplakia x verrucous carcinoma: from the diagnosis to the therapeutical management

Among the epithelial lesions of the oral mucosa that are potentially malignant, we can cite leukoplakia as the most common. The World Health Organization defined oral leukoplakia as a white patch or plaque of the oral mucosa that cannot be scraped or even clinically characterized as any other disease. According to Neville et al. (2004), it presents potential of malignancy of 4%. Its diagnosis is important, especially when there are risk factors, such as the use of tobacco and chronic alcohol consumption. It is important that the dentist has the basic knowledge of these lesions and performs biopsy in such a way that the histopathological diagnosis can be established. This study describes the case of a 60-year-old, white woman, smoker, carrier of uncontrolled diabetes, with complaint of "lesion in the cheek". On clinical examination, it was observed an extensive non-scraping white plaque of wrinkly surface, with some warty areas can be observed in the jugal mucosa and left upper alveolar ridge. The diagnosis hypothesis was verrucous carcinoma. Before the incisional biopsy, a test with toluidine blue was performed, with retention in some areas. The histopathological examination showed presence of hyperkeratosis and acanthosis, being compatible with leukoplakia. During patient follow-up, a worsening of the lesions was observed and a new incisional biopsy was performed, with final diagnosis of verrucous carcinoma. It was concluded that the potentially malignant lesions should not be underestimated and that the clinical follow-up and patient's awareness of the risk factors of these lesions are imperative.

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Preliminary histological evaluation of the biocompatibility of different molecular weight chitosan membranes

Tissue regeneration has been constantly studied, especially the search for new biomaterials capable to promote satisfactory tissue regeneration either alone or in association with other materials. In these studies, the chitosan biopolymer stands out; it is an inducible bone formation biomaterial with properties such as biocompatibility and biodegradability. The aim of this study was to do a preliminary histological analysis, in rat subcutaneous tissue, of the chitosan membranes biocompatibility, with different molecular weights. Membranes were obtained from the chitosan gel with two different molecular weights, distributed in regular Petri dishes, with 5 cm of diameter and 1 mm of thickness, and afterwards placed in kiln with temperature of 37°C during 72 h. After preparation, the membranes were they were sterilized with UV radiation. For the preliminary study, 10 Holtzmann rats were randomly divided in experimental periods

of 7 and 15 days. Three membrane samples were placed in each animal, totaling 5 samples of each membrane per period: I – low molecular weight chitosan membrane, II – high molecular weight chitosan membrane and III – collagen membrane (control group). The preliminary histological results of group I and II, evaluated in the periods of 7 and 15 days, demonstrated variable degrees of inflammation in the placed membrane region, and in 15 days, differently of the 7 days, the membrane were totally reabsorbed. Group III presented membrane reminders and mild inflammation reaction in both periods. In conclusion, within the study limitations, chitosan membranes present shorter reabsorbing time than that of collagen membranes. In addition, variable but not severe degrees of inflammatory reaction were observed with no relation of the molecular weight with the results. Longer study periods need to be evaluated to confirm these outcomes.

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Microleakage evaluation of new adhesives: Hydrophobic materials

The search for improvement in materials, techniques and properties is constant in all fields. Therefore, following the launching of new products that promise of better results compared to the existing materials, the present study aimed to evaluate *in vitro* the marginal microleakage in different substrates (enamel and dentin) in standard Class V cavities by using different adhesive systems associated with the composite Sthetic X. Thirty permanent human teeth extracted with orthodontic and surgical indication were distributed randomly in six groups: Group I: One Coat Bond (Coltene); Group II: Single Bond 2 (3M- ESPE); Group III: Clearfil SE Bond (Kuraray); Group IV: DMG (Contax); Group V: All Bond III; Group VI: All Bond III SE. The Class V cavities were performed on the buccal and lingual surface of each tooth with standardized dimensions (2.8 mm of diameter and 1.4 mm of depth), locating the preparation 0.5 mm from the cementsoenamel junction. The adhesive systems were used according the manufactures' indications. Then, the teeth were restored, polished and prepared for microleakage evaluation. The specimens were subjected to thermocycling of 500 cycles at 5°C , 37°C and 55°C , using buffered 2% blue methylene dye. After this procedure, sections were made with diamond disks and the analysis of the specimens was performed with stereoscopic lens (40x) using scores from 0 to 4. Using the chi-square test (χ^2), the statistical analyses showed that All Bond III and One Coat Bond presented the best results in the enamel and All Bond III SE the worst. In the dentin, DMG and All Bond III presented the best results and One Coat Bond showed the highest microleakage degree. None of these materials proved to be totally effective, but All Bond III presented the lowest microleakage degree.

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Esthetic and functional rehabilitation in babies: case report

The restoration of primary anterior teeth in children under the age of 3 is, in most cases, a challenge to pediatric dentists. This is because, during this age range, the children is in a intense period of growth and development, usually beginning to walk, which also contributes to a greater occurrence of early loss of the primary teeth due to dental trauma. Approximately 1/3 of the children in this age group suffer dental trauma, which becomes a common esthetic and functional problem, having a greater involvement of the anterior primary teeth. Early tooth absence can generate some esthetic, masticatory, phonetic impairments and deleterious habits, and rehabilitation alternatives are desirable to minimize the disorders. Due to the improvement of the materials and restorative techniques, the diversity of the treatment options available for the patients who need functional and esthetic rehabilitation have increased greatly, being the greatest challenge to the professional the conditioning of the child and the knowledge of the different restorative techniques. The present work has the aim to describe a case of a rehabilitation treatment using various materials and techniques available in the modern dentistry associated with a rehabilitation approach accessible to professionals in their dental offices.

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Levels of anti-dentin serum IgG during orthodontic movement associated with root resorption

Inflammatory resorption on permanent teeth is a common lesion in patients undergoing orthodontic treatment. Lesions are frequently small and do not affect the dental function. However, radiographic analyses reveal that approximately 5% of the individuals develop lesions that may destroy more than one-third of tooth length. IgG auto-antibodies against non-collagen dentin proteins can be detected in serum samples of patients whose radiographic results showed root resorption. The serum anti-dentin IgG antibodies determination may help diagnose and understand the immunologic mechanisms involved in the resorption process. This study evaluated levels of anti-dentin serum IgG in patients with root resorption caused during orthodontic treatment. The study included 39 patients (28.8 ± 9.0 years old) submitted to orthodontic treatment for 26 (± 9) months and 27 control individuals (22.4 ± 2.8 years old). Root resorption was analyzed by periapical radiographs, and levels of serum IgG were determined by immunoenzymatic assay utilizing human dentin extract as antigen. Control group showed higher levels of human anti-dentin extract IgG ($p < 0.0005$; 0.265 ± 0.063) compared to the treated individuals (0.183 ± 0.108). Treated individuals with root resorption grade 2 or 3 (0.226 ± 0.122) had significantly higher levels of serum IgG than no root resorption group ($p < 0.01$; 0.102 ± 0.031). Patients with grade 1 (0.153 ± 0.072) showed no significant difference in relation to others groups. Serum IgG anti-HDE levels presented higher correlation to root resorption extension ($r^2 = 0.84$) and multivariate regression analyses demonstrated that root morphology and IgG levels during treatment explain 93% of variation in the severity of lesions. The results suggest that orthodontic treatment may reduce anti-dentin IgG levels in serum during active treatment. Reduced levels of anti-dentin IgG during orthodontic treatment may be a protective factor against dental resorption.

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083

Stress: how it affects your mouth

Stress is a state of tension of the organism subject to a stressor agent. Stress manifests as the physiological, psychological and behavioral response or reaction of a body when it seeks to adapt to internal or external pressures. The stress can also be manifested in the mouth. Therefore, the dentist must be aware of history and oral manifestations, signs and symptoms associated with stress. This review of literature aims to present the main events related to oral stress. The oral manifestations associated with stress include: geographic tongue, recurrent aphthous stomatitis, psychogenic ulceration, recurrent herpes simplex, necrotizing ulcerative gingivitis (GUNA), lichen planus and pemphigus vulgaris. These lesions are the result of the somatization emotional problems. Therefore, the success of the treatment will depend on the dentist's sensitivity to identify the patient's emotional condition and make him/her aware of it.

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084

Forensic Dentistry: importance in human identification

The urban violence, automobile accidents and other forms of violent deaths deform bodies and generate innumerable judicial questions that are directly related to the determination of the identity of the people. In the police inquiry, it is questioned: who is the person? Dentistry, more specifically, the Forensic Dentistry contributes significantly to answer this question. By the correct identification of a body, other legal questions can be resolved. In the present work, it is shown how the documentation and a trained professional qualified to exert the specific function of forensic dentist can assist effectively the determination of the identity of an individual that died in consequence of an automobile fire accident. The obtained results by the forensic dental technique as provided to the legal authorities a viable alternative in the identification of a carbonized body, being distinguished in the forensic sciences by its reliable, practical, fast and low-cost results. In this way, this study showed the importance of having forensic dentists in the Institutes of Forensic Medicine in order to exert the functions for which they are qualified and have legal ability to do.

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085

Influence of foramen diameter and endodontic instrument size on precision of working length determination using two electronic apical locators

The use of electronic apex locator (EAL) has alternatively been a device applied to determine working length, but some factors may affect their ability in measuring the root canals. This study evaluated the influence of foramen diameter and endodontic instrument size on the working length (WL) determination with two electronic apical measuring devices. Forty mandibular incisors were used and divided into four groups according to the apical foramen diameter (100, 200, 300 and 400µm). After accessing the root canals, their length was measured from the incisal edge until the file tip reached the apical foramen. All teeth were placed in individual jars containing 1% agar solution in phosphate-buffered saline to allow measurement with Root ZX (J. Morita, Japan) and NovApex (Forum, Israel). Teeth were measured with #10 k-files until the distance of 0.5 mm from the apex was indicated by the device. Another measurement was performed on the other 30 teeth with #10 k-files and files with diameters corresponding to the foramen diameters (200µm, 300µm and 400µm). Statistical analysis was performed by two-way analysis of variance for overall comparison between the devices and employment of #10 k-files in all teeth, and Tukey's test for individual comparisons. The results demonstrated statistically significant difference in the precision of both devices, with a more accurate result for Root ZX ($p < 0.05$). Teeth with narrower foramina presented a more accurate measurement with the apical measuring device. Utilization of #10 k-files in teeth with wider foramina showed more accurate measurements compared to files with size corresponding to the foramen diameters with the Root ZX. In conclusion, the precision of these electronic apex locators were influenced by the instruments, foramen diameter and the device employed.

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086

Prevalence of tooth wear in Angle Class II malocclusion patients

The present study aimed at evaluating the occurrence of tooth wear in Angle Class II malocclusion patients. Dental casts of 199 subjects from the files of the Discipline of Orthodontics of Bauru School of Dentistry, University of São Paulo were evaluated. The sample was divided into three groups with the following characteristics: G1 comprised 50 patients with normal occlusion, G2 comprised 42 patients with half to three quarters of Class II malocclusion and G3 comprised 107 patients with complete Class II malocclusion. The patients were aged 12 to 19 years. Tooth wear was evaluated by the Tooth Wear Index (TWI). The three groups were compared considering the frequency and the severity of wear in each surface, of each group of teeth (incisors, canines, premolars and molars). Statistical analysis was performed by using Kruskal-Wallis and Dunn's post hoc tests. In all groups, the most affected dental surfaces were occlusal of lower molars, occlusal of upper molars, incisal of lower canines, incisal of lower incisors, occlusal of lower and upper premolars, respectively. However, there were statistically significant differences between G1 when compared with G2 and G3 in the occlusal surfaces of upper and lower molars. Significant differences were also found in those groups to incisal and occlusal surfaces of upper canines and premolars. In addition, when comparing G1 and G2, the difference was significant to the incisal of upper incisors. Between G1 and G3, differences occurred in the occlusal of lower premolars and in the lingual of lower premolars and molars. The results demonstrated that Angle Class II malocclusion patients presented greater prevalence of tooth wear when compared to patients of normal occlusion, especially in the incisal/occlusal surfaces. Class II malocclusion seems to accentuate the occurrence of tooth wear. Further research should elucidate this association.

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A confocal laser scanning microscopic investigation of different endodontic sealer penetration in dentinal tubules

This study compared the depth of sealer penetration into the dentinal tubules of teeth obturated with different endodontic sealers. Fifteen single-rooted teeth were enlarged until size 60 K-file. After treatment with 17% EDTA for 3 min, the teeth were divided into three groups of 5 teeth. The evaluated sealers were: Sealer 26, Sealapex and Guttaflow. The sealers were mixed in each case with 0.1 % Rhodamine B for further analysis in a confocal microscope. The teeth were obturated by using the lateral condensation technique, with exception of the Guttaflow group, which was obturated with the single cone technique. Each root was sectioned with an Isomet saw machine at 3 and 5 mm beyond the apex. The deep of penetration of the sealers into dentinal tubules were analyzed using a confocal laser scanning microscope at x10 and x40. Results. The mean of sealer penetration into dentinal tubule at the 3 mm level was: Sealer-26 342.60 ± 135.16 ; Sealapex -576.9 ± 186.41 and Guttaflow- 629.35 ± 143.38 . The mean of sealer penetration into the dentinal tubules at the 5 mm level was: Sealer-26 454.65 ± 157.11 ; Sealapex- 691.65 ± 178.39 and Guttaflow 742.15 ± 164.95 . Statistically significant difference between Sealer 26 and Guttaflow was found at 3mm and 5mm levels (ANOVA and Tukey's test; $p < 0.05$). In conclusion, Guttaflow and Sealapex presented deeper and consistent penetration into the dentinal tubules.

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Comparative study of the shear bond strength of the bracket/enamel interface using four types of resin composites light-cured with halogen light and LED

The purpose of this study was to evaluate the shear bond strength of resin composites used to bond orthodontic brackets. Seventy bovine incisors were attached to PVC tubes and randomly divided in seven groups: Group I – Transbond® + Halogen Light; Group II – Fill Magic Ortodôntico® + Halogen Light; Group III – Z-250® + Halogen Light; Group IV – Transbond XT® + LED; Group V – Fill Magic Ortodôntico® + LED; Group VI – Z-250® + LED; Group VII – Concise Ortodôntico®. Metallic brackets for central incisors (Abzil®) were bonded to the teeth according to the instructions of the adhesive resins' manufacturer's. After bonding, all samples were stored in deionized water at 37°C for 48 h, and then were performed shear strength tests on the universal testing machine EMIC DL30000 running at 1 mm/min. The values obtained at the moment of debonding were evaluated with analysis of variance (ANOVA) at 5% significance level. Group VI (16.62 ± 5.22 MPa) showed higher resistance to the debonding without statistically significant difference when compared to Group III (10.66 ± 5.15 MPa) and Group VII (10.82 ± 7.50 MPa) ($p > 0.05$). Group VI differed significantly from Group I (8.86 ± 4.84 MPa), Group II (3.84 ± 2.95 MPa), Group IV (6.37 ± 4.08 MPa) and Group V (6.46 ± 4.82 MPa) ($p < 0.05$). There was no difference in the shear bond strength of the different resins when light-cured with halogen light and LED ($p < 0.092$). However, there was statistically significant difference when the same material was light-cured with halogen light and LED ($p < 0.018$). Except for Group II, all other materials, including Z-250®, presented debonding resistance values above the minimum necessary for bonding of orthodontic brackets in clinical practice, regardless of the light-curing method.

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Viability of *Enterococcus faecalis* in infected dentin. Confocal laser scanning microscopic analysis

The purpose of this study was to explore the potential of confocal laser scanning microscopy (CLSM) for *in situ* identification of live and dead bacterial within infected dentinal tubules and to describe the distribution and vitality of *Enterococcus faecalis* in infected bovine dentin *in vitro*. Eight cylindrical dentin specimens were infected with *Enterococcus faecalis* ATCC 29212 in brain heart infusion broth (BHI) for 21 days. At intervals of 2 days, the culture medium was removed and replaced with fresh medium. The purity of cultures was continually monitored. After the experimental period of 3 weeks infected specimens were fractured longitudinally and dentin segments were stained with fluorescein diacetate (FDA) and propidium iodide (PI) or acridine orange (0.01%) and analyzed by CLSM using x40 and x63 oil lens. Two non-infected cylindrical dentin specimens were used as negative controls. After 21 days of incubation, heavy invasion of dentinal tubules by bacteria was evident. Bacterial penetration in dentinal tubules ranged between 100 μ m and 400 μ m. CLSM analysis using a 63X oil lens with additional zoom 3 shows that the discrimination between viable (green) and

dead (red) bacteria could be observed after staining with fluorescein diacetate and propidium iodide (FDA/PI). Acridine orange was able to show metabolic activity of the *Enterococcus faecalis* cells inside the dentinal tubules indicated by its red fluorescence. In conclusion, the viability of bacteria on dentin can be determined *in situ* by CLSM and that FDA/PI and acridine orange are useful for this technique and have good potential for research in endodontics and cariology.

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Assessment of new bone formation around titanium implants inserted in diabetic rats

Diabetes is associated with many complications that increase morbidity and mortality in affected individuals. Therefore, there are many changes in bone metabolism associated with diabetes that can consequently affect the process of osseointegration of dental implants. This study aimed at comparing bone formation around implants with smooth and treated surface, inserted in induced diabetic rats and in non-diabetic rats, investigating whether there are differences in bone formation between both metabolic conditions, improvement in osteogenesis pattern between different surfaces and their relation with diabetes. Titanium implants were inserted in the femur of male Wistar rats, which were divided into two groups: streptozotocin-induced diabetic rats (experimental group) and non-diabetic rats (control group). Histomorphological and histomorphometric analyses of bone block were performed at 10 and 21 days of healing. Results were analyzed by two-way ANOVA, followed by Bonferroni's test. The percentage of new bone formation around implants of smooth and treated surface did not have statistical significance after comparison between diabetic and control groups. However, at 21 days, the bone was more immature in diabetic rats in relation to that with a mature aspect formed in control animals. When different surfaces were compared (smooth and treated), at 10 days the smooth surface apparently favored better formation of cortical and cancellous bone around the implants. On the other hand, at 21 days there was no difference in new bone formation between both surfaces. In conclusion, the present data suggest that delay in bone tissue maturation was probably a result of induced diabetes and its implications in bone metabolism. In addition, smooth surface implants, also in association with diabetes, seem to be better inducers of new bone formation.

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Von Recklinghausen's disease - diagnosis from oral lesion

A 35-year-old male patient was referred to our Institution due to a nodule on the palate with more than 15 years of evolution. The physical examination showed the presence of papules and "café-au-lait" pigmentation on the skin in many parts of the body. The intraoral examination showed a swelling in the hard palate, which was resilient on palpation, asymptomatic and measuring 3 cm in diameter. Incisional biopsy was performed and the diagnosis was neurofibroma. Complete resection of the lesion was performed confirming the initial diagnosis. The general clinical findings and the presence of neurofibroma confirmed the diagnosis of Von Recklinghausen's disease. This disease, also known as type I neurofibromatosis, is inherited as an autosomal dominant trait. The tongue and buccal mucous are the most commonly affected sites in the oral cavity. Also, "café-au-lait" pigmentation on the skin throughout the body, bone lesions and neurological abnormalities are present. There is no specific therapy for neurofibromatosis, and treatment often is directed toward prevention or management of complications. One of the most feared complications is the development of cancer (5 to 15% of patients). Therefore, removal of the lesions is indicated.

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092

The relationship between impacted mandibular third molar and mandibular angle fractures

An impacted tooth can be defined as one which was unable to erupt due to its own mal positioning, mal positioning of adjacent teeth, or even lack of space for eruption (Al-Khateeb & Bataineb, 2006). Dental retention has been associated with local disturbances as resorption of adjacent tooth, sensitive alterations, infections, cysts and tumors originated from the pericorony follicle, and to the increased risk of mandibular angle fracture. Extraction is the major treatment for impacted teeth, especially when the impacted teeth are related to pathologies. However, extraction indication may not be a simple decision when the teeth are non-symptomatic and considering the risks of the surgical procedure as pain, edema, trismus, infections and damage to lingual and alveolar nerves. The major incidence of retained teeth is on mandibular third molars (Verri, 1973), and third molar extraction is one of the most common procedures in oral surgery (Adeyemo, 2006). According to Fusilier (2002), these teeth can be related to iatrogenic fractures of the mandibular angle, since their position in dental arch are very important, as well as the patient age and the side in which the tooth is presented. The aim of the present work is to consider the relationship between impacted mandibular third molars and the possibility of mandibular fracture, and also to discuss the causes of these fractures and the treatment of impacted tooth associated with mandibular fracture. 1. Adeyemo, W.L. Do pathologies associated with impacted lower third molars justify prophylactic removal? A critical review of the literature. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2006;102:448-52. 2. Al-Khateeb, T.H.; Bataineh, A.B. Pathology Associated With Impacted Mandibular Third Molars in a Group of Jordanians. *J Oral Maxillofac Surg* 64:1598-1602, 2006. 3. James C. Fuselier, Edward E. Ellis II, Thomas B. Dodson Do Mandibular Third Molars Alter the Risk of Angle Fracture. *J Oral Maxillofac Surg* 2002;60:514-518. 4. VERRI, R.A. et al. Estudo clínico-radiográfico da incidência dos dentes inclusos em 3.000 indivíduos. *Rev.A.P.C.D.*, v.27, n.5, p.274-279, set./out.1973.

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093

Analysis of the surface of the titanium modified by Nd: YAG laser and deposition of hidroxyapatite

The success of the rehabilitation with osseointegrated implants depends on several factors, highlighting the physicochemical characteristics of the implant surface, which interfere in the biological responses and consequent bone repair of the bone/implant interface. This study assessed the surface of implants using Nd:YAG laser irradiated titanium discs with deposition of hidroxyapatite. Two titanium discs irradiated by high-intensity laser (Nd:YAG), hidroxyapatite deposition and thermal treatment were used, respectively. The samples were analyzed by SEM (scanning electron microscopy) and qualitative morphological analysis with microphotographs in different magnification levels. The laser-irradiated surface presented superficial deformity and isomorphic characteristic. The application of hidroxyapatite by the biomimetic method increased quantitatively the area of titanium surface. In conclusion, the modification of the implant surface applying Nd: YAG laser is a clean and reproducible process, associated with hidroxyapatite, which provides a porous and homogeneous surface with area and volume increase.

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094

Observation of tag length, hybrid layer thickness and microtensile bond strength of conventional and self-etching adhesive systems to dentin

This study evaluated the hybrid layer formation, resin tag length and the bond strength to intact dentin of conventional and self-etching adhesive systems. After the restorative procedures, each specimen was bisected in a mesiodistal direction. One section was submitted to analysis of resin tags and hybrid layer by light microscopy (x400), and the other section was submitted to the microtensile test (0.5 mm/min). The mean values obtained for hybrid layer, resin tags and microtensile for the study groups were submitted to statistical analysis. Statistically significant difference was observed for the hybrid layer when analyzed alone, with better performance of Single Bond 2. Adper Prompt L-Pop had better performance regarding the analysis of resin tags. Single Bond 2 presented significantly higher microtensile bond strength than Adper Prompt L-Pop.

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095

Evaluations in light microscopy the hybrid layer and tags on sound dentin: effects of a single-bottle conventional adhesive system and a self-etching adhesive system

This laboratory/microscopic study investigated the formation of hybrid layer and resin tags on sound dentin, after use of conventional and self-etching adhesive systems. After the restorative procedures, the specimens were decalcified in a formic acid and sodium citrate solution, embedded in paraffin, sectioned at 6- μ m thickness and stained by the Brown & Brenn method for analysis and measurement by light microscopy (AXIOPHOT) (x400). The data were analyzed statistically by ANOVA at a significance level of 5%. According to the results, it may be concluded that the conventional adhesive allowed the formation of a thicker hybrid layer than the self-etching adhesive, with similar penetration into the dentinal tubules (resin tags).

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096

Correlation of the resin tags and hybrid layer with the bond strength of a conventional adhesive system

The objective of this study was to measure the thickness of hybrid layer, length of resin tags and bond strength in the same teeth, using a conventional adhesive system to intact dentin tissue, and to assess the correlation between hybrid layer and tags and their bond strength. Ten human molars were used for the restorative procedures, and then each specimen was bisected in a mesiodistal direction. One section was submitted to analysis of resin tags and hybrid layer by light microscopy (x400), and the other section was submitted to the microtensile test (0.5 mm/min). The fractured surface were analyzed and classified as to the fracture pattern by scanning electron microscopy. Each specimen of the factors hybrid layer, tags and microtensile were submitted to the correlation test. The mean of hybrid layer thickness, tag length and bond strength were 4.39 μ m, 9.94 μ m and 23.98 MPa, respectively. There was statistically correlation between hybrid layer factor and bond strength (P=0.93). The conventional adhesive system exhibited highly positive correlation between hybrid layer thickness and bond strength analyzed by the microtensile test.

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097

Aesthetic treatment of white spots associating microabrasion and tooth bleaching techniques

Esthetics of discolored teeth, due to many types of color alterations, remains the main reason for which patients seek for a better looking smile. Therefore, professionals must define the correct diagnosis and treatment procedures, when choosing the most appropriate technique or an association of different methods of clinical application of materials. Microabrasion aims to eliminate superficial dental enamel stains, with satisfactory results and minimum structure wear. Many times, the association with tooth bleaching offers a better aesthetic result, and clinical success is achieved. In this case report, the patient presented white spot lesions due to arrested carious lesions on the cervical regions of maxillary and mandibular anterior teeth. Treatment consisted on the microabrasion technique with pumice powder + 37% phosphoric acid associated with home tooth bleaching with 7.5% hydrogen peroxide (DayWhite - Discus Dental). Final result solved tooth color disharmony assuring patient's esthetic satisfaction.

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Profile of use of topical fluoride in babies adopted by the Brazilian Dental Schools

The aim of the present study was to evaluate the profile of the use of topical fluoride in babies, in the Brazilian Dental Schools. The method consisted of sending out a questionnaire containing 10 closed multiple-choice questions to the Departments of Pediatric Dentistry of 100 Brazilian Dental Schools in Brazil. It was investigated aspects related to the adopted conduct in the use of topical fluoride, home and professional use, including its concentration, ways of utilization, frequency, period of the day in which it is recommended (in case of home fluoride) and use of dentifrice. The reason for a possible non-use of this method was also investigated. From the 100 contacted Universities, 62 (62%) answered the questionnaire. The results showed that 24 (51%) institutions indicate the professional and home use of topical fluoride. Fluoride varnish was the most frequently mentioned form of professional application (96%). When fluoride solution was applied, the concentration of 0.2% was the most commonly used when applied by a professional, while the concentration of 0.02% was recommended for home use (66%). Regarding the recommended frequency of home use of fluoride, the majority of the institutions indicate once a day (67%), preferably before going to bed (85%), and do not recommend the concomitant use of fluoride solution and fluoride dentifrice. It was observed that, from the 22 institutions that use only professional fluoride, 13 (59%) abolished the home use of fluoride and 9 (41%) had never recommended its utilization, having as main reasons the utilization of others sources of fluoride and the risk of fluorosis development. Based on the answers to the questionnaires, it was observed that, so far, there is no consensus regarding to the use of topical fluoride in babies, and further research is required in order to establish the best working protocol.

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099

Evaluation of the costs of conventional radiographic exams performed at the Center of Dentistry for Babies of the State University of Londrina

For the last 20 years, the Center of Dentistry for Babies of the State University of Londrina (CDB-SUL) has been a reference center in the pediatric dental care for children aged 0 to 6 years both for preventive and curative treatment. At CDB-SUL, periapical radiographs are taken in the patients' routine diagnosis using conventional techniques, which means difficulty mainly in performing radiographic exams in early-age children or non-cooperative children. The periapical radiograph plays an important role in dental practice as diagnosis resource and is the main imaging examination in dentistry. Radiographs, however, have a cost and this work has as objective to evaluate the real cost of periapical radiographs taken at CDB-SUL. In order to calculate these values, were computed the radiology technicians' incomes, the average time spent for execution of the radiograph and other material items involved in obtaining radiographs. The final result is that the cost of dental radiography involves much more than the monetary value of a periapical film and processing solutions, which amount to a sum that surpasses the value paid by the Brazilian public health system (SUS) to NDB-USL, supporting the importance of this type of information for the administration of health services.

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100

Oral HPV contamination by thumb-sucking habit - case report

The papilloma is a benign exophytic proliferation of the stratified squamous epithelium in form of digital projections, caused by a human papillomavirus (HPV) that has more than 200 variations, which can be identified by molecular biology techniques (hybrid capture and PCR). Single lesions are presented in the majority of situations, but multiples papillomas can also be found for example in patients with AIDS. The most common transmission route is sexual contact, the oral cavity is the least affected region. Oral implantation can be by autoinoculation or oral sex. The most frequent oral sites are: hard palate and soft palate/uvula complex, but lesions can also be seen in the dorsal and ventral surface of the tongue, in the gingival tissue and in the cheek-pouch mucosa. This work reports the case of a 14-years-old patient who presented a papilloma lesion in the hard palate, close to tooth 12. During the clinical interview, the patient reported the presence of similar lesions in the thumb and referred the thumb-sucking habit. Oral excisional biopsy was done, where stratified squamous epithelium was observed microscopically, with papillomatous projections, confirming the diagnosis of oral

papillomas. Therefore, deleterious habits may be associated with the transmission of systemic diseases to oral cavity; in this case, the clinical interview aided the diagnosis, demonstrating that the thumb-sucking habit led to the pathological manifestation of the virus in the mouth.

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101

Restoration of severely destroyed teeth: amalgam as a current possibility

In spite of the great esthetic appeal attributed to Dentistry nowadays, amalgam continues to be specially indicated for the restoration of severely destroyed teeth, due to its longevity; high wear resistance; good marginal seal; resistance to masticatory efforts; insolubility to the oral environment; low cost and easy application. Therefore, when associated with special retention resources, amalgam rehabilitates satisfactorily teeth that suffered great big mutilations resulted from carious lesions or trauma. This case report intends to present the outcomes in the restoration of an extensively destructed tooth 46 by using threaded posts in dentin and amalgam. The dental treatment started with the clinical interview and careful review of patient's clinical history, considering as the mainly patient's complaint the fracture of the composite resin restoration in tooth 46. Under rubber dam isolation, after removal of remaining restorative material and carious dentin, enamel margins were smoothed with diamond burs at low speed and hand cutting instruments. Perforations for installing threaded posts in dentin were made at the base of lost buccal cusps, according to the corresponding external dental wall inclination, and at a distance of, at least, 1 mm from the dentinoenamel junction. Pulpal wall was protected by the application of lining glass ionomer cement and the posts were screwed and curved. An individual matrix was installed and adapted to the tooth, cavity varnish was applied, and amalgam was condensed into the cavity. In a second session, the restoration sculpture was refined and finishing and polishing procedures were done by the mixed technique. Immediate evaluation showed patient's satisfaction and long-term follow up has shown treatment effectiveness. As long as well indicated, amalgam can be really effective on the rehabilitation of widely destroyed posterior teeth.

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Diagnosis and treatment of regional odontodysplasia in early childhood

Regional odontodysplasia is a relative rare developmental anomaly with an uncertain etiology that usually affects both primary and permanent dentitions. Clinically, the teeth appear discolored, hypoplastic and malformed. Radiographically, the teeth present a "ghost-like" image because the enamel and dentin are thin and less radiopaque than their unaffected counterparts. The aim of this study was to present a case of a 1.5-year-old boy, referred to FOAr-UNESP, with the chief complaint of missing teeth in the right side of the maxilla. Clinically, the maxillary primary left central and lateral incisors and canine had erupted, whereas the corresponding teeth on the right side had failed to erupt. Radiographically, the unerupted teeth appeared translucent, hypoplastic and were in the initial phase of development. In an attempt to preserve the affected teeth, a conservative management was done and regular follow-up was established. After tooth eruption, due to crown destruction, pain and swelling, both central and lateral incisors were extracted and a removable space maintainer was installed. The early diagnosis of regional odontodysplasia is important in order to preserve the affected teeth or to prevent or minimize future sequelae.

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Differents approaches in the management of gagging during radiographic exams

Some individuals cannot deal with certain objects inside their mouths without expressing gag reflexes. This reflex implicates in changes or adjustments of the dentist, in the intraoral radiographic technique. Although gagging is a normal and protective reflex,

it is not present in everyone. Such reflex is mediated in the brain by a number of cranial centers. The vomiting center is closely linked to the vasomotor, respiratory, salivary and vestibular centers. The trigeminal, glossopharyngeal and vagus nerves transmit tactile sensory impulses from receptors around the tongue, mouth and oropharynx to the brain. Pronounced gag reflex can compromise several aspects of dentistry, such as clinical examination for diagnostic procedures, radiographic examination and even the treatment. The simple classification of somatogenic or psychogenic gagging can help clinicians decide on the possible strategies available to deal with the event. Especially in Oral Radiology, many approaches have been described in attempts to overcome this problem, from relaxation and acupuncture techniques to pharmacological agents. Therefore, the present work aims to discuss different approaches for the gagging reflex described in the literature, focusing on helping dentists throughout the radiographic technique in such patients.

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Traumatic intrusion of primary teeth

Primary teeth are highly susceptible to luxation injuries and this can be attributed to the resiliency of alveolar bone, characteristic of growing skeletal tissue, resulting in higher elasticity of alveolar bone surrounding the deciduous teeth. An intrusion injury consists in the axial dislodgment of the tooth into its alveolar socket and its management depends mainly on the direction and severity of the displacement. Therefore, diagnosis plays an important role in deciding for the most appropriate treatment: waiting for spontaneous re-eruption, when the root of the primary tooth becomes away from the permanent tooth germ, or extraction, when the permanent successor tooth may become injured. The aim of this study is to present 3 cases and discuss the diagnosis and the different managements of this kind of injury. In two cases, A conservative treatment was elected and the deciduous teeth reerupted spontaneously. In the other case, the root was displaced towards the lingual surface, resulting in possible contact with the permanent tooth germ. In this case, the treatment was the removal of the intruded tooth. Therefore, detailed examination of patients that sustain dental intrusion is of paramount importance for a correct diagnosis and treatment, and periodical follow-up is required in order to allow for early detection of possible complications.

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Prevalence of natal and neonatal teeth: findings from a clinic for infants

Several reports in the literature evidence the importance of knowledge about the prevalence of natal and neonatal teeth, as well as their diagnosis and treatment. The purpose of this work was to verify the prevalence of natal and neonatal teeth on babies seen at the Baby Dental Clinic of the Dental School of Araçatuba - UNESP from January 1996 to June 2006. Information such as gender, presence of teeth, whether the teeth belong to the normal dentition or were supernumerary and the treatment accomplished was recorded from the patient files. The data were analyzed and the prevalence was calculated. Eleven babies showed this type of anomaly of eruption. Altogether, 18 teeth were observed, 13 natal teeth belonging to the primary dentition and 5 neonatal teeth (4 of the primary dentition and a supernumerary one). All 18 teeth were observed in the mandibular arch. Regarding the treatment, 6 teeth (33.3%) were extracted and 12 (66.6%) were maintained in the oral cavity under clinical and radiographic follow-up, until tooth exfoliated. In conclusion, the prevalence verified was of 1:243, which was considered high. All teeth were in the mandible and the treatment that prevailed was the clinical and radiographic follow up.

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Morphological study of myoneural interaction between the levator labii superioris muscle and its motor nerve in rats

The progress of science on the search for nerve regeneration and functional repair in reinnervated muscle has been the target of several laboratories around the world. More knowledge is needed of nerves and muscles in different body segments regarding

their morphology, interrelation with other anatomic structures and particularities. One of the most significant areas that need further studies is the region of the head and the neck, which is often reached by important pathologies. With the purpose to offer to the scientific community a myoneural interaction model, this study elected the levator labii muscle and its motor nerve, the buccal branch of facial nerve (VII pair) not only for its special characteristics, but also its value on the facial expression. The rat was chosen to this investigation considering its facility to keep, to manipulate and to compare with many others studies published before. Mesoscopic (dissection), histoenzymologic and morphometric techniques were used on this research. The muscle presented a predominance of fast contraction fibers (FG and FOG) and superficial location, with a proximal bone attachment and a distal cutaneous attachment. Its motor nerve, the buccal branch of facial nerve, comes on the muscle belly on its deep face, and is compounded by a heterogeneous group of myelinated nerve fibers disposed in a regular form in entire nerve fascicle. Near to the motor point, the nerve presented composed by two fascicles with different sizes. Probably, because of the low nerve dimensions, the nerve fibers have a low diameter, compared to the motor nerve of the pectineus muscle of the cat, for instance. In conclusion, by the observation, comparative analysis and morphological knowledge of the anatomic structures, experimental models can be made and become the first step to the development of nerve regeneration studies.

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In vitro remineralization after topical application of calcium phosphate or fluoride by synchrotron microCT and microhardness

The aim of this study was to evaluate the enamel remineralization after topical application of amorphous calcium phosphate (ACP) or fluoride gel using a pH-cycling model, synchrotron microCT (XMT) and surface microhardness (SMH). Early carious lesions were produced in bovine enamel blocks selected by surface microhardness. Treatment was performed with a Placebo gel for 1 min, ACP for 3 min, Fluoride gel (neutral 2% NaF) for 1 min, Fluoride gel for 1 min + ACP for 3 min, ACP for 3 h or ACP for 8 h. The blocks were submitted for 6 days to a pH-cycling model at 37°C to evaluate treatment effect on enamel remineralization [Vieira et al: Caries Res 2005;39:514-520]. The SMH was measured and synchrotron XMT was performed to analyze the profile of lesion and to calculate the mineral concentration (gHAp cm⁻³) at each 2.8 µm, starting at the surface up to 221.2 µm ΔZ (mineral recovery; gHAp cm⁻³ x µm). ANOVA and Pearson's correlation were used to determine difference (p<0.05) between treatments. The fluoride gel group and ACP for 3 min group produced a higher mineral concentration at the first layer of enamel (2.8 µm) when compared to other treatments (p<0.05). The ACP 3h and 8h or fluoride associated with ACP showed different responses. The analyses from XMT synchrotron of ACP 3h and 8h showed carious lesions with two layers of reduced mineral concentration. The placebo, ACP 3h and 8h showed similar results of SMH and ΔZ (p>0.05); better values were achieved after fluoride gel application (p<0.05). Correlation was found between SMH and ΔZ (r=-0.8634; p=0.0274). It is concluded that synchrotron XMT was able to show a different profile of remineralization when compared to microhardness analysis.

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A novel frenectomy technique as treatment for the extensive upper labial frenum: case report

The upper labial frenum is a normal anatomic structure in the oral cavity consisting of a bundle of fibrous tissue which inserts in the mucosa of the inner surface of the upper lip and extends over the alveolar ridge up to the palatal papilla. However, in some cases, this structure is present as a thick, high, large fibrous attachment, being able to cause the retraction of the marginal gingiva, interfere with the normal function of the upper lip and oral hygiene and may result in the formation of a median diastema and gingival recession, and thus causing a high smile line. This condition commonly creates patient concern with regard to esthetics, but this is only one of the problems that the occurrence of diastemas can cause. The diagnosis of an abnormal frenum leads to the indication of frenectomy as treatment. Nevertheless, in most of the known techniques, the diameter of the diastema, the attached gingival width and aesthetics are not considered and may result in a wide defect after the excision of the frenum and lead to the formation of a scar. This case report, with 7 months of follow up, presents a new technique for frenectomy that favors esthetics, promotes an excellent color match,

gain in attached gingiva and wound healing without bone exposure at the site of a thick, extensive abnormal frenum.

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Scanning electron microscopic evaluation of conventional irrigation and the RinsEndo system in the removal of smear layer

The biomechanical preparation is a determinant factor for the success of the endodontic treatment. The irrigation is essential in this process, mainly in those cases with anatomic variations and the mechanical action of the instruments is not possible. Recently, new equipment was introduced in the market, the RinsEndo system. The objective of this study was to compare the efficiency of the RinsEndo system and the method of conventional irrigation in scanning electron microscopy (SEM). Twenty mature mandibular premolars had been used. The teeth were randomly assigned to 2 groups: Group 1: irrigation with the RinsEndo system; group 2: conventional irrigation. One mL of saline was used at every change of instrument. The instrumentation initiated with a #15 K-file continuing up to a #40 K-file, which was standardized as memory instrument, and the step-back procedure was done up to a #55 K-file. At the end of instrumentation, the roots were cut longitudinally and each half was divided into three equal parts. The specimens were then routinely prepared for SEM analysis. The evaluation was carried out in the apical, middle and coronal thirds. The statistical analysis was performed using the Mann Whitney test for comparisons between the methods, Kruskal Wallis for comparison among the thirds and Miller for individual comparisons. The results showed that no statistically significant difference ($p > 0.05$) between the methods in the thirds and among the thirds, when individual comparisons were done. It was concluded that the RinsEndo system and the conventional irrigation were not able to remove the smear layer present from the root canals during instrumentation.

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Dental plastic reconstruction in acid erosion

The gastroesophageal reflux is one of the causes of extensive coronal destructions due the contact of the dental structures with the acid content, causing the acid erosion. This case report presents the coronal reconstruction and re-establishment of the occlusal vertical dimension of form to return the esthetic and function for the patient. A male patient searched the Discipline of Operative Dentistry and was referred to a gastroenterologist who made the diagnosis of hiatal hernia because the patient presented gastroesophageal reflux, which caused coronal destruction of the dental structure. Initially, occlusal vertical dimension was reestablished with the placement of full crowns and reconstruction of the posterior teeth with composite resin. In the anterior region, tooth bleaching with a 35% hydrogen peroxide gel was first performed. Next, impressions were taken from the anterior teeth and cast waxing was done for further preparation of a silicon mold that served as guide for tooth reconstruction with composite resin. Composite resin build up started from the lingual wall with the aid of the silicon guide and the remainder of the crown was reconstructed with the aid of spatula and brushes. Finishing was done with sandpaper discs. Thus, it may be concluded that the reconstruction of anterior teeth with composite resin is the fastest and less traumatic form to reestablish esthetics and function of destroyed posterior teeth. The placement of full crowns is the only form to re-establish esthetics and occlusal vertical dimension of extensively destroyed teeth due to the lack of support of the composite resin.

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Densitometry and microhardness analysis of incisors teeth from pups of wistar rats treated with atenolol

The sympathetic nervous system controls mandibular bone metabolism and tooth growth. This study analyzed whether the treatment of Wistar rats during pregnancy and lactation with b-adrenergic antagonist atenolol alters tooth formation in their offspring. Pups of Wistar rats (pW; n=10) and of Wistar treated (pWT) with atenolol (100 mg/kg, o.v.) were sacrificed and their incisors were removed and prepared for densitometry and microhardness analyses. The radiographic images were obtained using an x-ray machine (70 kvp, 10mA, 12 pulses, F-F distance 50 cm, perpendicular incidence to the object-film plane and densitometry reference: aluminum scale with 9 steps). The digital images were obtained with optical plates, read by a laser scanner and manipulated in Digora software. The densitometry value was converted into aluminum millimeters (mmAL), using the equation of the dispersion graphic (radiopacity x thickness of the corresponding step). The microhardness analysis was made using the microhardness meter Shimadzu Microhardness Tester Hmv-2000 (10 g, 10 s). The results (means \pm SEM) were compared between the groups (paired Student's t test, $p < 0.05$). Teeth from pWT showed lower radiographic density (0.93 ± 0.04 mmAL) and higher microhardness (342.2 ± 12.5 KHN) than pW (1.171 ± 0.04 mmAL; 312.8 ± 3.1 KHN). In conclusion, Atenolol modifies tooth structure formation since it changes its radiopacity, and increases the tooth enamel resistance. The mechanisms involved in these effects will be studied in the future. Financial Support: FAPESP, CAPES.

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A proposal for speech evaluation in individuals submitted to orthognathic surgery

The orthognathic surgery for correction of dentofacial deformities is a complex procedure that involves bone manipulation. It promotes functional changes because in addition to changing the shape of oral structures, it may also change the position of muscles attached to the manipulated bones. Speech is one of the oral functions changed by the dentofacial deformity, due to the positioning of lips and tongue, which are modified after orthognathic surgery. In an attempt to allow an objective comparison of speech before and after orthognathic surgery, this study aimed to 1) to establish a balanced speech sample for speech evaluation; and 2) analyze this speech sample using the percentage of correct consonants (PCC) proposed by Shriberg and Kwiatkowski (1982) to identify possible changes in speech after orthognathic surgery. Three phrases were constructed for each phoneme, balanced as to the number of appearances of the phoneme, combinations with all vowels and positions in the word. Twenty individuals were evaluated before and 4 months after orthognathic surgery by 5 speech therapists, who classified the production of each phoneme as adequate or altered, considering the response of most of them. The PCC was calculated by dividing the number of correct consonants by the total number of phonemes evaluated and multiplying this value by 100. The PCC revealed values from 0 to 53.8% (mean=29.6%) before surgery and 0 to 100% (mean=63.9%) after surgery. Comparison between phrases before and after surgery was performed by the paired t test, which revealed statistically significant difference ($p=0.000281$), i.e., increase in PCC after orthognathic surgery. In conclusion, the proposed sample for speech evaluation, associated with analysis of the percentage of correct consonants, was effective to analyze the effect of orthognathic surgery on speech. This effect was beneficial; however, speech therapy was still required, since not all cases achieved 100% of correct consonants after surgery.

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Prevalence of dental caries in patients before and after surgery bariatric

The increase in the prevalence of obesity has been considered a problem of public health. The aim of this pilot study was to identify the prevalence of caries in patients before and after bariatric surgery and to correlate the results with salivary flow. The sample was composed by obese patients referred or indicated or submitted to the bariatric surgery (n=22), treated at the University Hospital of the Ribeirão Preto-HCRP/USP. The participants had been examined in relation of saliva flow and dental caries, using index DMFT (WHO, 1997). The analysis statistics included frequencies and Pearson's correlation relative to verify the association between DMFT and saliva flow. The DMFT found for the group was of 16.3. The component D (decayed) represented 5.8% of the cases, filled (F) represented 34.8%, filled and decayed (F-D)

3.6% and missing (M) represented 24.2%. Only approximately one third of the patients did not present missing teeth. The majority of the patients presented hyposalivation (mean of 0.85 mL). There was no significant association between DMFT and saliva flow ($p>0.05$; $r=0.17$). It may be concluded that the patients who will be submitted to or have already had bariatric surgery showed history of dental caries and altered salivary flow, needing oral health attention. Further research must be carried out to investigate other oral problems that might occur in these patients.

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The influence of tinnitus on oral health quality and pain levels in patients with temporomandibular disorders (TMD)

The aim of this study was to determine the influence of tinnitus in oral health quality, classification of temporomandibular disorders (TMD), pain intensity and duration in patients seeking for TMD treatment. Fifty-nine women were selected from a pain treatment center and divided into two groups (with and without tinnitus), according to self-report. Visual analogue scale (VAS) was applied to all subjects before treatment and their temporomandibular disorder was classified according to Research Diagnosis Criteria (RDC). The Oral Health Impact Profile (OHIP) adapted for orofacial pain patients was also applied. Duration of pain was obtained by interview. Data were gathered and tabulated, and then percentages and averages were calculated and submitted to Student's t-test at 5% significant level. The mean age was 35.09 years. Mean OHIP values were not significantly different ($p=0.99$) between groups. Mean pain intensity (VAS) was 75.55 mm. Even without statistical significance ($p=0.42$), pain intensity was higher for the tinnitus group (77.09 mm). Patients with tinnitus had 76.12 months of pain duration. No significant difference was found when compared to non tinnitus patients (65.11 months) ($p=0.56$). According to RDC, patients with TMD and tinnitus had both, articular and muscular TMD (67.79%), simultaneously. In conclusion, the presence of tinnitus did not seem to influence the OHIP or the severity of pain report in TMD patients.

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Periodontal disease: a systematic review with epidemiologic focus

Caries and periodontal diseases are the oral problems with highest worldwide prevalence. However, with the decline of the occurrence of caries lesions due to the use of preventive methods and the population longevity's increase, the primary attention to the prevention of the oral diseases tends to be directed for the periodontal diseases. Due to the time, logistic and cost, the complete periodontal examination becomes impracticable in epidemiological surveys involving great population scale. Thus, partial protocols have been developed and used to characterize the periodontal status in the populations and for this type of evaluation some indices can be used. This review of literature was designed to investigate the epidemiologic scenario of the periodontal diseases and the parameters that have been used for its characterization. Information presented in studies published between 1997-2007 were retrieved from different databases (LILACS, MEDLINE, BBO and SciELO), using the following DeCS descriptors: epidemiology, periodontal diseases and periodontal index. The following limits were used: Aspects = epidemiology (EP) AND Gender = male OR female AND Year of publication = 2007 OR 2006 OR 2005 OR 2004 OR 2003 OR 2002 OR 2001 OR 2000 OR 1998-1999 OR 1996-1997 AND Language = Portuguese OR English. For the localization of the references in SciELO database, the following descriptors used were: epidemiology AND periodontal disease, epidemiology AND periodontal diseases, periodontal diseases AND periodontal index and periodontal index. Of the 64 identified references, 26 articles metastasis the pre-established criteria and were used. Knowing the epidemiological scenario of these diseases, supported by the scientific literature, allows for planning programs, estimating the treatment needs and providing subsidies to the implementation of new health services.

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Cementoblastoma: a report of a atypical case

Cementoblastoma is a benign odontogenic neoplasm of cementoblasts that develops predominantly in the mandible, particularly related to the permanent first molars roots in about 50% of the cases. There are no gender predilection, but related to the age, this pathology develops, in most of the time, until the third decade of life. The aim of this work is to describe a case of a 29-year-old woman, from Limeira do Oeste, São Paulo, who presented clinically with a swelling in the alveolar bone of the mandible in the region of tooth 36. Panoramic radiography showed a radiopaque mass delimited by a thin radiolucent zone. The lesion, which was not adhered to the adjacent bone, was submitted to anatomopathological examination. Histopathological examination showed thick and irregular mineralized material and basophilic reversal lines in a loosely cellular fibrous stroma, suggesting a cementoblastoma. Review of the patient's clinical history together with the microscopic features confirmed the diagnosis of cementoblastoma. The patient has been follow-up and, until the moment, no sign of lesion recurrence is presented.

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Effectiveness of educative and preventive programs in the control of the dental caries in pre-school children

The objective this study was to compare the prevalence of dental caries children attending the infant dental care program (Baby Clinic - Cesumar; control group) to children attending the municipal day-care center "Dr. Newton S. R. Grein" in the city of Maringá, Brazil (without educative-preventive orientation; case group) in order to identify the efficiency of the preventive program. The following variables were analyzed: diet, plaque index and the caries index (dmft). A total of 76 children aged 22-82 months were selected at random, examined and divided into 2 groups: 33 belonged to the control group (Baby Clinic) and 43 belonged to the case group (municipal day-care center). Diet was analyzed by means of written record of the foods offered to the children within a 5-day period. The modified Green-Vermillion index (1964) was used to quantify the bacterial plaque index. After the oral hygiene, dmft index was evaluated by a single examiner, following the criteria recommended by the Ministry of Health (2004). The obtained data were processed and analyzed by Statistic R software at a level of significance of 5% using Kolmogorov-Smirnov, Spearman and Fisher's exact tests. There was no significant difference between the IHOS (mean, case group: 1.83, control group: 1.64) and the diet (mean, case group: 3.0, control group: 3.46). The mean values of dmft were 1.90 and 0.12 for the case and control groups, respectively, with statistically significant difference between the groups. In conclusion, the children attending the infant dental care program (Baby Clinic - Cesumar) had better conditions of oral health compared to case group, which demonstrates the importance of the implementation of preventive and educative programs to the babies and their families, especially in low-income populations attending public services.

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Exfoliative cheilitis: clinical aspects and alternatives of treatment

Exfoliative cheilitis (EC) is a chronic superficial inflammatory disorder of the vermilion border of the lips characterized by persistent scaling, most of cases involving the lower lip. There is an outstanding predilection for females, independent of the race, and the patients are usually under 30 years old. The lesions are mainly related to habits like licking, biting, pricking or sucking the lips, but reports of associations also exist with personality disturbances, psychological difficulties and stress. Other contributory factors to the development of the lesions are: solar, wind and cold exposure; buccal breathing; bacterial and fungal infections; tabagism; and use of some medicines. In some cases, spontaneous remission of the lesions occurs, but it can take days or years. When identified, the elimination of the triggering factor usually results in lesion resolution. In other cases, it can be a difficult condition to manage, but the lesions have shown a marked improvement with administration of topical steroids, psychotherapies, tranquilizers and immunomodulators. Association between topical antifungal and/or antibiotic has been applied in those cases in that infection exists for

Candida. This case presents the main features in EC emphasizing the dentist's fundamental paper to recognize this lesion, patient's orientation and adoption of the most appropriate treatment approach.

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Effect of temporary cementation on the bond strength between resin cements and dentin

Dentin surface contamination by provisional cements in indirect restoration procedures may cause damage to the ceramic-dentin bond. The aim of this study was to evaluate the bond strength of two luting cements [RelyX U100 (U1) and RelyX ARC (RA) (3M/ESPE)] to bovine dentin, after the use of two temporary cements containing or not eugenol [RelyX Temp NE (RT) (3M/ESPE) and Temp-Bond (TB) (Kerr)]. The temporary RT and TB cements were used in 24 bovine dentin flat surfaces for 3 days in 37°C at 100% humidity. The cements were removed with absolute alcohol and excavator. The resin cements U1 and RA were applied on dentin surfaces and photoactivated. Z250 composite resin blocks (3M/ESPE) (4.0 mm) were prepared over the resin cements. The samples were divided in the follow groups (n=4): G1 (RT+U1), G2 (RT+RA), G3 (TB+U1), G4 (TB+RA), G5 (U1), G6 (RA). After 24h storage in distilled water at 37°C, the specimens were longitudinally sectioned in both x and y directions across the bonded interface with a water-cooled diamond saw to obtain bonded sticks (n=20 per group) each, with a cross-sectioned area of 0.8 mm², to be submitted a tensile test. The microtensile bond strength indexes were subjected to a two-way repeated measures analysis of variance and a post hoc test (Tukey's test at $\alpha=0.05$) for pair-wise comparisons. The means values (MPa) and standard deviations were: G1=16.73 (5.41), G2=25.25 (8.46), G3=14.18 (3.79), G4=19.90 (9.29), G5=22.94 (10.06), G6=30.28 (10.49). The RA groups presented significantly higher bond strength values (p>0.05). Contaminated dentin by temporary cements showed lower bond strength values than controls groups. Temp-Bond temporary cement (eugenol content) decreased significantly the bond strength in the RA groups when compared with RelyX Temp NE.

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The role of pulp vitality conservative treatments in the biologic success of direct restorations

The full understanding of the principles that guide the preservation of the dentin-pulp complex vitality are indispensable not only to the determination of the pulp condition diagnosis, but also to the treatment conduction, reflecting on the success of the restorative procedures in a biological point of view. The pulp tissue, richly vascularized, provides homeostasis of odontoblasts and their processes in the dentinal tissue, exercising its formative, nutritive, sensitive and protective functions, at the same time that neutralizes, together with the peculiar dentin features, physical, chemical and pathological injuries to the tooth. Among the causes of injuries to the dentin-pulp complex, the most relevant are dental caries, cavity preparation, restorative materials and healthy tooth loss due to traumas. Specifically in cases when the carious lesion reaches the biologically active pulp tissue, conservative treatments could and should be established in an attempt to recover and maintain pulp vitality. Among these treatments, pulp curettage consists of the superficial removal of an exposed pulp tissue portion, keeping the remnant free of inflammation or infection. This work reviews, with an illustrative case report, the mechanisms that configure the defensive and reparative dentin-pulp complex actions with the use of specific dental materials. The action of calcium hydroxide on the pulp tissue cells and the pulp repair process leading to the formation of a mineralized barrier will be discussed as well as the specific indications of the pulp curettage, considering pulp condition diagnosis during the pre, trans and postoperative procedures.

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Composite odontoma: a clinical report

Odontomas are mixed odontogenic tumors that can be divided into two types: complex and composite odontomas. Composite odontoma is constituted by several tooth-like structures involved for a fibrous capsule, more common in the anterior maxillary region. Surgical treatment of these lesions consists of local removal and curettage. We report a case of a 14-year-old male patient referred by the orthodontist with a lesion involving the anterior maxilla. The panoramic radiograph revealed a well circumscribed radiopaque image, containing several tooth-like structures, close to tooth 22, leading to a diagnostic hypothesis of a composite odontoma. The patient was submitted to an excisional biopsy. Final microscopic diagnosis was composite odontoma. The patient has been followed-up for 30 days and no clinical and radiographic signs of lesion recurrence were found.

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Pulpotomies with Portland cement in human primary molars

This work presents two clinical cases in which Portland cement (PC) was applied as a medicament after pulpotomy of mandibular primary molars in children. The pulpotomy procedure using PC was carried out on two mandibular first molars and one mandibular second molar, which were further followed-up. At the 3 and 6-month follow-up appointments, clinical and radiographic examinations of the pulpotomized teeth and their periradicular area revealed that the treatments were successful in maintaining the teeth asymptomatic and preserving pulp vitality. Additionally, the formation of a dentin bridge immediately below the PC could be observed in the three molars treated. PC may be considered as an effective alternative for primary molar pulpotomies, at least in short term. Randomized clinical trials with human teeth are required in order to determine the suitability of PC before its unlimited clinical use can be recommended.

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Primary herpetic gingivostomatitis

There are many buccal injuries appearing in adolescents, individuals between 10 and 19 - years - old (World Health Organization), in this phase occur the biggest number of morphologic, hormonal and psychological life changes. Some aspects of the adolescent behavior can have growth and health implications. The tensions, which are common in the adolescence, cause physiological and behavior changes. The period of age interests made many authors carried through works with adolescents. The herpetic injuries are provoked by the Herpes hominis viruses (HHV), the most common found, related to virus HVH-1. Normally, individuals are displayed to this virus before puberty, and once infected, the virus remains indefinitely in latent form in the peripheral nerves or the regional ganglia. The acute primary herpetic gingivostomatitis is the most common standard of symptomatic primary herpetic infection, being in most cases related to the infection by the HVH-1. Although commonly in childhood, it isn't rare to find the injury in adolescents. Our work will present a clinical case of a university student patient of 19-years-old. They will be argued wing characteristic clinical, about the probable factors under and therapeutic behavior.

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Oral health conditions among pregnant women attending a healthcare unit in Manaus, AM

According to Ministry of Health guidelines, all pregnant women participating in prenatal programs should receive oral healthcare. However, reports in the literature show that

such care has not been provided. The general aim of the present study was to evaluate the oral health conditions among pregnant women enrolled in the Prenatal and Birth Humanization Program at the "Theomário Pinto da Costa" primary healthcare unit, in the central-southern zone of Manaus, AM, Brazil. Specifically, this study aimed to assess the prevalence of dental caries and gingivitis among these patients, and their socioeconomic conditions and access to dental services as well as to investigate the association between schooling level and dental caries. The population comprised 50 pregnant women, independent of pregnancy trimester, between November 2007 and March 2008. The study was quantitative, descriptive, ecological and cross-sectional, and the data were collected from the target population. The plaque (Silness & Løe, 1964), gingival (Løe & Silness, 1963) and DMFT indices were used. The data were analyzed using descriptive statistics, and the chi-square test with Yates correction was used to compare the DMFT index with schooling level. 100% of the population studied presented caries: the mean DMFT score was 10.0 and the M component (missing teeth) predominated in the index composition (4.28). Among the pregnant women examined, 62% presented moderate gingival inflammation and 64% presented at least little plaque. The schooling level presented the following distribution: 10% had completed elementary education; 20% had not completed elementary education; 34% had completed high school education; 6% had not completed university-level education. No statistically significant association was observed between DMFT and schooling. In the light of the results obtained, it can be seen that there is a need for oral health promotion measures for this population, with curative and preventative actions.

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Cracked tooth syndrome: etiology, diagnosis and treatment

One of the most common and difficult alterations to be located and diagnosed in the clinic of dentistry is, without a doubt, the cracked tooth syndrome. This type of alteration, rarely approached in current literature, is defined as the incomplete breaking of a posterior tooth, involving dentin, which usually advances in a mesiodistal direction, being able to extend to the pulp tissue. Some terms are used to describe this syndrome, such as partial breaking, cracked tooth. Diverse authors have reported the difficulty in diagnosis this syndrome, even in case of painful symptom, because tooth cracking cannot be identified radiographically. Among the possible causes of this syndrome are the extensive cavity preparation, trauma resulting from parafunctional forces, the habit to chewing ice or hard substances and the placement of dentinal pins (screwed or by friction), among others. One of the most frequent symptoms is the discomfort or pain, at the beginning or end of chewing. When the crack is opened during hard food chewing, there is fluid movement within the dentinal tubules, causing painful sensitivity to the temperature variation, mainly in case of acid or sweetened foods. The purpose of this work is to present the main etiologic factors involved in the cracked tooth syndrome and emphasize the importance of the diagnosis and early treatment, in order to preserve, as much as possible, the vitality and function of the tooth, and avoid tooth fracture.

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The subepithelial connective tissue graft for localized alveolar ridge augmentation: modified roll technique

A deformed partially edentulous ridge is a major problem for prosthetic esthetic rehabilitation. Depressions in the alveolus may result from traumatic extractions or extraction of teeth with advanced bone loss from either periodontal disease or apical pathology, and development defects. The resulting defect may seriously compromise the esthetics of the final restoration. Because prosthetic rehabilitation of these patients can be difficult, various techniques have been devised to correct the tissue deformity. Abram in 1982 described the "roll" technique of subepithelial connective tissue graft which the graft was "rolled" to the area. Later, Scharf and Tarnow modified the Abram's technique to retain the epithelial pedicle that overlies the connective tissue pedicle; the epithelial is used to cover the donor site. A case of a plastic surgical procedure by modified Abram's technique using autogenous grafts of connective tissue placed submucosally in tooth 15 area of collapsed edentulous ridge is presented. Using the combination of temporary acrylic resin restorations and connective tissue autografts, the unaesthetic concavity and ridge irregularity could be corrected. This technique allows augmentation of a deformed edentulous ridge to a proper form, color, and texture before placement of a fixed prosthesis. The size and shape of the pontic against

the edentulous ridge had a more natural tooth-to-gingiva relation. The result shows that the modified "roll" technique is feasible when properly indicated providing good dimensional stability and offering an acceptable solution to a difficult prosthetic problem.

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Surface roughness evaluation of direct and indirect composite resins submitted to mechanical toothbrushing

Indirect composite resins were introduced to overcome some deficiencies of the direct technique. Surface roughness of resins is increased by the toothbrushing, favoring the bacterial adhesion. The objective of this study was to evaluate the surface roughness of direct and indirect composite resin polymerized with different photo-activation methods, before and after the mechanical toothbrushing test. Twenty Z250 (3M Espe) and Sinfony (3M Espe) composite resin samples were made and polymerized using the photo-activation systems Ultraled (Dabi Atlante) and Visio Beta Vario (3M Espe). After 24 h, the specimens were submitted to the procedures of finishing and polishing. The surface roughness (Ra) analysis was performed using a Surfcoorder SE 1700 rugosimeter (Kosakalab), before and after the toothbrushing test (3,000 cycles). The data were submitted to three-way Analysis of Variance (ANOVA) and the means compared for the Tukey's test ($\alpha=0.05$). The results showed that independent of the photo-activation method, Sinfony presented lower roughness before toothbrushing ($0.1291 \pm 0.0283 \mu\text{m}$), with significant difference for Z250 ($0.1974 \pm 0.0895 \mu\text{m}$) ($p>0.05$). Similar results were obtained after toothbrushing, with Sinfony presenting lower values ($0.1434 \pm 0.0236 \mu\text{m}$) compared to Z250 ($0.2267 \pm 0.0535 \mu\text{m}$) ($p>0.05$). The roughness values after toothbrushing increased for Z250. For Sinfony, there was no statistically significant difference between the values before and after the toothbrushing. No significant difference was found between the polymerization methods. (FAPESP 06/56192-1)

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Developmental defects of enamel: hypocalcified amelogenesis imperfecta case report

Amelogenesis imperfecta is characterized by enamel structural defects, which can affect the dental structure severely. Taking into account the three main stages of enamel development, (formation of organic matrix, matrix mineralization and maturation of enamel), the hereditary developmental defects of enamel can be classified under three categories: hypoplastic, hypocalcified or hypomineralized and hypomaturation. The correct diagnosis and classification of this anomaly is very important to provide an adequate treatment to the patient. The enamel matrix of hypocalcified type is normal, but the mineralization process is inefficient. The enamel shows normal thickness, is fragile, opaque and with coloration that ranges from white to dark brown. The purpose of the present study is to describe the management of the hypocalcified amelogenesis imperfecta in a 3-year-old girl. The clinical conduct adopted consisted of rehabilitation and restorative procedures. The teeth that could not be treated conservatively were extracted.

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In vitro evaluation of the antimicrobial activity of mouthrinses.

The antimicrobial potential of different mouthrinses was evaluated *in vitro* using the different strains (*Pseudomonas aeruginosa*, *Escherichia coli*, *Candida albicans*,

Staphylococcus aureus, Staphylococcus epidermidis and Enterococcus faecalis) by diffusion in Müller Hinton agar, which was distributed in 25 mL aliquots on sterile Petri plates. Five filter paper discs were placed equidistantly and were soaked with 20 µL of the tested mouthrinses. Reading of inhibition halos was performed after 48 h. The tested mouthrinses were: Periogard, Plax, Listerine, Oral-B and Flogoral. The best mean results were observed for Periogard and Plax.

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The effect of low level laser irradiation (InGaAIP-660nm) on fibroblast cell cultures

Low level laser therapy may modulate inflammation and wound healing, changing the behavior of several cells, including fibroblasts, macrophages and lymphocytes, increase vascular formation, microcirculation and production of extra-cellular matrix components (collagen and elastin). Fibroblasts are the most abundant cells in the connective tissue and are important to reparative process. However, physiological cell status is supposed to change cell response to low level laser therapy. This study evaluated the effect of low level laser irradiation on different fibroblast cell cultures. 3T3 high metabolic immortal cell culture and primary human keloid fibroblast cell culture were irradiated using an InGaAIP, $\lambda=660$ nm, 50 mW diode, delivering 3 J/cm² and 21 J/cm² for 3 consecutive days. Trypan Blue exclusion and MTT assays were carried out to determine cell viability. Propidium Iodide stain was performed for cell cycle analysis by flow cytometry. One way ANOVA and Bonferroni's Multiple Comparison test ($p<0.05$) were used for data analysis. Primary fibroblast cell culture irradiated with 3J/cm² showed significant proliferation by Trypan Blue exclusion test. 3T3 cell culture showed no difference using this method. Propidium Iodide staining flow cytometry corroborates these data showing a significant increase of the percentage of cells in the proliferate phases of the cell cycle (S,G₂/M) in primary human fibroblast culture only. On the other hand, 21J/cm² induced cell death in both cell lines (haplodiploid cells increase), as observed by flow cytometry. In conclusion, our data support the hypothesis that cell physiological state influences low level irradiation responses. Higher metabolic rate and shorter cell cycle 3T3 cells are less susceptible to the stimulatory effect of laser irradiation. In addition, these findings mellitus diabetes, high pressure, genetic backgrounds and infectious diseases as AIDS and C hepatitis. Recent evidence shows that it is an immunologically mediated disease. Its occurrence had been greater among female patients in their fourth or sixth decade of life, but currently some changes in the epidemiologic aspects have been found, and male patients in their second to third decade of life have been affected. These patients are C hepatitis virus-positive and have a co-infection to HIV, under treatment with Ribavirin and Interferon therapies followed or not by the HAART therapy and the oral lesions appear more frequently in the erosive unlike the previous reticular prevalence. The diagnosis is clinical and the treatment brings some comfort while the patient is undergoing a crisis. Patients are treated with 790 nm and 30mW GaAlAs laser for 2 min and 20 s, point application in each lesion, generating a density of 4 J/cm². The early diagnosis of oral manifestations favors the establishment of an effective treatment having a positive impact on the quality of life of the patients.

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Low intensity laser therapy in the treatment of lichen planus oral lesions in C hepate patients and co-infection to HIV

Lichen planus is a relatively common chronic cutaneous inflammatory disease that also happens in membrane mucosa. The etiology is unknown and presents multiple factors such as bad nutrition, emotional disturbances, traumatism, galvanic chains, mellitus diabetes, high pressure, genetic backgrounds and infectious diseases as AIDS and C hepatitis. Recent evidence shows that it is an immunologically mediated disease. Its occurrence had been greater among female patients in their fourth or sixth decade of life, but currently some changes in the epidemiologic aspects have been found, and male patients in their second to third decade of life have been affected. These patients are C hepatitis virus-positive and have a co-infection to HIV, under treatment with Ribavirin and Interferon therapies followed or not by the HAART therapy and the oral lesions appear more frequently in the erosive unlike the previous reticular prevalence.

The diagnosis is clinical and the treatment brings some comfort while the patient is undergoing a crisis. Patients are treated with 790 nm and 30mW GaAlAs laser for 2 minutes and 20 seconds, point application in each lesion, generating a density of 4 J/cm². The early diagnosis of oral manifestations favors the establishment of an effective treatment having a positive impact on the quality of life of the patients.

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Alloxan-induced diabetes triggers development of dental caries and pulp alterations in diabetic rats

Diabetic patients characteristically present higher prevalence and severity of periodontal diseases and dental caries, similarly to which is seen in experimental diabetes in rats. The aim of this study was to evaluate the establishment and progression of dental caries and pulp alterations in rats after diabetes induction. Diabetes was induced in Wistar rats (n=25) by intravenous administration of alloxan (42 mg/kg). After 1, 3, 6, 9 and 12 months, the hemimandibles were removed and submitted to histotechnical procedures followed by histopathological and morphometric examination, performed using KS300 (Zeiss) software. Severe caries were detected in the diabetic group, presenting increasing severity until the late disease periods. A significant reduction in the pulp and dentin area ($p<0.05$ ANOVA) were seen in diabetic rats at the periods of 3, 6, 9 and 12 months. Complementarily, linear measurements demonstrated that both dental apex to cusp, and cuspal plane to alveolar bone crest plane distances were gradually decreased ($p<0.05$ ANOVA) throughout the course of diabetes. Our data demonstrate a decrease in the volumetric density of collagen fibers and fibroblasts associated with increased density of inflammatory exudate area. Necrosis foci were progressively detected only in diabetic rat pulps ($p<0.05$ ANOVA). The results demonstrate that diabetes induction triggers the onset of alterations that are typical of dental caries, such as reduction of dentin volume, which is followed by pathological alterations in the pulp tissue. Therefore, diabetes induction renders a previously resistant host into a susceptible phenotype, and hence diabetes can be considered a very important risk factor to the development of dental caries.

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Care required in local anesthetics for tooth extraction at the cleft region

Cleft lip/palate is a relatively common craniofacial malformation. Patients with this disorder present characteristic growth and development of the face and stomatognathic system. The upper anterior region of the lip exhibits a fibrotic scar secondary to the primary rehabilitative surgery, the cheiloplasty, which impairs the accomplishment of local anesthetics without causing discomfort to the patients. These and other characteristics lead many professionals to fear or even refuse to provide care to these patients, when in fact the observation and correct application of routine techniques is sufficient. This presentation aims to describe the technique for local anesthetics and tooth extraction of teeth at the cleft region. The patient L.H.S., a 10-year-old male boy with complete bilateral cleft lip/palate attended the pediatric dentistry clinic of the Hospital for Rehabilitation of Craniofacial Anomalies of the University of São Paulo for extraction of the permanent maxillary lateral incisors, upon referral from the Maxillofacial Surgery sector, before accomplishment of secondary alveolar bone graft. The detailed description of the procedure allows for any dental professional to provide safe treatment for patients with cleft lip and palate.

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Recovery of the smile's esthetic harmony by the association of two vital tooth bleaching techniques

Tooth discoloration varies according to etiology, appearance, localization and severity. These alterations may be defined as extrinsic or intrinsic depending on the etiology and localization. Vital tooth bleaching has been widely employed to solve problems of teeth with all types of color alterations. When professionals establish the correct diagnosis, they can decide on which will be the best treatment either associating or not different techniques and products, of different concentrations. For naturally discolored teeth, in-office or home bleaching techniques may be applied. In this case report, patient reported dissatisfaction with the color of her teeth, which were verified with a VITA color scale and presented coloration corresponding to A3.5 and A3 shades. In-office bleaching was made with 35% hydrogen peroxide (Lase Peroxide – DMC) on the first visit. After 1-week interval, home bleaching technique with 10% carbamide peroxide (Whitegold Home – Dentsply) was associated and the patient used the product during 7 days. At the end of treatment, final teeth color verified with the VITA color scale was A1. Color harmony and esthetics were achieved, with great patient and professional satisfaction.

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Treatment of Class II malocclusion with the mandibular protraction appliance (MPA) in adult patients: a case report

Functional orthodontic appliances have played an extremely important role on the treatment of sagittal skeletal discrepancies for at least two decades. Most studies that investigate these appliances have considered their use in adolescents, assuming that patients in growth could be benefited of their orthopedic effects. However, several investigations have shown that functional orthodontic appliances have mainly dentoalveolar effects. These considerations encourage some clinicians to use orthopedic appliances in patients that will not grow anymore. Coelho Filho, in 1995, developed a new kind of fixed mandibular propulsor functional orthodontic appliance, called mandibular protraction appliance (MPA). The MPA was presented as an alternative for the treatment of Class II malocclusion by the mandibular advancement. By using the MPA, the mandible is positioned mesially, compensating for the existing overjet, and its movement back to the original distal position, by the action of the musculature, generates a force that is transferred to the maxilla by the appliance, causing mass distalization of the upper dentoalveolar process. This implicates in dental and skeletal alterations which, together, promote the treatment of Class II malocclusion, resulting in better maxillomandibular relationship and facial profile. Therefore, this case report intends to illustrate the effectiveness of the MPA in the treatment of Class II malocclusion in an adult patient with mandibular retrognathism and vertical growth pattern, in as much as fixed functional orthodontic appliances represent a successful mean of treating this malocclusion, being able, this way, to benefit adult patients, a segment of the population that have most intensely looked for orthodontic treatment in the last decades.

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An unusual pleomorphic adenoma on the hard palate with oncocytic cells

Pleomorphic adenomas (PAs) are by far the most common benign tumors of the salivary glands. The authors present a case of PA with unusual size and uncommon histopathological features such as oncocytic cells. A 54-year-old man presented to the Oral Medicine Service – Araraquara Dental School – UNESP, with a painless and slowly growing lesion on the hard palate noticed for the last 18 years. The patient had never looked after the elucidation of that lesion. His medical history revealed drug-controlled arterial hypertension. The clinical examination showed a firm nodular lesion in the middle of the hard palate, partially mobile, non-ulcerated with approximately 36 x 30 mm. The patient had never experienced any history of local trauma and no lymph nodes were observed. Radiographic analysis did not show invasion of adjacent structures. The clinical hypotheses were fibroma, ossifying fibroma and pleomorphic adenoma. Excisional biopsy was taken and the histopathological examination revealed pleomorphic adenoma with myoepithelial and oncocytic cells, nuclear pleomorphism, among other common features such as capsule, ducts, squamous epithelium, foci of keratin, adipose and osteoid tissue. Oncocytic cells may represent an example of the

plasticity of phenotypic expression that can occur in salivary glands tumors. This phenomenon illustrates the central role that divergent differentiation pathways play in these tumors. It is not completely unusual that a PA presents nuclear pleomorphism. However, this finding alone is not enough to characterize this PA as a malignant entity. Early diagnosis is important to allow for an appropriate treatment and to limit a possible surgical intervention. A very close follow-up is necessary to detect recurrences, which can appear years after the first episode of the lesion. In addition, the PA can present malignant transformation, mainly in lesions of minor salivary glands.

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"Dental Cosmetics": the role of the composite resin on the complementation of the orthodontic treatment

Patients with dental agenesis tend to search for orthodontic treatment to reestablish the aesthetics of the smile, by repositioning present teeth and minimizing spaces between them. Small diastemas, remaining from orthodontic interventions, tend to require a complementary participation of Operative Dentistry for total rehabilitation of the patient. This case report intends to present results obtained after orthodontic treatment and application of composite resin in a patient with agenesis of teeth 31 and 22, and a conoid lateral incisor (12). Implant placement would not match patient's expectation concerning the improvement of her convex and active lip seal facial profile. Extraction of teeth 63, 73, 14 and 44, associated with anterior and superior retraction and symmetrical distribution of spaces by orthodontic treatment associated with closure of residual diastemas with direct composite resin, was the treatment of choice. Study models were obtained and new dental shapes were determined upon waxing. Using a silicone matrix as a guide, new dimensions and dental shapes were transported to the patient's mouth by inserting composite resin increments correspondent to dentin and enamel, according to previously established shades and proportions. Teeth 13, 12, 11 and 21 were re-counteracted and the canine (tooth 23) was transformed in a lateral incisor. Esthetic periodontal surgery, involving apparent crown lengthening of tooth 24, gingivoplasty from 13 to 23 and desinsection of the superior labial frenulum, reestablished gingival contour. Immediate outcome provided patient satisfaction and long-term evaluation showed treatment effectiveness. Therefore, if properly indicated in an interdisciplinary context, direct restorations can be one of the main options in dental cosmetics, so considered in recent times

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Implant-retained overdentures submitted to delayed and immediate loading. A literature review

The use of endosseous dental implants has brought important alternatives to treatment plans for oral rehabilitation of partial or total edentulous patients. The original protocol indicated by PI Brånemark is the placement of an implant at a mature bone, about 9 to 12 months after extraction, is awaiting his osseointegration for about 3 to 6 months depending on the location and type of bone in the region. Several changes to the protocol of initial installation of implants proposed by Brånemark have been made, and some questions have been done about these dogmas considered immutable. The necessity or not of implant submersion in the first surgery's stage and an indication of implant-supported loads mediate or immediate are extensively studied topics (GROISSMAN and HARARI, 2001). The immediate load allows simplifying the technique, reduce costs and meet the patient's needs immediately. Thus, recent studies are looking for the benefits of immediate placement of implants with the technique of immediate load, always aiming to bring benefits to the patient. As demonstrated by Ledermann, Graber and Besimo, rigid connections of 3 or 4 implants with U-shaped bars can reduce macromovements, as in the situation of immediate loading with an overdenture. By a review of literature, this work aims to compare the immediate loading versus delayed loading of implants placed to support overdentures and the clinical parameters for the possible success, thus promoting the functional and esthetic recovery of the patient's stomatognathic system (CHIAPASCO, 2001; STEPHAN, 2007).

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Role of mast cells in bone resorption in diabetic mice subjected to periodontal disease

The purpose of this study was to evaluate the level of bone resorption in diabetic mice with periodontal disease (PD) and the role of mast cells (MAST) in this process. For this study, balb/c mice were pretreated with single dose of streptozotocin (STZ) (170 µg/g) for the induction of diabetes. After 7 days, an aliquot of blood was collected for determination of the glycemic level. Animals presenting ≥ 250 mg/dl were considered as diabetic. To evaluate the role of MAST in the periodontal disease, the diabetic mice were systemically depleted of MAST by pre-treatment with 48/80 compound, ip, which was administered at 1, 2 and 3 days with two daily doses of 0.6 mg/kg and in the 4th day with two doses of 1.2 mg/kg (12-h interval between the doses). On the 5th day, after surgery, animals received a ligature around the homologous first molars using silk sutures for induction of PD in both diabetic and control groups. The jaws were dissected to determine the level of bone resorption. Radiographs were obtained from the pieces and the images were analyzed by Digora software. By radiographic analysis, we observed the occurrence of PD in animals which were treated with ligature, being confirmed by bone resorption. The diabetic animals presented a significant bone loss when compared to control. This loss was increased in the animals that were treated with 48/80 compound. In conclusion, these preliminary results indicate that diabetes potentiate the increase of bone loss in PD, being more aggravated in the absence of MAST, which suggests the protector role of this cell type in PD.

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Ectodermal dysplasia: Review of dental interest and report of clinical cases

Ectodermal dysplasia is a rare and congenital disease that has as characteristic changes in development referring to ectodermal structures, affecting mainly hair, nails, teeth, skin, sweat, saliva and sebaceous glands. From hereditary nature, ectodermal dysplasia affects 1:100,000 live births, in the proportion of 5 men to 1 woman. The main features of dental interest are hypodontia or anodontia, both in the primary and in the permanent dentitions, teeth with anomaly of form, reduced vertical dimension, underdeveloped alveolar processes, facial appearance similar to that of an old person and decreased salivary secretion. Treatment includes masticatory, phonetic and esthetic rehabilitation, providing physical, emotional and social development. This study emphasizes the importance of diagnosis and early intervention and reports three cases of patients seen at the Center of Dentistry for Babies of the State University of Londrina.

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Knowledge of health professionals about prescription of soy-based products and dental fluorosis

The aim of this study was to identify the knowledge of pediatricians and nutritionists about the indication of soy-based products and their possible relation with the fluorosis. The sample was constituted by health professionals. Forty-six clinics were visited and a questionnaire was handed to nutritionists and physicians fill out when appropriate adequate. The number of replies was estimated in 63 questionnaires. Twenty physicians and 20 nutritionists returned the filled questionnaires. The questionnaire contained 20 semi-structured questions, arguing on subjects such as the occurrence of dental caries, fluorosis, relation between caries and diet, fluorosis and diet, recommended soy-based products, after which age they recommend consumption of these products, acceptance of these products by the children. The 10 most often indicated soy-based products: Nan Soy, Isomil, Soy Milke, Soy Maçã, Aptamil Soja 1, Aptamil Soja 2, Soyos Milk Júnior, Supra Soy, Ades Suco and Ades Leite. The professionals presented some knowledge of dental caries, but had little information on dental fluorosis and the contribution of the soy-based products for its occurrence. In addition, the participants demonstrated interest in knowing more of the subject. The results of this research might contribute to clarify and guide prescriptions of pediatricians and nutritionists, since these professionals showed little knowledge of the influence of soy-based products and the occurrence of dental fluorosis.

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Influence of the saliva on staining susceptibility of dental structure by coffee during home bleaching

The aim of this study was to evaluate the staining susceptibility of dental structure during home bleaching exposed or not to artificial saliva. Seventy-two fragments of third molars were used and randomly divided into groups that were exposed to the 10 and 16% carbamide peroxide (CP) (Whiteness Perfect – FGM) and immersed either artificial saliva or deionized water. After 3, 6 and 10 days of bleaching, six fragments of each concentration of bleaching agent and immersion solution had images digitalized by a scanner and analyzed by histogram tool of Adobe Photoshop Software adjusted to 256 degrees of gray scale. After bleaching measurement (BM) was obtained, the same samples were immersed in coffee for 30 min to get the staining measurement (SM). The initial measurement (IM) was done before bleaching for comparisons. The higher the values of degrees of gray, the whiter the specimen. Data were analyzed statistically by two-way ANOVA and Tukey's test at 5% significance level. The 10% carbamide peroxide group immersed in deionized water bleached significantly more than the 16% group, but had similar staining values. Immersed in artificial saliva, 10 and 16% of CP bleached and stained similarly. Pigmenting agents, such as coffee, seem to cause a significant staining on the dental structure during home bleaching, which can be reduced by the presence of saliva.

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Effect of different disinfection methods on the color changes of a denture tooth brand

Color alteration of materials used for prosthetic treatment may be caused by processes of absorption and adsorption of liquids of the oral cavity. There is evidence that the intake of fluids increase the color alterations of dental materials. Thus, the aim of study was to evaluate the effects of different disinfection methods (microwave disinfection, chlorhexidine and sodium perborate) on the color alteration of a denture tooth brand (Biolux). Canine teeth (n=80) was positioned in the center of an autopolymerizing acrylic resin cylinder (15 mm x 5 mm). Specimens were divided into 4 groups as follow: G1 – submitted to microwave disinfection, with the specimens immersed in 200 mL of distilled water and irradiated with 650 W for 3 min once a week; G2 – immersed in 2% chlorhexidine gluconate solution for 5 min each day; G3 – immersed 3.78% sodium perborate solution for 5 min each day; and G4 – kept in distilled water at 37°C (control group). After immersion, the samples were stored in distilled water at 37°C. Color measurements were taken before immersion and after 7 and 15 days. Color parameters in L* a* b* color space were recorded with a spectrophotometer and color changes (DeltaE*) were then calculated. The data were analyzed statistically using ANOVA, Kruskal-Wallis and Tukey's test ($\alpha=0.05$). No significant differences were observed in color parameters between 7- and 15-day measurements for all groups. Comparison among groups revealed that there were no significant color changes at 7 and 15 days. Thus, it was found that the Biolux showed no change color independent of the disinfection method after 7 and 15 days.

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Case report of rapid palatal expansion in young patient

The rapid palatal expansion (RPE) is an orthopedic procedure to correct transversal skeletal problems, which occur frequently at the stage of primary and mixed dentitions. The therapeutic approach will depend on the differential diagnosis, considering that the malocclusion exhibit functional and skeletal etiology. The diagnosis of skeletal involvement can be made by observing a constricted maxillary dental arch with a

triangular profile, associated with the correct buccolingual position of the posterior teeth. The aim of this work was to present a case report about the treatment of a constricted maxillary arch during the mixed dentition, using the Haas appliance. It needs a period of three months of retention after performing an expansion, with the same appliance, for the reorganization and formation of bone tissue in the midpalatal suture, followed by six to twelve months with removable appliance. The clinical sign observed is a diastema that appears between the maxillary central incisors. The expansion is completed successfully with the use of "Haas", increasing the transversal dimension of the maxillary dental arch, promoting a balanced intra- and inter-arch relationship. In conclusion, during the rapid expansion of the maxilla, the midpalatal suture is opened due to the heavy and continuous application of orthopedic forces on the maxillary bone. The open suture undergoes a process of bone remodeling, promoting the correction of transversal skeletal problems of the patient.

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Microscopic analysis of the expression of rankl in rat periodontium during induced dental movement

Clasts are multinucleated cells specialized in the resorption of dentin and bone mineralized matrix. These cells are originated from monocyte-macrophage precursor cell line and their differentiation occurs when the RANK molecule present on the surface of the precursor cell is connected to its binder (RANKL) expressed mainly in osteoblasts, during the process of bone remodeling. The activation of osteoclasts is essential to the occurrence of bone resorption in the side of compression on the periodontal ligament (PDL), promoting tooth the movement during the orthodontic treatment. The objective of this study was to assess the expression of RANKL in the periodontal ligament of rats subjected to dental induced movement by the light microscopy. Male Wistar rats, weighting approximately 70 g, were submitted to induced movement of the upper molars with 20 g load and were sacrificed at periods of 2, 5 and 10 days. After sacrifice, the maxilla was resected and decalcified in 10% EDTA solution. Serial 7- μ m-thick sections were obtained and stained with hematoxylin-eosin. The sections were examined under a light microscopy. There were areas of necrosis of the PDL, presence of many osteoclasts on the bone surface and RANKL expressed by osteoblasts and osteocytes. Areas of dental resorption were seen near the areas of necrosis with the presence of clasts. In all periods observed, the cells with the highest expression of RANKL were osteoblasts. However, osteocytes, epithelial rests of Malassez also expressed RANKL. The expression of RANKL by cementoblasts and fibroblasts was very discrete. In conclusion, during induced dental movement, RANKL expression by cells of the periodontium of insertion is increased. The expression of RANKL in osteoblasts is more evident than in cementoblasts, suggesting the greater susceptibility of bone to resorption compared to cementum surface.

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Early detection of mucoepidermoid carcinoma - case report

A 46 year-old-female patient attended the Dental School of CESUMAR (University Center of Maringa – PR, Brazil) referred by a private practitioner. The intraoral clinical examination revealed an erythematous spot in the hard palate with two yellow papules, measuring less than 1 cm, rounded, smooth, sessile, consistent and not very well limited. The lesion was asymptomatic. The evolution time was uncertain. The clinical diagnosis was sialadenitis, probably triggered by mechanical trauma. An excisional biopsy was performed, but microscopic features showed it was actually a mucoepidermoid carcinoma. Although it is one of the most common malignant tumors of salivary gland, this neoplasm is much less frequent than the squamous cell carcinoma. Its biological behavior and prognosis are very variable, but even low-grade malignancy tumors may be invasive and metastatic. The reported case illustrates the importance of clinical examination for early detection of oral changes followed by biopsy and histological analysis to establish a precise diagnosis. If this patient had not been referred to an oral diagnosis service or if the lesion had been removed but not sent to microscopic examination, the patient would not have received the correct diagnosis, nor the appropriate treatment for malignant lesion, which would drastically compromise the prognosis.

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Evaluation of dental transposition and insertion technique on the radiopacity of a glass ionomer cement

The aim of this study was to evaluate the influence of dental transposition on the radiopacity of a glass ionomer cement (GIC) used in ART technique. Ten cylinders (6 mm thick and 5 mm in diameter) were prepared with RIVA (SDI), where half of these were inserted on the technique of ART (CI) and the others were inserted with the RIVA in capsules using a proper syringe (SI). The samples were radiographed with dental cylinders and an aluminum step-wedge by x-ray unit with 70kVp and 8mA (Dabi-Atlante) and exposed 0.4 s as recommended by ISO 4049 at 40 cm focus-film distance. The films were processed mechanically and the images were analyzed by indirect digital analysis using the histogram tool of Adobe Photoshop 7.0 software after scanning (Arcus 1200 AGFA). The mean results expressed in 256 degrees of gray scale were converted in aluminum millimeters (mmAl). The radiopacity data were analyzed by ANOVA and Wilcoxon test with $\alpha=5\%$. There were statistically differences in radiopacity between the dental structure (5.98 ± 0.26) and the samples prepared with different techniques (CI= 11.4 ± 0.45 and SI= 13.6 ± 0.39) ($p<0.05$). Samples had similar radiopacity values than those obtained with dental transposition ($p>0.05$). Different insertion techniques can change the radiopacity of GIC. Dental transposition showed no influence on radiopacity values.

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Cherubism: case report

The group of fibro-osseous lesions is characterized by the replacement of normal bone mass by a fibrous connective tissue. Among all injuries of this group, cherubism requires special attention because it is rare and has a hereditary nature. People who present this pathology have a slacked face skin because of the volumetric increase of the face's middle and inferior third associated with lower eyelid depression. It is named cherubism because these clinical features resemble paintings of angels from the Renaissance period. This work aims to report a case of cherubism treated at Department of Oral and Maxillofacial Surgery at the State University of Maringa. The patient L.V., 11 years, female, was referred to the clinic by the orthodontist. In extraoral clinical examination, she presented volumetric increase in the inferior third of the face, and in the region of body, arm and angle of the mandible, bilaterally, without changes of color and without painful complications. The intraoral clinical examination appeared normal. On panoramic radiographic examination, radiolucent areas appeared surrounded by a radiopaque border present in regions of the body, arm and angle of the mandible, bilaterally. The mother of the patient did not know when the facial changes began to occur and reported that the patient's father (now deceased) also had similar facial appearance. Considering the clinical and radiographic aspects was diagnosed cherubism. The patient was then referred to an endocrinologist for evaluation and the orthodontist was informed about the possible difficulties at the end of treatment. The patient will be followed up periodically. Considering that there are few reports of cherubism cases, this work will help dental literature providing data for future studies. Moreover, it reinforces the importance of the radiographic examination in the final diagnosis of oral pathologies.

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Kuttner tumor. Tumor of submandibular gland: a case report and review of the literature

The Kuttner tumor or chronic sclerosing sialadenitis is an unusual disease of the salivary glands that does not have a single etiologic agent and its most common characteristics are obstruction of the duct by sialoliths leads, lymphocyte infiltration, fibrosis, parenchymal atrophy and immune reactions of the duct system. The first report of this tumor was published by Kuttner in 1896. Kuttner tumor is a chronic inflammatory process of salivary glands that affects mainly the submandibular gland, but can also be observed in other glands such as the parotid gland and can be unilateral or bilateral. It

is more common in adult patient, predominance in male. The principal characteristic observed is a firm aspect, swollen, complained of painful and swelling and a history of median duration and discrete growth too. Although most patients can relate recurrent pain, discharge and swelling that is often associated with food, this tumor can be asymptomatic. The clinical pathological aspects are important to make the differential diagnosis and include: indurate swelling from submandibular gland, diffused heterogeneous echogenicity and multiple hypoechoic shadows by ultrasound US examination. The histological examination is fundamental to establish the diagnosis. According to the literature review, most patients must undergo submandibular excision. The aim of this work is to report a case of Kuttner Tumor treated by the removal of submandibular gland.

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Skeletal and dental alterations in Class II division 1 malocclusion patients treated with 2- and 4-premolar extraction protocols

The aim of this retrospective study was to compare the skeletal and dentoalveolar alterations needed for an optimal treatment result of complete Class II division 1 malocclusion, carried out by extracting two and four premolars. A total of 50 patients with initial complete Class II malocclusion who were treated with one of the proposed protocols and fixed edgewise appliances were selected and divided into two compatible groups, regarding initial and final occlusal characteristics. Group 1 consisted of 23 patients with an initial mean age of 12.84 years treated with extraction of 2 premolars. Group 2 consisted of 27 patients with an initial mean age of 13.72 years treated with extractions of 4 premolars. The lateral headfilms were then obtained and evaluated at initial (T1) and final (T2) stages and the alterations which occurred in the treatment period (T2 - T1) was also carried out. The cephalometric variables were compared with the independent t test. Group 2 showed a greater amount of apical base relationship correction and greater dental movement quantity in the treatment period. A better anteroposterior dental relationship was achieved in group 1. In conclusion, the 2-premolar extraction protocol is an excellent alternative for Class II division 1 malocclusion treatment because it demands lesser amount of dental and skeletal correction when compared to the 4-premolar extraction protocol.

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Rehabilitation approach in patient with ectodermal dysplasia: case report

Ectodermal dysplasia (ED), a hereditary, clinically diverse, genetically heterogeneous group of conditions, is characterized by developmental defects in the tissues of the embryonic ectoderm and its appendages. The most common forms are the absence or defect in the teeth, hair, skin, nails, salivary glands and sweat glands. Individuals affected can show some several clinical features. The most frequent oral abnormalities also include hypodontia and some irregularities in the shape of the teeth. These findings have been reported in the primary and permanent dentition. Dry mouth can be present due to abnormalities in the salivary glands. The hair tends to be scarce and very thin, while the skin is dry, due to the lack or decrease in the number of sweat glands. Patients with this condition usually are shy, flat and have psychological complex about their abnormal appearance and the absence of teeth. In the present work, the authors report a case of oral rehabilitation of a child of three years old carrier of ectodermal dysplasia. The patient had a reduced number of teeth and it was therefore proposed, after the preventive procedures, the installation of an anterior removable partial denture in order to restore esthetics and primary functions like speech, mastication, swallowing and correct speech. The outcome was very positive, since patient's self-esteem and social interaction were recovered by the dental treatment. Early dental intervention and continued treatment for many years are required to improve and maintain the physiological functions and optimal facial appearance.

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Analysis of the oral alterations in removable denture wearers attending the "Oral Lesion Project" of the Dental Course of CESUMAR, Maringá, PR

The oral mucosa is a favorable place for developing desquamative, ulcerative and vesiculobullous lesions, which can be debilitating and uncomfortable to the patient. These injuries can be caused by some factors such as suppression of the normal bacterial oral flora, as a result of the use of antibiotics, reduction of the salivary flow, use of corticosteroid and also as a consequence of the use of inadequate and/or non-hygienic dentures. The aim of the present study was to analyze the oral alterations in removable denture wearers, attending the "Oral Lesion Project" of the Dental Course of CESUMAR, Maringá, PR. Data were collected from their files of 132 patients treated at the Dental Clinic of CESUMAR, referred to the "Oral Lesion Project" during the year 2007. Of the total sample, 65.5% were men and 34.5% were women, aged 10 to 75 years. Among the 132 investigated patients, 37 (27.20%) wore denture, this prevalence being observed mainly in the patients with aged 60 years or more. Of these, all had inadequate denture's conditions. Among these patients, the most affected regions by injuries were: hard palate (51.2%); inferior vestibule (18.5%); superior vestibule (16.3%); floor of the mouth and labial mucosa (4.0%). Regarding the types of injuries diagnosed among the denture wearers, the most frequent were: oral candidiasis (37.8%); hyperplastic (32.4%); fibroma (13.5%) and traumatic injury (5.4%). In conclusion, the findings of this study showed the need of educative programs that instruct this part of the population with respect to self-evaluation, oral hygiene and denture cleaning and denture care in order to prevent oral lesions.

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Evaluation of the oral conditions of institutionalized elderly in maringá, PR

In the same way as many developing countries, Brazil is aging quickly. Research demonstrates that institutionalized elderly people lose progressively the contact with family and friends. The abandonment feeling has an important contribution in the deterioration of the general health of the patient with direct implication in the oral health. The objective of this study was to evaluate the oral conditions and needs of institutionalized elderly in the city of Maringá - PR, in an attempt to obtain parameters for the development of educative and aiding programs for this group of people. This research was done from August of 2007 to March of 2008, by means of intraoral and physical examination and application of a composed questionnaire to 82 elderly aged 60 years or more. The sample comprehended 80% of all the institutionalized elderly in public asylums of Maringá - Paraná. The data were analyzed by descriptive statistics and were presented as frequency and percentage. From the total of the 82 elderly evaluated, 35 (42.7%) were feminine and 47 (57.3%) masculine. Of the total of the sample, 57.3% (n=47) were denture wearers, of these, 40.5% (n=19) have at least ten years of use. In relation to the clinical conditions of the denture, 72.4% (n=34) had inadequate conditions for the use. Independent of the use or not of dentures, it was verified that 73.2% (n=60) of the total, presented need of maxillary complete rehabilitation and 67.1% (n=55) needed lower denture. In conclusion, from the presented data and considering that the public institutions in Maringá do not offer oral treatment, these people have been referred to the Dental Clinic of CESUMAR, PR.

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Light cola drink is less erosive than the regular one: an *in situ/ex vivo* study

This *in situ/ex vivo* study assessed the erosive potential of a light cola drink when compared to a regular one. During 2 experimental 14-day crossover phases, eight volunteers wore intraoral palatal devices, with 2 human enamel blocks. The groups under study were: GL, erosive challenge with light cola drink and GR, erosive challenge with regular cola drink. During 14 days, erosive challenges were offered extraorally 3 times/day. In each challenge, the device was immersed in a cup containing 150 mL of a cola drink for 5 min. For GL the cup contained light cola and for GR it contained regular cola. Enamel alterations were measured using microhardness (%SMH) and wear profile tests (µm). The data were tested using paired t test (p<0.05). GL (0.6

µm) showed significantly lesser wear than GR (3.1 µm). There was no difference between the groups for the %SMH (GL/-63.9 and GR/-78.5). The data suggest that the light cola drink is less erosive than the regular one.

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Diagnosis of hidden caries in a permanent tooth. A case report

In the last years, changes in the pattern of development of the caries lesions had occurred. When the destruction of the dentin occurs quickly, the carious lesion tends to be cavitated precociously due the collapse of the enamel walls. In this way, the lesions are easily detected by visual and tactile clinical diagnostic methods. However, a new type of lesion called occult caries, hidden caries or fluoride syndrome has frequently been observed in clinical practice. These hidden caries show a slow progression and occur under the enamel, without clinical alterations, remaining healthy and little demineralized. The probable etiologies of the occult caries are its specific microbiota, structural and anatomical failures of the enamel and use of fluoride, which promotes a hypermineralization of the enamel, which makes difficult the identification of the underlying lesion. This work describes the clinical and radiographic aspects of the occult caries in a permanent tooth, based in a clinical case. The patient presented to the clinic of the Bauru School of Dentistry reporting sensitivity to cold stimulus in tooth 46. No lesion was observed by clinical examination. In a detailed visual and tactile analysis, altered color was noticed below the intact enamel. A periapical radiograph was taken to examine the presence of occult caries. Thus, the presence of a lesion located below the occlusal surface was detected. After rubber dam isolation, with a conservative access to the lesion, a resin composite restoration was made. It can be concluded that a detailed clinical examination allied to routine radiographic complementation is essential to detect hidden carious lesions, being important this alert to the professionals in order to prevent future complications.

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Survey of cleft lip and palate at Hospital for Rehabilitation of Craniofacial Anomalies (HRAC-USP) from 1996 to 2006

Cleft lip and palate are congenital malformations deriving from the lack of coalescence of embryonic facial procedures. They can occur alone or associated with syndromes. It is believed that the clefts do not have syndromic multifactorial origin where errors occur due to gene failures and mutations that are configured in the interaction of genes with environmental teratogenic agents. The prevalence of clefts in Brazil is 1 or 2 cases per 1,000 births and the region of Bauru, state of São Paulo has a prevalence of 1 for every 650 births. This study aims to examine the prevalence of cleft lip and palate of patients at Hospital for Rehabilitation of Craniofacial Anomalies (HRAC-USP), Bauru-SP, by the review of medical records of patients who started treatment from 1996 to 2006, excluding cases with associated anomalies and syndromes. A total of 14,764 patients with cleft lip and palate were found, where 43.36% were through the incisive foramen (trans-foramen), 26.65% were anterior to the incisive foramen (pre-foramen), 21.84% were posterior to the incisive foramen (post-foramen), 5.22% were pre- and post-foramen, 2.88% were pre- and trans-foramen and 0,06% were rare clefts. With respect to gender 56.51% were male and 43.49% female. Of the total, 9,139 patients were from the southeast region, followed by the southern region with 1,811 patients. Caucasians were the most affected (89%). It was concluded that the most prevalent types of clefts are trans-foramen and pre-foramen, and they are more prevalent in men than in women. The post-foramen clefts were more prevalent in women. Regarding the origin, we found larger number of patients from the southeast region because of the proximity of access to the hospital. The most prevalent race was the Caucasian.

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A mandible odontogenic tumor: radiographic, tomographic and microscopic features

An 11-year-old girl presented to Bauru School of Dentistry, University of São Paulo, to have a second opinion about a lesion on her left side mandible. She had radiographic exams including panoramic, fan beam computed tomography and cone beam computed tomography. Each of these exams came accompanied by a presumptive diagnosis that was given by the radiologist of each radiological center which suggested ameloblastic fibro-odontoma, complex odontoma and odontoameloblastoma. Clinically there was nothing significant. Considering the clinical and radiographic exams our presumptive diagnosis was complex odontoma. The panoramic radiography had evidenced a radiopaque region circumscribed by well defined radiolucent halo, with 3 cm in diameter, localized in the left mandible angle. Excisional biopsy was performed at surgical center and the microscopic features were strands and islands of odontogenic epithelium showing peripheral palisading and loosely arranged central cells, identical to stellate reticulum, embedded in a myxoid cell-rich stroma resembling the dental papilla. Dentin and enamel were also presented. The established diagnosis was ameloblastic fibro-odontoma, which is a rare odontogenic tumor, derived from epithelial and ectomesenchymal elements that form the dental tissues. The mean age is between 8-12 years and there is no anatomic or gender site predilection. Ameloblastic fibro-odontoma may be detected as a result of failure of tooth eruption and is often asymptomatic. Radiographically, the lesion exhibits a well-circumscribed unilocular or multilocular radiolucency with varying levels of radiopacity, depending on the extent of mineralization. Unerupted tooth is frequently associated. Surgical conservative procedure is required and the prognosis is excellent due to rare recurrences. The postoperative course was successful and the patient is under follow up.

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Late anterior open bite: a case report

Dentoalveolar anterior open bite has a good prognosis for treatment, which may start during primary dentition. It is circle shaped and located at anterior area of the arches. The more circular and anterior is the open bite, the more favorable the prognosis. Its etiology may be directly or indirectly related to sucking habits. The rectangle shaped anterior open bite involving greater extensions, have distinct etiology related to tongue interposition or bad facial growth. This case has poor prognosis and demands speech therapy exercises for long lasting results. As the open bite extends towards posterior teeth, more difficult it becomes to be treated without orthognathic surgery. This is a case report that has an important particularity: it arose in a permanent dentition showing normal occlusion. Not often an anterior open bite begins from a permanent dentition, at late puberty. Anterior open bite is usually detected in earlier stages of occlusion development.

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Atypical presentation of mucoepidermoid carcinoma in palate

A 62-year-old female sought for treatment due to a "red spot in roof of the mouth". The examination of the oral cavity revealed an ovoid shaped and erythematous macule on right hard palate, asymptomatic, with six months of evolution. The patient was using a poorly adapted superior denture. The presumptive diagnosis was atrophic candidosis and trauma. As the lesion did not heal with the administration of a topical antifungal agent and suspension of denture use, an incisional biopsy was performed. The final diagnosis was well-differentiated mucoepidermoid carcinoma. This tumor is the most common malignant neoplasia of the salivary glands, corresponding to 15-20% in minor glands, mainly in the palate. The highest incidence occurs between the second and seventh decade of life, with a slight predilection for women. The typical clinical appearance is reddish or bluish asymptomatic tumefaction, which differs from the present case (macula). Treatment and prognosis depend on clinical stage, localization and histopathological grade of the tumor. The patient was referred to the head and neck surgeon, who excised the tumor. The patient is under follow up.

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160

Bach's floral essences as an auxiliary resource to treat special needs children's dental fear

The propose of this study is to show the positive results obtained with the administration of Bach's floral essences, specific for fear control in 5 children with special needs who presented severe dental fear. Children's classic situation in the dental office, surrounded by devices, objects, instruments and a person who they do not know wearing white clothes, produces an "alarm", "alert" or "panic" state. When children go to the dentist, they are usually influenced by the negative psychosocial connotations of the word "dentist", which is usually associated with pain, fear, panic, stress, etc. Dental fear and/or anxiety affect the child's behavior and may determine if the treatment session will succeed or not. The floral therapy had their origins with Dr. Edward Bach. These medicines represent a simple and natural method of curing, based in the essence of certain wild flowers, always "treating the patient, not the disease". Bach's floral therapy acts, not in the individual physical condition, but in the personality disorders that provoke it. In order to combat the evil installed in people's mind and heart and to connect the individual with his/her superior divine nature, Edward Bach found a unique flower for each case. The flowers transformed in floral essences result in "medicines" to treat different internal unbalances. This therapy was accomplished in 5 children that presented severe dental fear and systemic reactions, which decreased gradually until they finally accepted of dental care. Therefore, based on these results, we concluded that Bach's floral essences used in Dentistry as an auxiliary resource in the treatment of dental fear in patients with special needs, was highly satisfactory, with positive results.

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Median palatal cyst: a rare entity

The median palatal cyst (MPC) is a rare entity that originates from the epithelium of the fusion line of the palatal process and is classified as a non-odontogenic and fissural cyst. Clinically, it can present as an enlargement at the palatal midline usually asymptomatic, but can also cause pain due expansion. This cyst is usually detected by routine radiographic examination as a well delimited radiolucent image at the floor of the nose. Here we report an unusual median palatal cyst. A 26-year-old white man came to our clinic complaining of a "painful enlargement at the palatal midline". The patient reported an enlargement of 2 years with history of pain during the last 6 months. The clinical examination showed a swelling at the midline palatal mucosa painful to the palpation. The radiographic examination (panoramic, occlusal and periapical) detected a well delimited radiolucent image, oval-shaped, size around 2.0 x 2.5 cm with location posterior to the central incisors. The teeth around the lesion were vital. A diagnosis of nasopalatine duct cyst or MPC was proposed and the lesion was enucleated under local anesthesia. The histopathological examination revealed a fibrous capsule associated with the cystic cavity lined with ciliated pseudostratified epithelium. These histopathological characteristics associated with the clinical and radiographic findings confirmed the diagnosis of MPC. In conclusion, this report illustrates a well documented rare case of MPC with typical clinic, radiographic, and histopathological features. The importance of the diagnosis is related to the correct treatment of the disease.

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Papilloma: report of two cases

Two cases of papilloma are presented. Case 1, a 21-year-old man presented with a lesion of papillomatous appearance with approximately 1.0 cm in diameter, more paler than the surrounding mucosa, asymptomatic, on the tongue dorsal surface of the right

side, near the midline, with unknown time of evolution. Case 2, consists of a 43-year-old female, with a lesion of papillomatous appearance with approximately 0.7 cm in diameter, more paler than the surrounding mucosa, located on the right side of the soft palate, with 8 months of evolution. Both cases were treated surgically and the histopathologic results were papilloma. Squamous cell papilloma is a benign proliferation of the stratified squamous epithelium. It is typically an exophytic lesion smaller than 1 cm. Its appearance varies from cauliflower-like to fingerlike, while the base may be pedunculated or sessile. It is induced by human papillomavirus (HPV), the subtypes 6 and 11 being strictly related to oral papillomas.

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An orthodontic-surgical approach to Class II subdivision treatment

Class II subdivision malocclusions can be corrected by a variety of treatment protocols, depending on the etiological factor that produces the asymmetric dentoalveolar characteristics of the malocclusion. Despite these different orthodontic approaches one has also to consider the skeletal components before undertaking any treatment protocol. Significant involvement of the skeletal structures may require a combined surgical orthodontic treatment as illustrated in this case report. Patient J.F.P presented for orthodontic treatment at the private office of Dr. MJ with the chief complaint of protrusive incisors and gummy smile. He was 16 years and 9 months old with a Class II Division 1 subdivision right malocclusion with 7 mm of overjet, lower midline deviated 2 mm to the right, a retrognathic mandible, a hyperdivergent skeletal pattern and incompetent lips. After extraction of the mandibular left first premolar, leveling, alignment and left anterior retraction were accomplished. When the left canine reached a Class II relationship and the extraction space was closed, orthognathic surgery was undertaken. The surgical protocol consisted of impacting the maxilla 7 mm anteriorly and 4 mm posteriorly, with 1 mm of advancement. This would also produce a counterclockwise mandibular rotation, projecting the chin anteriorly. Subsequent minor orthodontic finishing procedures took an additional year. The treatment results were a symmetric, harmonious relationship of the facial soft tissue and a pleasant profile, with passive lip competence. A Class I bilateral canine occlusion with normal anterior relationship was obtained. The maxillary impaction and mandibular counterclockwise rotation contributing to a more favorable anteroposterior chin position and improvement in lip competence consequently provided a better esthetic result for the patient. Therefore, the purpose of this case report is to illustrate the combined surgical/orthodontic diagnosis and treatment of a Class II subdivision malocclusion with these characteristics and demonstrate the pros and cons of this approach.

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Radiographic analysis of development for third molars according to the Demirjian classification

The presence of third molars causes surprise to most patients or parents/caregivers when diagnosed in panoramic radiographs requested as an additional exam for the preventive or interceptive orthodontic treatment, since eruption usually occurs years later. Different stages of development and calcification are routinely observed in this radiograph. Therefore, the presence of third molars detected panoramic radiographs was evaluated in patients aged 8 to 11 years and 11 months, comparing the stages of development according to the Demirjian's et al. classification. The samples comprised 124 panoramic radiographs from Brazilian patients, 69 females and 55 males. The analysis showed that at the age of 8, 83% of patients did not present or did not reach the minimum stage of calcification, while 17% reached the stage D or 4 according to the classification, which represents not fully calcified crown without root formation. At the ages of 9, 10 and 11, 39.5%, 32% and 27.5%, respectively, did not present or did not reach the minimum stage of classification, while 60.5%, 68% and 72.5% respectively, was classified in stage 4 or D. According to the Dermjijan classification of development and calcification stages, the ideal age for observation of third molars in panoramic radiographs is 9 years old, since crown calcification is visible in more than half of the samples analyzed in this study.

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Sequence for substitution of restorations in anterior teeth: clinical case

The technologic advance of the direct adhesive restorative systems has favored not only the esthetic results, but also the longevity of the clinical outcomes. Even though, after some years the substitution of these restorations is necessary. A 21-year-old female patient, unsatisfied with the aspect of the restorations in the upper central incisors looked for treatment. After contact with the patient, we opted for the placement a direct composite resin restoration. The silicon barrier technique was used for building the artificial palatal enamel surface. To simulate the optical characteristics of the dentin, an opaque resin layer was applied. A more translucent resin was used in the incisal region to simulate the bluish aspect in this area. Later, the finishing and polishing procedures were performed. The objective of this work is to demonstrate, by means of a case report, the possibility of reproducing in a predictable and conservative form, the optical characteristics of the enamel and dentin, as well as the normal aspect of the incisal edges of teeth, recovering esthetics and function to the teeth.

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Cosmetic remodeling of teeth in a patient with cleidocranial dysplasia: case report

Cleidocranial dysostosis is a rare autosomal condition with different dental abnormalities associated, such as presence of enamel hypoplasia or supernumerary teeth. It requires a multidisciplinary intervention (orthodontics-maxillofacial surgery-restorative dentistry), and the esthetic restorative management might have a significant influence on the final treatment result. Cosmetic remodeling is a conservative, safe, and low-cost intervention that can be associated with other procedures, such as enamel microabrasion and tooth bleaching to achieve an optimal outcome. Therefore, this case report presents a conservative restorative management to provide an esthetic solution for a patient with cleidocranial dysostosis.

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Iron effect on *in vitro* enamel demineralization

Considering that the mechanism of action of iron in the prevention of dental caries remains unclear, the aim of the present study was to evaluate the effect of ferrous sulfate ($\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$), using a pH cycling model. Enamel blocks (4x4mm) had their enamel surfaces sequentially polished, allowing selection of blocks by determination of the initial surface microhardness (SMH; n=50). The enamel blocks were submitted to a demineralization pH-cycling protocol (De>Re, n=5) during 5 days. The treatments were performed with different concentrations of $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$ solutions (0.333; 0.840; 18.0 and 70.0 $\mu\text{g}/\text{mL}$) and a placebo group (deionized water), twice a day. Then the final SMH was determined to calculate the percentage of surface microhardness change (%SMH), and the integrated mineral loss (ΔZ) was also calculated. Data distribution was heterogeneous and the results were analyzed using Kruskal-Wallis test ($p < 0.05$). The group treated with 18.0 $\mu\text{g}/\text{mL}$ presented better results of %SMH and ΔZ ($p < 0.05$) when compared to the other groups. The results suggest that iron interferes in dynamic caries process reducing mineral loss.

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Sports dentistry: proposal of a protocol of dental health attention for athletes

Visits to the dentist must be part of the initial and periodical health care protocol for individuals engaged in sports practice. Initially, dentistry contributed to athletes only with custom-made mouthguards to be used mainly in contact sports in order to prevent traumatic injuries. Currently, dentistry has a broader role focused on health promotion and increase of athletic performance, not being limited to trauma prevention. This work presents a 4-phase protocol for oral health care to athletes. Firstly, the elimination of infectious sites must be done. Secondly, oral breathing and malocclusion treatment is indicated. In the third step, oral rehabilitation treatment is performed and, at last, maintenance and control of oral health is done by means of oral education and preventive dentistry. Sports health care is a multidisciplinary area and dentistry should always be a part of any health protocol.

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Surgical treatment of facial asymmetry caused by hypertrophy of masseter: case report

Masseter muscle can suffer an excessive increase of its mass, causing facial asymmetry and impairing patient esthetics. It is more frequent in young people, between the second and third decade of life, affecting both males and females; it can occur in one or both sides; has a progressive growth; is painless and does not regress without treatment. The treatment can be either surgical or non-surgical. The surgical treatment can be accomplished by making an intervention only in the musculature or bone structure of the mandibular angle or both. The non-surgical treatment relies on medical therapy, occlusal adjustment and occlusal splints. The objective of this work is to present two cases that illustrate the importance of a well done good history review, requesting supplementary exams and clinical and surgical approach to diagnose and treat this pathology. We concluded that when the asymmetry is caused by masseter hypertrophy, the diagnosis is not difficult and many treatment modalities are available. Surgical intervention is more recommended and proved to be effective in both cases presented in this work.

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Skeletal, dentoalveolar and soft tissue effects of the Herbst appliance in the treatment of Angle Class II Division 1 malocclusion

Skeletal, dentoalveolar and soft tissue effects were evaluated in 100 lateral radiographs of 50 Angle Class II Division 1 patients assigned to two groups, Herbst with cantilever (15 males, 10 females) with initial and final mean age of 12.01 and 13.8 years, respectively, treated for 10 months and compared to a control group of 25 Class II untreated patients. The Herbst appliance had no influence on the maxillary growth. Although SNB angle increased significantly ($p=0.020$), the mandibular effective growth was not significant ($p=0.080$). The maxillomandibular discrepancy decreased significantly by dental changes ($p=0.05$), without influence on the facial convexity, but improved significantly the soft tissue profile. There was a predominance of dentoalveolar effects due to the loss of dental anchorage (lower molar mesial tipping and lower incisor buccal tipping). The Herbst appliance restricted the normal vertical movement of the upper molars contributing decisively to the correction of the molar relationship and to the maintenance of the craniofacial pattern.

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Evaluation of the period, method and reason for introducing sugar and its relation with the development of caries lesions in early childhood

The diet is one of the relevant factors in the development of dental caries in children. The aim of this study was to verify the relation between the time of initial exposure to sugar, the method and the reason for the development of dental caries lesions in children. A questionnaire with 4 closed questions was applied to mothers of patients aged 30 to 65 months, participating in the preventive-education Baby Clinic program. Among a total of 179 children, 137 (77%) had no dental caries lesions and 42 (23%) had carious lesions. Most children (57%) were exposed to sugar for the first time between 0 and 6 months, 31% between 7 and 12 months, 10% between 13 and 18 months and 2% after 19 months. Statistical analysis showed a direct relationship between exposures to sugar at earlier ages with the presence of dental caries. The main source of exposure to sugar was milk (39%), followed by soft drinks, juices and tea (30%), drugs (15%) and candies (16%), no relationship between the different sources of sugar and presence of dental caries was noticed. The reasons indicated for an early exposure to a sugar diet were: to appease the children or demonstrate love (25%), medical recommendation (25%), for better health (19%) and 31% of the parents reported no reason. It was concluded that the age of initial exposure to sugar influenced the development of dental caries lesions while the method and the reason of injury did not.

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In vitro evaluation of the erosive effect of an acid drink associated or not with calcium and iron-rich foods

This *in vitro* study aimed to evaluate the effect of calcium and iron-rich foods on dental enamel erosion. For that purpose, 45 enamel blocks from bovine teeth (4x4 mm) were randomly divided into three groups (n=15): GI- erosive effect of cola drink with previous immersion in cheese extract (Ca-rich food); GII- erosive effect of cola drink with previous immersion in liver extract (Fe-rich food); and GIII- erosive effect of cola drink (control). Half the surface of the specimens was coated with nail varnish for the profilometry tests. During 24 h, the samples were submitted to 3 pH-cycles, each cycle consisting of immersion in the studied food (GI to GIII) for 5 min followed by immersion in a cola drink for 5 min. Next, the samples were stored in artificial saliva (110 min). At the end of the pH-cycles the samples were stored in artificial saliva for 18 h. The food extract was prepared with 250g of food and 300 mL of deionized water. Enamel alterations were assessed by profilometry (μm) and superficial microhardness change (%SMC). Data were tested using ANOVA and Scott-Knott's tests ($p<0.05$). The wear (μm) and %SMC of the groups were: GI (0.55 and 67.46); GII (0.64 and 61.33); and GIII (1.18 and 57.27). The data suggest that all the tested calcium and iron-rich foods could minimize the effect of an erosive challenge on dental enamel, reducing the enamel wear.

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Mandibular angle fracture: champy treatment modality

The mandibular angle fractures present a challenge to the oral and maxillofacial surgeons. These fractures often are posterior to the second molar and the third molar may be impacted, constituting a weakened area and an obstacle for stump reduction. In the last decades, introduction of the stable internal fixation allowed immediate treatment of these fractures and an early return of the patient to his functions. Several modalities of surgical treatment were developed, among which may be mentioned the principles of AO/ASIF and later the treatment with monocortical plates and screws by an intraoral approach, proposed by Champy et al. With the advance of fixation materials, the locking systems have been recently introduced to this specialty, which allow for better clinical results, reduce surgical time and facilitate the operation technique. This study presents a case report of mandibular angle fracture in a 21-year old female patient who sustained physical aggression. The patient was submitted to the maxillomandibular fixation, but she did not adapt to the nonsurgical treatment. Therefore, the surgical treatment was decided and it was based on the Champy's et al.

recommendations, using 2.0 mm locking plates and screws.

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Different etiologic agents of acute necrotizing ulcerative gingivitis (ANUG): a case report

The ANUG (acute necrotizing ulcerative gingivitis) is a specific bacterial infection that affects the gingival tissues. It is not transmissible, being an acute process almost always preceded by stress, low organic resistance or a change of habits. It presents a sudden nature and the poor oral hygiene may favor its onset. The prevalence increases at the school age (in debilitated children) and becomes expressive in the adolescence, mainly in the periods of relative emotional distress, such as school exams, exhaustion and extreme concerns. The lesion is limited to the gingival tissue, beginning by a sudden infection of the interdental and marginal gingiva. As the disease evolves, the gingiva is destroyed also showing depression at the margins, with thick borders and lesions on the interdental papillae covered by a gray pseudo-membrane. Clinically, it causes a fetid odor, spontaneous hypersalivation, gingival bleeding, fever, general malaise, irritability, anorexia and lymphadenopathy. The patient reports spontaneous pain, and metallic and extremely putrid taste in the mouth. If the treatment is not established, it may cause a progressive periodontal breakdown, with systemic complications, especially in children. The purpose of this study was to present and discuss the diagnosis and treatment of a 15-year old patient who attended Pediatric Dentistry Clinic of UNIFAL-MG, reporting all symptoms compatible with an ANUG, after a long period of poor oral hygiene and low physical resistance. Two months after treatment, the patient came to us reporting the same symptoms, but with different causes for low resistance and poor oral hygiene. The treatment was done with 2% sodium iodide irrigation in the affected areas and this procedure led to total patient recovery in both cases.

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Esthetic reestablishment by in-office tooth bleaching

In-office tooth bleaching with 35% hydrogen peroxide (Whiteness HP maxx -FGM) can promote faster results than home bleaching, but it may bring adverse side effects when carried out and/or incorrectly indicated. The in-office tooth bleaching products use higher concentration for a shorter time, while the home bleaching products use lower concentrations for a longer time. Patient E.E.O., female, 25 years, melanoderma, unsatisfied with the color of her teeth came to the UniEVANGÉLICA dental clinic looking for a solution for her problem. In order to provide faster results, in-office tooth bleaching was indicated. The initial dental shade was settled using the VITA's shade scale and the shade A3.5 matched in both dental arches. Top Dam (FGM) was used to protect the adjacent soft tissues and LED was used to activate the whitening product. The product was applied following the manufacturer's instructions and the patient was subjected to two applications in each session. Tooth color obtained in the first session was shade A3 and, after the second session, A2 for all teeth subjected to the bleaching procedure. At the end of the bleaching procedure, the patient reported much sensitivity after the second session but, in spite of she was satisfied with the result. She considered as advantages the short duration and immediate result of the bleaching technique. The case has been followed for three months with satisfactory outcomes.

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The use of newly formed bone graft in the coverage of denuded root surface: a new surgical technique

The coverage of denuded root surfaces is a challenge in periodontal therapy, especially when the attachment loss is >5mm. The current therapies show variable rates of coverage, with poorer results in large recession areas. The aim of this study was to evaluate the effects of a newly formed bone graft as an alternative therapy in large recession areas, usually treated by connective sub-epithelial graft. A surgical alveolus with dimensions corresponding to a tooth extraction alveolus was set and a bovine collagen membrane placed above it. After 25 days, the area was re-opened and the newly formed bone was collected and grafted in a Miller Class II dehiscence defect with 5 mm from the cemento-enamel junction to the gingival margin in a mandibular left second premolar. During the surgery, the root surface was treated by scaling and root planning, acid conditioning and grafting associated with a coronal sliding flap. The clinical parameters evaluated pre- and postoperatively were probe depth, clinical attachment level, gingival recession, bleeding on probing, plaque index and keratinized gingiva width. Patient was reevaluated at 30 days, 3 and 6 months and the results suggest reduction of probing depth and gingival recession and attachment level gain.

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Odontophobic patients: diagnosis and incidence in out patients

The expectation of the dental treatment can generate in some patients feelings of anxiety, tension and this, allied to phobia, modifies the pain threshold. Normally harmless stimulations, like the touch, may be felt as pain, making the treatment difficult for the professional as much as for the patient. The dentist must be able to diagnose eventual situations that may hinder the treatment and be able to solve them. When some type of phobia is detected, some procedures and/or substances can be used to control the anxiety and consequently the pain sensitivity. In such cases, local anesthetics, general anesthesia, acupuncture, hypnosis and analgesia/sedation may be used. In order to evaluate the incidence of anxious patients, students and professors of the Discipline of Oral Surgery of the State University of Londrina elaborated the research project: "INTERFERING FACTORS IN THE DEVELOPMENT RISK OF ILLNESS, IN THE PROMOTION AND HEALTH CARE FOR THE POPULATION OF THE PARANÁ STATE. SUB-PROJECT: USE OF NITROUS OXIDE IN DENTAL PROCEDURES OF ODONTOPHOBIC PATIENTS", a protocol including Corah test and patients' vital signs (blood pressure, pulse, respiratory frequency). The data were collected by the undergraduate students before the beginning of clinical procedures, in order to avoid interference on the research results. The analysis of the results demonstrated that most patients do not present alterations typically observed in anxiety and stress. The total number of phobic patients (anxious) is significant (25%) indicating the need of controlling the anxiety by psychosomatic methods or drug therapy (anxiolytics or nitrous oxide and oxygen). The dentist must always bear in mind the comfort and absence of pain for the patients, leading to a cooperative procedure and consequently decreasing the operative time and improving the quality of the final result.

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Management of temporomandibular joint inflammatory disorders with intra-articular infiltration of corticosteroid anti-inflammatory drugs

Temporomandibular joint (TMJ) inflammatory disorders may occur due to inflammation of the synovial membrane (synovitis), in retrodiscal tissues (retrodiscitis) or in the joint capsule (capsulitis). These disorders are characterized by intense pain, spontaneous and incapacitating at rest and worsened by the mandibular function. Trauma, parafunctional habits and inflammation of adjacent tissues are some of the possible etiological factors for these pathologies. Positive TMJ palpation, associated with pain reports by the patient, is extremely important for the diagnosis of inflammatory processes. Such examination should be performed by light hand pressure (1 kg/F), directing the pressure to the lateral and posterior areas of TMJ. When a tissue injury occurs, inflammatory mediators (as prostaglandins, bradycinin, histamine, serotonin and P substance) are released next to the free nerve terminations. The presence of

such substances results in the installation and maintenance of inflammatory process and characterizes the neurogenic inflammation, which is responsible for the process of peripheral sensitization. The intra-articular infiltration of corticosteroid anti-inflammatory drugs is extremely useful and efficient in the management of TMJ inflammatory disorders. The intra-articular infiltration is advised for the refractory cases, where the traditional strategies failed (occlusal splint, physical therapy, pharmacotherapy). Improvement of the symptoms and consequently of the function occurs mainly by the decrease of the local peripheral sensitization process and results in reduction of the local inflammation and diminished impulses to the central nervous system (CNS).

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Multi-professional attention in health services offered to a group of aged people

Different professional areas can add to the increase and/or improvement on life quality of the elderly. This is part of a multi-professional study, with involvement of the fields of Law, Psychology, Dentistry and Speech Therapy, about the health conditions of the elderly. The aim of this study was to identify the perception of the health problems by the elderly, from the responses to a questionnaire arguing about the level of depression, anguish and despair among the elderly. The sample comprised 50 aged people, functionally independent, participating in a formal group organized by a social group in the city of Bauru-SP. The questionnaires were used to evaluate the self-perception included the GOHAI (Geriatric Oral Health Assessment Index), Beck Depression of Inventory (BDI) and Beck hopelessness scale (BHS). The outcomes demonstrated that the level of despair and depression was not high and the self-perception of oral health was considered good (GOHAI-30.5). It was concluded that it is necessary to include the health perception in studies because this knowledge helps identifying the values assigned by the people and the meaning they assign to their health. Studies on self-perception in health facilitate a more effective approach of individuals by the health professionals.

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Myofascial pain: diagnosis and treatment

Myofascial pain is a painful process that originates in trigger points (TP) located in the muscles and by peripheral and central processes produces pain in these points and in structures far away from them. The pain felt in distant sites is called referred pain (RP), which is an expression of central manifestation. Some autonomous manifestations may occur, like lacrimation, mediated by the sympathetic autonomic nervous system due to the neuron convergence phenomenon. The diagnosis of myofascial pain is associated with the presence of one or more TP and referred pain. Digital muscular palpation with a single and deep pressure on the tender part of the muscle for 7 s is used to find and locate TP. There are several possible forms to treat myofascial pain, all of them directed to reduce the painful sensation and to inactivate the TP. Examples of these treatments are: prescription of muscle relaxants; muscle spray and stretching; ultrasound application; needles and anesthetic infiltrations and other. The therapy with needles is considered to be one of the most effective in the inactivation of the TP and consequently in the reduction of the pain. This technique consists in the direct mechanical stimulation of the TP, with or without the infiltration of substances. The infiltration of anesthetic without vasoconstrictor is usually more effective and comfortable than the dry needles or needles with other substances.

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Root coverage with a graft of subepithelial conjunctive tissue

Coverage of the denuded root surface is a challenge for the periodontal treatment. Among the several techniques proposed for this purpose is the root coverage with a subepithelial conjunctive tissue graft. This work reports a case of a 40-year-old female patient, who presented with a Miller Class II gingival recession on teeth 23 and 24. The main complaint of the patient was dentin hypersensitivity. Clinical and radiographic examinations were performed and the diagnosis was gingival inflammation caused by bacterial biofilm associated with toothbrushing abrasion. After basic periodontal therapy, surgical coverage of the root was done. This case was followed during 360 days postoperatively with a satisfactory results.

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In-office tooth bleaching in a tooth with degenerative pulp alteration

Pulp calcification is one of the several degenerative pulp alterations and may be caused by dental trauma. The trauma leads to the mechanical interruption of blood supply accompanied by the interference of lymphatic drainage with an insufficient amount of nutrient supply. The elimination of these products is also obstructed with a consequent increase in degenerative alterations. Clinically, the crowns of teeth affected by a calcification process may show a yellowish color compared to the normal adjacent teeth. WPA, a 16-year-old female patient came to the UniEVANGÉLICA Dental Clinic complaining of the darkening of the tooth 21, due to trauma during childhood. Using the VITA shade scale, it was verified that the tooth color was shade A3.5; while the adjacent 11 tooth was shade A2. The radiographic examination revealed complete pulp calcification and negative response to pulp vitality test. In-office tooth bleaching was chosen using Whitess HP Maxx (FMG) activated by Optilight LD Max (Gnatus). In the first session, five applications of the product activated by LED were performed, following the manufacturer's instructions. The result obtained after the first session was not completely satisfactory, because the color of the bleached tooth was between shades A3 and A2 of VITA scale, a little darker than the adjacent ones. After 1 week, new product applications were done and a satisfactory result was obtained. At the 6-month follow-up evaluation, it was noticed that the color of tooth 21 changed from shade A1 to A2, which did not compromise the esthetic of patient's smile. In-office tooth bleaching is a conservative option to obtain a better esthetic effect in anterior teeth with calcified pulp.

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Restorative procedures performed in the undergraduate pediatric dentistry clinic of the Federal University of Mato Grosso do Sul

Dentistry has much developed in the last two decades, which contributed to the use of different kinds of materials in the dental clinic. This fact has changed the restorative profile. The aim of this study was to evaluate the restorative procedures performed by undergraduate students at the pediatric dentistry clinic of the Dental School of the Federal University of Mato Grosso do Sul (UFMS) during the last 20 years. The students' clinical files were used in this study and data about amalgam, composite resin (CR) and glass ionomer cement (GIC) restorations placed between 1987 and 2007 were collected. The data analysis showed significant increase in the use of CR within 20 years (from 10.62% to 96.37%). The amalgam restorations were widely used at the beginning of evaluation period in 1987 (89.38%), but were practically not used in 2007 (0.66%). The GIC restorations were more used in 1992 (19.18%) and after this period had a gradual decrease. Based on the adopted methodology, it was concluded that CR is currently significantly more used because the development of these materials and adhesive systems have made composite restorations a good option in the dental clinic.

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Periapical inflammatory cysts – case report

Radicular cysts are the most common type of odontogenic cysts. They appear after pulp death and are either aseptic or contaminated, showing close relation with dental caries natural history. There is a low prevalence of these cysts during the first decade of life and it is more common during the third decade. Radicular cysts originate from epithelial proliferation in a preexisting periapical granuloma, which is a chronic inflammation site due to an untreated previous lesion. If the tooth presenting the cyst is removed, but cyst is left, it is called a residual cyst and may reach large dimensions. Clinically, in an advanced stage, it may cause dental displacement, cortical bone expansion and palpable hard mass. Radiographically, a radiolucent image may be observed, which is either round or oval, with a radiopaque halo. These radiographic findings are not sufficient for the diagnosis of radicular cyst because there are some other conditions that could present the same findings and are more severe, such as ameloblastomas and keratocysts. Therefore, one must consider the clinical history, findings from physical examination and microscopic features (if a surgical procedure is done) to establish an appropriate diagnosis. Endodontic treatment is the initial approach. There may be regression with no need of surgical removal of the cyst. If needed, surgical treatment can be performed by enucleation, marsupialization or a combination of these procedures, depending on the size and proximity to important anatomic structures. Hence, this paper aims to report 4 cases of periapical inflammatory cysts, emphasizing the different surgical techniques used and the clinical and radiographic findings.

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Portable cabin to mouth self-examination

The purpose of this study is to divulge the advantages of the portable cabin for orientation in oral self-examination aimed at the prevention and early detection of oral cancer. According to the National Institute of Cancer (Inca), the oral cancer is the eighth in incidence in Brazil. The visual inspection of the mouth to detect precancerous lesions and non-symptomatic tumors is a preventive strategy that hopefully will make feasible the diagnosis of the disease in its initial stage. The difficulty of access to dental services may be one of the facts that probably prevent early oral cancer detection. The portable cabin is a practical, easy to access and to transport, low-cost and compact tool. It consists of lateral walls and a mirror in the center and should be installed on a table in a well illuminated place with a chair to accommodate the patient. This cabin offers greater access and to extend the preventive actions, emphasizing the importance of self-examination in field projects and referring the patients to specific care in order to make quality of life and information more accessible to the population.

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Rehabilitation of unitary element using implant-supported denture and Procera™ system

Before the development of Implantology, the alternative to solve different degrees of edentulous ridge was solely the indication of fixed, partial removable or complete dentures. The main objective of the rehabilitation with implants is to restore the function and the esthetics with the greatest possible longevity. There are metal-ceramic and metal-free prostheses retained by cemented and screwed implants. In the rehabilitation with cemented prosthesis stands out the Procera™ system, which consists in the fabrication of alumina or zirconium copings after scanning of the model. The benefits of the system are: greater flexural strength, excellent cervical adaptation of coping and absence of metal, without detrimental effects to the mechanical resistance and improved esthetics. The aim of this work is to report the case of a patient who had one dental implant in the area of tooth 46. After installation and preparation of titanium abutment for definition of the height and cervical termination, impressions were taken with individual caps for fabrication of the model. The model was scanned by Procera™ system and coping was made of zirconium, on which the porcelain was applied. Esthetic and occlusal adjustments were made and the definitive prosthesis was cemented with zinc phosphate cement. This case emphasizes the importance of the rehabilitation with dental implants and shows how technology contributes to the fabrication of

protheses with excellent adaptation, resistance and esthetics.
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Ethetic and functional reconstruction in pediatric dentistry by the acetate matrix technique

The esthetics expressed in a harmonious smile is of fundamental importance for the self-image, the emotional development and is associated with health promotion. The smile is an important way of communication and establishment of social bonds, especially for children, who are in a learning process and constructing human relations. Therefore, compromised esthetic affects negatively children's self-esteem and becomes a factor for social exclusion. Composite resin restoration matrices also known as acetate crowns are an alternative for the restoration of severely damaged, fractured or malformed teeth, constituting an alternative for recovering the smile esthetics. The celluloid anatomic matrices are suitable for primary teeth and are very useful to restore dental crowns, allowing the resin to cover the greatest part of the remaining structure and presenting good esthetic results. The treatment length is reduced because no laboratory phase is needed. They do not reduce excessively the tooth surface because they made directly over the tooth, allowing the re-establishment of the occlusion and persisting until the physiological exfoliation of the primary tooth. The purpose of this work is to present the esthetic and functional reconstruction of four decayed maxillary primary incisors of a patient from the Pediatric Dentistry Clinic of the Dental School of Araraquara - UNESP, by the technique of composite resin restoration using acetate matrices. The matrices aided in the placement of direct composite resin restorations, which re-established the function and esthetics. The satisfactory results obtained in all cases suggest that this technique is an adequate option to be applied in Pediatric Dentistry.

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Mandibular ameloblastoma: surgical aspects and of diagnosis

Ameloblastoma is a benign slow-growth odontogenic tumor of epithelial origin without odontogenic ectomesenchyma, which represents about 1% of all tumors of the jaws, being more frequent in the mandible. It may appear at any age, predominantly between the third and fifth decades. Clinically, it is expansive, often asymptomatic and grows slowly. In advanced stages, this tumor can be very painful and cause paresthesia, infection and pathological fractures. The purpose of this study is to report a case of a 27-year-old female patient who sought dental care complaining of a "swelling that hurts". The patient did not know the period of evolution. No abnormality was found on extraoral examination. The intraoral clinical examination revealed the presence of a hard swelling in the left mandibular region comprising the region of the teeth 33 to 36 with expansion of the lingual cortical plate. Periapical and occlusal radiographs revealed an osteolytic lesion measuring about 3 cm in its greatest extension, which was causing damage to the roots of the adjacent teeth. The differential diagnosis included ameloblastoma, odontogenic myxoma, central giant cell lesion and multiple myeloma. The lesion was enucleated followed by curettage of the margins. The histological examination confirmed the diagnosis of ameloblastoma. It is therefore important to stress that a proper diagnosis and treatment plan is necessary in any condition, especially for lesions with a high bone resorption capacity. Postoperative follow up is mandatory

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Efficacy of high dosage fluoride dentifrice on enamel erosion subjected or not to abrasion *in situ/ex vivo*

The aim of this *in situ/ex vivo* study was to assess the efficacy of a highly concentrated fluoride dentifrice on enamel subjected to erosion and abrasion. Ten volunteers took part in this crossover double-blind study performed in 3 phases. In each phase (7d), they wore acrylic palatal appliances containing 4 bovine enamel slabs. The slabs were subjected to erosion by immersion in a cola drink (60s, pH 2.6) 4 times daily. During

this *ex vivo* erosion, the volunteers brushed their teeth with one of the dentifrices (Duraphat-D: 5,000 ppm F, Crest-C: 1,100 ppm F and placebo Duraphat-P: no F). Then, the respective dentifrice slurry (1:3) was dripped on enamel surfaces (1 drop/block). While no treatment was performed in one row (1), the other row (2) was brushed using an electric toothbrush (Colgate®) for 30 s *ex vivo*. The enamel loss was determined by profilometry. Data were tested using 2-way ANOVA ($p < 0.05$). For the condition erosion plus abrasion, the wear was significantly higher compared to erosion alone. There were no significant differences among the dentifrices regarding enamel wear. Under the chosen *in situ/ex vivo* conditions, it may be concluded that the highly concentrated fluoride dentifrice did not have a protective effect on enamel against erosion and erosion plus toothbrushing abrasion.

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Invasion of the biologic width: an approach in the integrated clinic

The gingival tissue located above the alveolar bone occupies the biologic width, which is formed by the gingival sulcus, junctional epithelium and connective tissue attachment. This structure must be preserved in order to maintain the homeostasis. In many cases, the carious lesion is localized under the alveolar bone crest, invading the biologic width, which leads to the gingival inflammation. In these situations, the space between the margin of the restoration and the alveolar crest should be re-established surgically, recovering the health to the periodontal tissue. One of the forms to restore or prevent the invasion of the biologic width during restorative procedures is by surgical modification of the alveolar crest level (osteotomy). The surgical procedure can be associated with the restorative technique in a single session. Considering that the relation between periodontal health and restoration is unquestionable and mandatory, this work presents a case in which surgery and restoration were performed in the same clinical session.

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A comparison of sinus lift filled with allograft bone, with and without PRP (platelet-rich plasma): a histological analysis

The sinus lifting procedure was first proposed by Tatum in the 1970's. Since then, this technique has shown as an excellent option for the maxilla posterior area. Among the current graft materials, frozen fresh human bone has been presented as a viable alternative because it acts as an osteoinductive and osteoconductive material, and does not cause any morbidity to the individual when compared to autologous graft. The aim of this study was to compare the sinus lifting filled with allograft bone, with and without PRP (platelet-rich plasma) by histological analysis. A 60-year-old patient wanted to rehabilitate the posterior maxilla with dental implants. In the radiographic examination, it was noticed that the bone height was insufficient because of sinus pneumatization. The reconstruction of the site was proposed by sinus lifting with frozen fresh human bone from the HC-FMUSP bone bank. The posterior area of the sinus was filled only with the bank bone and the anterior area with the bank bone associated with PRP. After 5 months, the dental implants were installed and bone samples from the anterior and posterior areas were removed by trefine and analyzed by histological examination. The histological analysis showed no statistically significant difference between the two samples, although the area with PRP showed a more mature bone repair aspect qualitatively.

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Study of the time in acquisition of periapical conventional radiographic images in the Center of Dentistry for Babies of the University State of Londrina

The Center of Dentistry for Babies (CDB) of the University State of Londrina (USL) is a center reference in the infantile attendance from 0 to 6 years as in the preventive treatment as curative and it accomplishes periapical radiographic exams as the diagnose routine patients. In CDB the treatment is accomplished by schedule with the duration of 30 min to each patient, and it responsible to surgeon dentist administer together with this time the execution, revelation and fixation of the radiographic films. The objective of the research is to show how long it is really wasted for the obtaining of a conventional x-ray, since the moment that leave the patient into the x-ray room to the processing of the film. Were analyzed 360 periapical radiographic conventional in the period of 05/22/2007 until 04/23/08 in CDB - Londrina Paraná. The medium time expense for the revelation of a x-ray conventional periapical is of 523 s (8 min and 39 s) consuming 27.78% percent of the time of attendance. With these data it is verified as the exams by the technique conventional waste a elevate time being considered the children's attendance from 0 to 5 years.

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Dose-response gradient between rhythmic masticatory muscle activity and pressure pain threshold in bruxers and non-bruxers with/without miofascial pain

Objectives: To test the correlation between rhythmic masticatory muscle activity (RMMA) measured by polysomnography and pressure pain threshold (PPT) at morning in bruxers and non-bruxers with/without miofascial pain (MFP). **Material and Methods:** Polysomnographic recording (PSG) was performed in thirty patients with MFP, selected according to RDC/TMD, and in thirty asymptomatic control patients, age and gender matched. The first night of PSG was for patient's adaptation and the second night for recordings and bruxism diagnosis. In the morning after the second night, pressure pain threshold was measured for masticatory muscles, masseter (origin, body, insertion) and temporal (anterior, medium, posterior). After bruxism diagnosis (PSG criteria), only bruxers (19 with MFP and 10 asymptomatic) participated of this analysis. Pearson's correlation test was used to study the variables RMMA and PPT in each masticatory muscle. Predictive value of RMMA over PPT was calculated by linear regression. **Results:** There were found two significant correlations between bruxers with MFP (1 moderate and 1 high) and negatives between RMMA and PPT (r^2 of 0.23 – 0.26). For asymptomatic bruxers, six significant correlations (high and positives) were found between RMMA and PPT (r^2 of 0.38 – 0.56). **Conclusions:** These findings indicate that bruxism can aggravate pain in patients with MFP. However, in an asymptomatic population, bruxism was associated with an analgesic process/pain adaptation model, similar to post-exercise analgesia.

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Project "citizen dog-UNESP": transforming the anxiety into entertainment

The animal-assisted therapy (AAT), also called zootherapy, consists in the use of animals in therapy with humans, mainly during psychotherapy, aiming to promote people socialization, reduce anxiety of different origins and improve self-esteem, mood and relationships. It has also been often used in the management of special needs patients. Patients with special needs are those who need special care for an indefinite period or for part of their life. Physically or mentally disabled patients are not currently seen as different individuals because ever more early treatments, modern therapies and new educational proposals are changing the profile of these people and stimulating their social participation as citizens. Therefore, the prejudices about handicapped patients have begun to decrease. The objective of this study is to present the project "Citizen Dog UNESP", Labradors and Retrievers, which have characteristics of intelligence, docility, robustness and pleasure in serving, to promote interaction of the patients assisted at Center for Dental Assistance to Special Needs Patients (CAOE), to facilitate the approach and creation of an emotional bond with the dentists, in an attempt to reduce their dental fear and increase their acceptance to oral hygiene and future clinical procedures, as well as alleviate the anxiety in relation to the waiting

time for dental treatment. The contacts and walks with the dogs have been shown to distract them and make them calmer, demonstrating that the AAT really reduces stress and facilitates the approach of the professionals with these patients.

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In vitro evaluation of the photodynamic therapy on *Aggregatibacter actinomycetemcomitans*

The periodontal disease is an inflammation caused by toxic products of bacteria present in dental biofilm, which affects the structures of protection and support of the periodontium. *Aggregatibacter actinomycetemcomitans* (A.a.) is, in particular, in the sites of this aggressive and chronic form of periodontitis, which culminates in bone and periodontal ligament resorption, causing tooth loss. New treatments of periodontal disease are needed to prevent progression of infection. The photodynamic therapy (PDT) is one of the greatest pledges for this purpose because its application associates the toluidine blue o (0.01%) and a diode laser light source (Twin Laser®) with 660 nm wavelength and 40 mW power within 3 min, causing the release of toxic molecules to A.a. and eliminating them. This study evaluated *in vitro* the efficiency of the effect of the microbicidal PDT on A.a.. A suspension of 2 mL containing A.a. at a concentration of 1.5×10^8 CFU/mL was subjected to PDT. Separation into 3 groups: control (no treatment); dye (TBO 0.01%) and laser (PDT for 3 min). Dilution of up to 10^3 CFU/mL for further culturing in 20 mL of Brucella Agar in Petri dishes (pour plate method). Incubation in aerobiosis with supplementation of CO₂ for 48h for subsequent visual counting of CFU. The control group showed great bacterial growth (1.5×10^8 CFU/mL), while the dye group presented no bacterial reduction, indicating the inefficiency in killing A.a., in the absence of the laser. The laser group presented less significant bacterial growth (81.9% reduction compared to control). In conclusion, PDT is an effective method for reducing bacteria in localized infections, without systemic effects and risks of causing bacterial resistance.

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Comparison of periodontal parameters after the use of orthodontic twisted-wire retainers and modified retainers

Fixed retainers are frequently used on the lingual side of the anterior lower teeth to stabilize the results of orthodontic treatment. The greatest disadvantage of using fixed orthodontic retainers is the tendency for accumulating plaque and calculus along the retainer wire. The objective of the present study was to compare two types of fixed orthodontic retainers (a twisted-wire retainer and a modified retainer) in relation to established periodontal parameters. For this crossover study, 12 volunteers were selected and used the following retainers for six months: (A) a twisted-wire retainer and B: a modified retainer. After this experimental period, the following evaluations were made: dental plaque index, gingival index, dental calculus index and retainer wire calculus index. The volunteers also responded to a questionnaire about the use, comfort and hygiene of the retainers. It was observed that the plaque index and the gingival index were higher on the lingual surfaces ($p < 0.05$) for the modified retainer. Furthermore, the calculus index was statistically higher ($p < 0.05$) for the lingual and proximal surfaces when using the modified retainer. The retainer wire calculus index values were also significantly higher ($p < 0.05$) for the modified retainer. In the questionnaire, 58% of the volunteers considered the modified retainer to be less comfortable and 54% of them preferred the twisted-wire retainer. In conclusion, from the obtained results, it may be concluded that the twisted-wire retainer showed better results than the modified retainer according to the evaluated periodontal parameters in addition to providing greater comfort and being the preferred retainer by the volunteers.

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Heck's disease

Focal epithelial hyperplasia or Heck's disease is an infection on the oral mucosa caused by human papillomavirus 13 and 32, initially described among native American populations. This condition is characterized by the occurrence of multiple small papules or nodules in the oral cavity, especially on labial and buccal mucosa and tongue. It is more frequent in younger age groups and sometimes has also a typical familial occurrence, which has led to the suggestion that a genetic predisposition may contribute to the development of the disease. The aim of this work is to describe a case of a 7-year-old female patient, who claimed that she had "multiple condyloma in her mouth". The examination of the patient revealed lesions in the upper and lower labial mucosa and both side of the mucosa, with 6 months evolution. Her sister and cousin had the same lesions when they were this age (7-year-old). After excisional biopsy of one of the lesions the diagnosis was Heck's disease.

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Effect of the sterilization and disinfection methods in the flexural strength and translucence of a dental porcelain

Infection control of is a subject of great relevance for current dental practice in dentistry to prevent the contamination of all the dental staff and cross-contamination. However, information on the efficiency of the disinfection methods and the possible consequences generate many doubts. The purpose of this study was to evaluate the effect of chemical and physical methods for disinfection and sterilization on the three-point flexural strength and translucence of a feldspathic porcelain (Duceram incisal Plus; Dental Ducera, Germany), which was proportionated, mixed and processed following the manufacturer's instructions. The samples used in each assay were randomly divided into 4 groups of 7 samples each for the flexural strength test (25 x 5 x 2 mm) and 9 samples each for the translucence analysis (12 x 2.4 mm): G1 (control) - no disinfection or sterilization method; G2 - immersion in 1% sodium hypochlorite during 30 min; G3 - immersion in 2% glutaraldehyde during 10 h; G4 - sterilization in autoclave at 121°C (1 atm of pressure) for 20 min. The three-point flexural strength test was performed in a MTS 810 machine (Material Test System, USA.), using Test Star II software (IBM, USA.). The percentage of translucence of each sample was measured using an electrophoresis device (Jouan). It was observed that flexural strength did not change significantly after the procedures of disinfection and sterilization (G2=45.79 MPa; G3=45.64 MPa and G4=45.19 MPa) in relation to the group have controlled (G1=44.15 MPa). The translucence of the experimental groups was also not modified (G2=59.67%; G3=58.89% and G4=58.11%) compared to the control group (G1=57.44%). It may be concluded that the properties of flexural strength and translucence of the Duceram incisal Plus porcelain was not altered after the tested sterilization and disinfection procedures.

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In vitro evaluation of the effectiveness of dentifrices supplemented with calcium and phosphate and low fluoride concentration using bovine enamel and pH-cycling

The use of fluoride dentifrices by children under 6 years of age has been pointed as a risk factor for dental fluorosis. The reduction of fluoride (F) concentration in dentifrices is considered to be an alternative to avoid this problem; however the anticariogenic effect presented by commercially available dentifrices (1100 µg F/g) must be maintained. Dentifrices supplemented with phosphate (P) and calcium (Ca) complexes are more effective to prevent demineralization and to enhance the remineralization capacity. This means that supplemented dentifrices can be an alternative to decrease F concentration, while maintaining the product's efficacy. The purpose of the present study will be to evaluate the effect of different concentrations of a compound containing Ca and P in dentifrices with low F concentration on enamel demineralization, using bovine teeth and a pH cycling model. In addition, the lowest necessary concentration of this compound that is able to maintain the same anticariogenic effect of an 1100 µg F/g dentifrice will be determined. Experimental dentifrices will be manufactured containing 500 µg F/g and the concentrations of 0, 0.1, 0.25, 0.5, 1 and 2% of the compound containing Ca and P, and a dentifrice with no addition of F, Ca or P. It will

also be used a commercial dentifrice (Crest® the, de 1100 µg F/g). Next, the doses of F, Ca and P in the dentifrices will be determined by the electrode technique specific for fluoride and calcium ions, and by colorimetry assay, respectively. The aging test will be accomplished during 72 h in a kiln at 45°C and new F, Ca and P dosage will be performed in the dentifrices. Thereafter, bovine enamel blocks (4x4 mm) will be prepared, polished and selected by analysis of surface microhardness. They will be submitted to pH cycling for 7 days in order to induce enamel demineralization. The treatment will be performed daily by use of 2 mL/block of dentifrices suspension in distilled/deionized water twice a day. Next, the percentage of SMH variation will be determined. After the normality and homogeneity tests, the results will be submitted to the most appropriate statistical tests (p<0.05).

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Influence of the precipitate formed by the reaction between sodium hypochlorite and chlorhexidine on endodontic sealer adhesion

The combination of chlorhexidine with sodium hypochlorite (NaOCl) forms an insoluble precipitate that adheres to the root canal walls during endodontic irrigation. The present study aimed to evaluate the influence of this precipitate on the adhesion of endodontic sealer to root dentin. Fifty bovine roots where sectioned into 3 mm specimens, randomly divided in 5 different groups, according to the treatment. Group I received distilled, deionized water; Group II was irrigated with NaOCl followed by liquid chlorhexidine; Group III received NaOCl followed by chlorhexidine gel; Groups IV and V where irrigated with distilled water and either chlorhexidine in liquid or gel forms, respectively. Samples were obturated with AH Plus sealer and submitted to the push-out test in a universal testing machine. Data were subjected to statistical analysis. In the groups where the precipitate was formed, no significant alterations concerning the adhesion of the sealer were detected. Samples treated with liquid chlorhexidine presented higher adhesion values. It may be concluded that the precipitate formed by the reaction between chlorhexidine and NaOCl did not influence the adhesion of endodontic sealer to root canal walls.

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Non-carious cervical lesion treatment: case report

Glass ionomer cements (GICs) have an important role in current Dentistry. They were developed in the 1970's and since then, these materials have undergone several modifications that resulted in adequate formulations for a number of clinical procedures in different dental specialties. GIC is considered an ideal material in cases where its properties of adhesion to tooth structure and fluoride release, cavity seal and secondary carious prevention are desired. The introduction of light cure or dual cure resin-modified GICs (RMGICs) started a new era as they offered easy handling, better mechanical properties and excellent esthetics, becoming an excellent choice to restore non-carious cervical lesions. Patients with these lesions may present sensitivity due to dentin exposure to the oral cavity. Non-carious lesions with extensive dental tissue lost might be caused by abrasion, attrition or erosion, and have a multi-factorial etiology. In this case report, the probable cause of the lesion was attrition, which is the loss of dental substance by functional and parafunctional occlusal movements. The patient had a wedge-shaped non-carious cervical, characterizing a deep dental tissue destruction, and thus the treatment choice was the placement of a direct restoration with a RMGIC (Vitremar; 3M/ESPE).

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The importance of the previous planning to the excellence of the restorative dentistry

Before restorative treatment, every professional must have in mind the importance of planning the clinical sequence that will be carried out. So, the treatment plan must be formulated in order to allow a good long-term prognosis, not only regarding esthetics,

but also considering the biological and functional aspects. Thus, a careful clinical examination, complemented by radiographic documentation becomes necessary. The objective of this case report is to show that if a correct treatment planning is established and followed step by step it is possible to reach the excellence in restorative dentistry. A 24-year-old female patient had tooth 21 darkened and with an unsatisfactory restoration. In addition to darkening of tooth 21, which was endodontically treated, the patient presented color alteration of all the other teeth with different shades of yellowish tonality. The presence of a class IV restoration was noticed in the mesial face of the same tooth. Tooth bleaching was suggested to provide uniformity of tooth color. Clinical and radiographic examination revealed proximal carious lesions in teeth 11, 12 and 21. These carious lesions were removed previously to the bleaching and the cavities were filled provisionally, when the buccal surface was involved. The teeth were restored definitively when only the lingual surface was involved. After total bleaching and determination of the color, internal bleaching was done in tooth 21. Subsequently, this tooth received a fiber glass intracanal post and resin composite restoration. Thus, we conclude that a restorative treatment will only reach the success when correct diagnosis and planning are performed.

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Complex fracture of the orbit - case report based on the concept of the deep orbit

Fractures of the orbit compose the group of fractures that pose the most difficulties to obtaining good results, and their sequels are almost impossible to be corrected. Some of the most frequent sequels are enophthalmia and visual acuity disturbances with muscle imprisonment. The current treatment concept for such fractures recommends early and aggressive intervention as the best chance to have satisfactory results. Classically, linear measurements are standardized to warrant in-depth dissection into the internal tissues of the orbit, avoiding injuries to neurovascular structures. These distances are: 44.1 mm medially, 38.3 mm laterally, 44.5 mm superiorly and 39.4 mm inferiorly. The major limitation of this method relies in the fact these are measurements of the intact orbit. The objective of this work was to address the current concept of deep orbit in the treatment of a fracture of the medial wall and floor of the orbit in a 35-year-old male victim of car accident.

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Periodontal abscess associated with occlusal trauma: diagnosis and treatment

Periodontal abscess usually occurs as an acute exacerbation of pre-existent deep periodontal pockets. Clinically, it appears as extremely painful elevations of the marginal gingiva, attached gingiva or both. Purulent material can be often seen coming from gingival sulcus or it can remain inside the periodontal pocket in the absence of a drainage route. The etiology of periodontal abscesses, in addition to be related to periodontal pockets, is associated with foreign bodies, changes in root integrity, presence of calculus and dental plaque and, more rarely, to occlusal trauma. This last factor can cause misdiagnosis and its resolution may leave sequels to bone and soft tissues. It will be presented a case of a 52-year-old non-smoker, systemically healthy female patient who was referred to the clinic of Periodontics at Bauru School of Dentistry, University of São Paulo due to a swelling on the buccal aspect of tooth 33, with diffuse and pulsing pain. There was no significant amount of plaque and the tooth presented a worn edge wearing facet, which raised the suspicion of abscess due to occlusal trauma. This diagnosis was further confirmed by the clinical examination of occlusion, in which exaggerated contact in excursion movements of the mandible were identified. The initial treatment consisted of conventional urgency care, with drainage and antibiotic therapy. After one month, due to the destruction of the buccal plate, recession of marginal periodontium remained as a sequel of the acute process. Subepithelial connective graft with coronally positioned flap was the surgical technique chosen for root coverage. The successful clinical outcome after six months of surgery will be presented, with satisfactory healing of bone and gingival tissue. The accurate diagnosis and appropriate treatment were responsible for the success of therapy.

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Dental fluorosis in children from a program of dental assistance for babies

Dental fluorosis is a developmental defect in dental enamel caused by excessive fluoride ingestion during the period of enamel development. The use of fluoridated dentifrices may be considered as a risk factor for dental fluorosis in young children since a high proportion of the dentifrice is swallowed during toothbrushing. In Brazil, with the diffusion of the dental assistance for babies, an increase of fluoridated dentifrice use by patients in the age risk for the development of dental fluorosis was verified. The present study assessed the prevalence of fluorosis in permanent teeth in a group of children proceeding from a program of dental assistance for babies, by the use of a questionnaire and clinical examination. Two calibrated examiners evaluated the permanent upper central incisors of six to 10-year-old children (n = 105), using the Thylstrup & Fejerskov index to determine the severity of dental fluorosis. Age and frequency of toothbrushing with fluoridated dentifrice were obtained by the questionnaire. The results showed that 79% of the sample presented dental fluorosis, at varying degrees. The majority of the patients (88%) had initiated the process of toothbrushing between 12 and 24 months of age with frequency of 2 to 3 times per day (84%). The present study suggests that fluoridated products must be prescribed for young children after careful consideration of all sources of fluoride to which the child may be exposed.

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Delbem, Alberto Carlos Botazzo
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Ghost images in panoramic radiography

The panoramic radiographic image contributes effectively to the development of diagnosis and treatment plan in dentistry. In order to have no decrease on image quality, some technical procedures are needed to minimize distortions and projections of unwanted images. These procedures include: correct film exposure and processing, preparation and correct positioning of the patient. One of the most frequent errors is related to the positioning of the patient, and corresponds to approximately 80% of the errors that result in loss in image quality final. Failure to prepare the patient, which includes explanations on technical radiographic and removal of any metal object from the head and neck, are responsible for the remaining 20%. Objects interposed between the beam and x-ray film, produce images in the panoramic radiograph that impair the correct interpretation. Among the items, the most commonly found are: chains or necklaces, earrings, piercings, eyeglasses, hearing aids, metal buckles or zippers, total or partial removable prosthesis. The images produced by these artifacts can be called "ghost images". These images are formed by structures located between the x-ray source and the center of rotation of the equipment and can be formed by anatomic structures as the spinal column or the interposition of the objects already cited.

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Sandwich technique restoration in a posterior tooth: clinical report of a 17-year follow up

Glass ionomer cements are useful and versatile materials due to characteristics like biocompatibility, bonding to dentin, thermal linear expansion coefficient similar to that of the dental structures and fluoride release and uptake. However, the low abrasion resistance of glass ionomers may compromise esthetics and function of restorations over time. Therefore, the "sandwich technique" described by McLean et al. in 1985 associates glass-ionomer cements properties with the best characteristics of composite resins, compensating the limitations of both materials. The aim of the present work is to present a case report of a "sandwich technique" restoration with a 17-year follow-up. This technique was performed in a lower first molar (46) presenting an occlusal caries lesion with great dentin destruction and lack of dentin support of the cusps. Indirect pulp capping with calcium hydroxide and a temporary filling with zinc oxide cement were performed at the first visit. After 45 days, the "sandwich technique" was chosen for restoration, using a lining glass-ionomer (Vitrebond, 3M) and composite

resin (P-50, 3M). Acceptable morphology and function were obtained and preserved even 17 years after the restorative procedure was. Therefore, it can be concluded that the "sandwich technique" is a viable treatment alternative with good esthetic and functional results in selected cases.

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Souza, Luana Medeiros
Pascotto, Renata Corrêa

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Early detection and surgical management of supernumerary teeth

Supernumerary teeth are those that exceed the regular number of teeth. They occur mainly in the permanent dentition, but may also occur in the primary dentition. The mesiodens represents the most frequent supernumerary tooth and appears in the midline of the maxilla, between the upper central incisors, which justifies its name. It is usually characterized by a conical morphology and short roots and most of these teeth are impacted. The objective of this work is to report cases of patients of the pediatric dentistry clinic of the dental School of Araraquara (FOAr-UNESP-BRAZIL), who presented with this anomaly. The clinical and radiographic approaches, therapeutic management and the importance of early diagnosis by the dentist are discussed. In the first case, the presence of a mesiodens was detected associated with the formation of diastema and prolonged retention of the permanent successor. In the second case, an impacted mesiodens was detected radiographically. Surgical removal of the supernumerary tooth was chosen for both patients. The purpose of this approach is to prevent deleterious effects to the patient, like root resorption of adjacent teeth, malocclusion, formation of cysts, among others, caused by the permanence of supernumerary teeth.

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Ectodermal dysplasia – case report of father and son

A 12-year-old male patient was referred to this Institution with pain in tooth 36. In the general physical examination was noticed clinodactilia of the 5th finger, sparse blonde hair, dry skin and loss of vertical dimension of occlusion. In the intraoral examination, it was noticed absence of several permanent teeth, presence of some primary teeth and dental caries in tooth 36, confirmed radiographically. The clinical signs led to the diagnosis of ectodermal dysplasia. The patient's father was examined and showed the same signs in addition to cleft lip. The ectodermal dysplasia represents a group of inherited conditions in which two or more ectodermally derived anatomic structures fail to develop. Depending on the type of ectodermal dysplasia, hypoplasia or aplasia of tissues, such as skin, hair, nails, teeth, or sweat glands, may be seen. The best known of the ectodermic dysplasia syndromes is the hypohidrotic ectodermal dysplasia. Male predominance is usual. Management of hypohidrotic ectodermal dysplasia includes genetic counseling and rehabilitation with prostheses or dental implants. The patient was referred to the clinic for treatment of caries and a planned rehabilitation with implants after 18 years.

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Complex odontoma in pediatric dentistry patient: 5 years of follow up of a clinical case

Odontomas are the most common type of odontogenic tumors in children. They are asymptomatic tumors and may interfere in tooth eruption. They can be classified as composite and complex odontomas. This case report presents a 10-year-old boy with clinical absence of the permanent upper right first molar and a discrete swelling of the region. Radiographically, a radiopaque mass was observed in the region, suggesting the presence of an odontoma. The treatment consisted of surgical removal and the histopathological examination revealed it was a complex odontoma. After 21 months of follow up, the tooth had not erupted. Radiographic examination showed that the tooth was submucous and so a ulectomy was performed and the tooth erupted after 4

months. After 5 years of clinical and radiographic follow-up, no recurrence was observed. Other radiographic findings included absence of the permanent right second molar and the initial phase of mineralization of the permanent right third molar. This case indicates the importance of early diagnosis and follow-up for treatment success.

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211

Low level laser therapy after supernumerary tooth extraction in the anterior maxilla

The presence of supernumerary teeth can result in a delayed retention of permanent teeth. In most cases, it occurs in the anterior maxilla. Their extraction is necessary and the healing process may be stimulated by laser therapy, which has biomodulating properties, increasing the marginal microcirculation. The aim of this study is to describe the extraction of a supernumerary tooth followed by the application of low-level laser therapy (Twin Laser, São Carlos, SP). The laser therapy protocol consisted of laser application immediately after surgery and 24h, 48h and 72h after the procedure. The results showed a very satisfactory healing followed by eruption of the permanent tooth.

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Root coverage: clinical report

Root coverage procedures are indicated for the treatment of gingival recessions, dentinal hypersensitivity, root caries lesions and cervical abrasion. The main causes for gingival recessions are periodontal inflammation due to plaque and tooth brushing trauma. Zucchelli and De Sanctis (2000) described a kind of flap for covering multiple recessions without relaxing incisions, which allows for an excellent adaptation of the soft tissue after the coronal advance. The aim of this study is to present a clinical report with a 14-month follow-up of a patient treated by root coverage surgery using the surgical technique proposed by Zucchelli and De Sanctis. A female patient, 33 years old, reported gingival bleeding, dentinal hypersensitivity and disappointing esthetics. The clinical examination revealed dental calculus and multiple recessions in teeth 12, 13, 14, 16, 22, 23, 24 and 26. After basic treatment, surgery was performed for correction of the gingival recessions. Complete root coverage was observed in all teeth and a good esthetic result was obtained and is stable after 14 months of follow up. It may be concluded that the technique proposed by Zucchelli and De Sanctis presented successful and highly predictable root coverage, showing effectiveness in multiple gingival recession treatment.

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Prevalence of pull stones in patients treated in the endodontic specialization clinic of the State University of Maringá Prevalence of pulpal Stones in patients attended in the endodontics specialization clinic of State University of Maringá

Featured as radiographic findings, pulp stones are considered as regressive pulp alterations developing often after trauma to the dental tissues. Their development is usually in the form of dystrophic calcification and may reach different sizes and shapes and sometimes their diagnosis is very simple, as they are easy to identify in radiographs. This work aims to make a literature review of pulpal stones. This study retrieved scientific articles, images, bibliographic data and a radiographic survey of pulpal calcification in dental patients treated in the State University of Maringá. The collected data in resulted a work that addresses the etiology, pathogenesis, clinical, histological and radiographic features, the incidence of pulp stones and to the advised action in their occurrence. The collected data on pulp stones resulted in their characterization, their emergence and relate them to factors such as the patient's age and gender, the most affected teeth and relationship with other treatments, like the orthodontic and

endodontic ones. For certain sizes, in some cases there is an undefined pain resulting from the compression of pulp sensitive nerves. These pathological alterations may cause pulp necrosis and they may often hinder some treatments like endodontic therapy. This study aimed to update and advise the professionals and future dentists on these pulp pathologies that are so frequent but overlooked in the dental clinic.

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Anthropometric analysis of teeth

Forensic Dentistry is the specialty that aims at the search for psychic, physical, chemical and biological phenomena that can affect or have already affected people, alive, dead or their bones and even fragments or traces, resulting in reversible or irreversible partial or total injuries. The study of Forensic Dentistry together with other disciplines of the undergraduate dental courses is of great importance for the formation future professionals that will be able to act in forensic cases. This study aimed to relate the teaching of Forensic Dentistry integrated with the basic disciplines of undergraduate dental courses regarding 3 important issues of its area of action: age estimation by examination of teeth; identification and examination of dental arches; and identification of human bite marks. The field of actuation of Forensic Dentistry encompasses different types of expertise activities. As regards identification, the teeth and the dental arches can provide, in certain circumstances, really valuable information for the solution of forensic and criminological matters and are, sometimes, the only evidence which the expert can depend on. It may be concluded that the teaching of Forensic Dentistry is of paramount in the search for truth and for the strict interest of justice, possibly involving teeth, dental arches and even human bite marks, always keeping the impartiality that only a detailed scientific study can provide.

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Reinato, João Victor Donanzan
Spin, Maurício Donalson
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Sales-Peres, Silvia Helena de Carvalho

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Recurrent peripheral giant cell granuloma

A 21-year old male patient was referred to this Institution due to an asymptomatic reddish nodule in the buccal and lingual zone of attached gingiva between teeth 32 and 33. There was history of previous removal of the lesion, which was though not sent to microscopic analysis. The treatment of choice was excisional biopsy and scaling on the roots of the involved teeth. The microscopic examination showed numerous multinucleated giant cells mainly in the periphery of the lesion, which were consistent with giant cell peripheral granuloma. This granuloma is a reactive hyperplasia and occurs exclusively on the gingival or edentulous alveolar ridge, mainly in the premolar and canine regions, as observed in this case. Its etiology is related with irritating factors. The treatment consists of surgical excision beneath the underlying bone. The adjacent teeth should be carefully scaled to remove any source of irritation and to minimize the risk of recurrence. Clinical and radiographic follow up showed bone healing between the involved teeth and no signs of recurrence. The patient was informed about the etiology and instructed on the proper oral hygiene, mainly in the affected region.

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Periapical cyst. Study and a case report

Periapical cyst is an odontogenic cyst that originates in the root apex of necrotic pulp teeth. Its etiology is related with the inflammatory response in this region. This lesion is often found in maxillary central and lateral incisors and mandibular first molars. Clinically, patients with periapical cysts do not present symptoms, unless acute inflammatory exacerbation occurs. Swelling and mild sensitivity may be observed in the cases in which the cyst reaches a large size and the involved teeth do not present positive response to thermal and electric pulp test. These lesions are radiolucent with

a radiopaque halo in the dental apex and loss of lamina dura. Treatment consists in root canal therapy of the involved teeth or extraction followed by curettage in severe cases. The aim of this study was to demonstrate, by means of a case report, the procedures to be performed when a periapical cyst is diagnosed in order to provide the best possible prognosis.

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Harmony of the occlusal plane by a conservative procedure using an acrylic resin reference guide

Several cases of pathologic tooth migration (extrusion - occlusal disharmony) need a multidisciplinary approach for a successful treatment. Periodontal, orthodontic and prosthetic therapies are often required. A vertical reduction in the posterior prosthetic space by pathologic extrusion of the antagonist teeth may impair the prosthetic rehabilitation of the dental arch. In an edentulous space, some adverse effects may occur, like increase in bone resorption, loss of proximal contact between adjacent teeth (diastemas), loss of alveolar bone support, mesial or distal tipping of neighboring teeth and loss of protective and supporting periodontal structures. Regarding the extruded teeth, some of the common effects are vertical and horizontal migration, increase of the periodontal insertion level, gingival recession, dental hypersensitivity, root exposure and furcal involvement in more severe cases. In order to harmonize the occlusal plane and to reestablish the function affected by this pathology, dentists and undergraduate dental students should plan and perform a surgical or orthodontic intrusion or perform a more conservative procedure, such as reduction of the extruded teeth with the aid of an acrylic resin reference guide.

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Goldenhar's syndrome - case report

The Goldenhar's syndrome is a rare condition initially described in 1952. It is characterized by a combination of the following abnormalities: dermal epibulbar cysts, auricular appendages, ear malformation and other characteristics. In 1963, Gorlin suggested the name oculo-auriculo-vertebral (OAV) dysplasia for this condition and also included vertebral anomalies as signs of the syndrome. The etiology of this rare disease is not fully understood, and different types of chromosomal anomalies have been described. The objective of this work was to report a clinical case of Goldenhar's syndrome in a 9-year-old male patient, who presented all classic signs of this rare condition.

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Self-perception of oral health and degree of nicotine addiction of smokers and former smokers

This study aimed to evaluate the self-perception of smokers and former smokers regarding their oral health as well as the degree of nicotine addition. Users or former users of cigarettes, patients treated at the Dental Clinic of the School of Dentistry of UniEVANGÉLICA (Anápolis, Goiás) during the Ciranda Project (Extension Project) were addressed collectively in the waiting room, where the research was explained and those who agreed to participate were directed to a quiet and private room, where they answered a structured questionnaire containing 56 open and closed questions. Data were tabulated and compared by the chi-square test at 5% significance level. Forty patients answered the questionnaire, 27 smokers and 13 former smokers. Among the smokers, 59.3% rated their oral health as reasonable or bad, and 61.6% of former smokers did so (no significant statistical difference). None of the interviewees rated their oral health as excellent. As for nicotine addiction, 58.3% of smokers reported moderate or severe addiction to nicotine, compared with 38.5% of former smokers (no significant statistical difference). Seventy percent of smokers and 54% of former smokers believe that their oral health problems are related to smoking (no significant statistical difference). It may be concluded that smokers and former smokers considered their oral health as reasonable or poor, and acknowledged tobacco as a threat to oral health. Smokers presented moderate or high addiction to nicotine, while former smokers

presented mild dependence by the time they were smokers.

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Indirect composite resin restoration in a posterior tooth – a case report

The indirect restorations in posterior teeth have been advised in cases of great tissue loss and/or involvement of cusps. This paper presents the reconstruction of tooth 17 (maxillary right second molar), replacing a compromised amalgam restoration. An indirect onlay restoration (MOB) with the involvement of the mesiobuccal cusp in resin (SR Adoro) was performed. The occlusion was crossed in the region of the involved teeth and, after the indirect restoration, the occlusion is top-to-top. Initially, a study model was made by taking an alginate impression, so that both the dentist and the laboratory technician could define the final occlusion in this case. Also, color match was checked. The next steps were the removal of amalgam filling, preparation of tooth 17, protection of the dentin-pulp complex, and construction of the provisional crown. The provisional crown is intended to restore form and function for a limited period and to help the dentist determining whether cavity has non-retentive walls, which is of paramount importance before the impression is taken. Impressions were taken with an addition silicone material (Aquasil; Dentsply), using the simultaneous technique and with double-bite partial impression tray (Moldex; Angelus). The prosthetic piece was tried on and adaptation and color were checked. The prosthesis was cemented with a resin-based cement (Enforce; Dentsply) under rubber dam isolation. The cemented piece should be adjusted and finished, whenever required. Some of the most noticed results of indirect restorations of posterior teeth with commercial composite resin (SR Adoro) include a higher degree of conversion, avoidance of polymer contraction, better marginal adaptation, excellent restoration of form and anatomy, which gives satisfaction for the patient.

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Collagen matrix in the fabrication of a MTA plug in teeth with wide-open apex

The objective of the endodontic treatment of teeth with wide-open apex is to induce the deposition of mineralized tissue to close the apex, producing the apexification. The traditional clinical approach is to change calcium hydroxide dressings for up to 14 months. A faster alternative for this case is the use of an MTA plug to provide deposition of the mineralized tissue in the apical region. However, because of its consistency, MTA is difficult to be handled and often extrudes into the periapical region. To avoid this complication, a collagen sponge matrix may be used to limit the area of MTA actuation. In 2004, M.S.N., a 24-year-old male came to the Endodontic Clinic of the Bauru School of Dentistry with a darkened right central incisor with necrotic pulp and wide-open apex. After the coronal opening and root instrumentation, the treatment of choice was the placement of root canal dressing with calcium hydroxide, iodoform and propylene glycol for 1 month. Thereafter, a calcium hydroxide plug was fabricated and root filling was done by the pre-molded gutta-percha technique. In August 2007, the patient returned to the clinic without the apexification of the tooth. In the first session, the root filling was removed and a calcium hydroxide root canal dressing was placed for 1 week. Next, a collagen sponge matrix (Hemospon, Technew) was placed and a MTA plug was fabricated. In the following session the root was filled by the pre-molded gutta-percha technique. Repair of the apical lesion was further observed.

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Integrating orthodontics and esthetic dentistry in a class II patient

This work is a case report of deficient mesiodistal tooth size ratio of maxillary and mandibular incisors treated by orthodontic and esthetic dentistry integration. The mesiodistal tooth size of the maxillary and mandibular arch must relate to each other in order to obtain an excellent occlusion at the end of orthodontic treatment. A particular tooth size ratio may interfere with the functional and esthetic outcomes of the case. Many therapies are proposed for the solution of tooth size discrepancy problems. In addition to orthodontic solutions, restorative dentistry may be helpful in many cases. This Class II patient was treated with two maxillary premolar extractions and restoration of the maxillary incisors mesiodistal size with composite resin. The combined treatment

provided good esthetic and functional outcomes for the case.

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Hidden caries- a clinical case report

The hidden caries lesion is defined as a lesion in dentin in which the occlusal enamel is clinically healthy or minimally demineralized. The etiology is unknown, and there are many hypotheses, such as specific microbial flora, structural deficiency of the occlusal enamel and fluoride use. This lesion presents a high prevalence and is often not detected by the routine exams. The treatment consists in the removal of the affected dentin and adequate restoration of the tooth. The objective of this work is to emphasize the importance of clinical and radiographic diagnosis of occlusal lesions by reporting a clinical case of hidden caries.

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Anterior open-bite. Report of a clinical case

The anterior open bite can be defined as the presence of a negative vertical dimension between maxillary and mandibular incisors. This is a frequent type of malocclusion in children in the primary and mixed dentitions and presents a prognosis ranging from good to poor, depending on the severity and etiology. The main etiologies of open bite include thumb-sucking habit, atypical deglutition with tongue interposition, oral breathing, lip interposition, etc. The anterior open-bite must be treated by removal of the deleterious habits. The purpose of this work is to present a case report of an 8-year-old patient who had anterior open bite caused by thumb-sucking habit and lingual interposition during swallowing. The orthodontic treatment was done with a fixed palatal crib for 9 months until correction of overbite. After that, a speech therapist treatment was instituted to obtain the correct positioning of the tongue.

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Profile changes in patient with bimaxillary protrusion treated with extractions

The effects on the facial profile are an important concern of orthodontic treatment, which is in line with patient expectations to improve esthetics. Cases in which the relationship between the maxillary and mandibular teeth is acceptable and the main patient complaint is about facial profile, must be treated seeking balance and facial harmony. The objective of this work is to demonstrate a Class I malocclusion with tooth crowding, bimaxillary protrusion and no passive lip competence at rest that was treated with 4-premolar extractions. A significant facial profile improvement was obtained.

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Provisional crowns: excellence in the treatment and their results in oral rehabilitation

All types of prosthetic treatment, from single elements to oral rehabilitations demands the manufacture of provisional restorations. These restorations can be useful during the treatment, allow the professional to anticipate the success of the rehabilitation in its mechanical, esthetic and functional aspects (HAZELTON et al, 1995). Since the fabrication until the cementation of the definitive prosthesis, the clinical time spent with provisional restorations is long: fabrication, cementation, removal, cleaning, margin and bridge fractures requiring relining and repair. This time is probably about of 50% of the whole treatment (PEGORARO et al, 1998). The provisional crowns help to settle some of the questions that usually arise during the treatment, such as: determination of the form, contour, occlusion, vertical dimension and esthetic of definitive prostheses. The characteristics of the pillar teeth may lead to doubts in the initially idealized planning due to the quality and amount of periodontal insertion, the number and positioning of pillar teeth. In such cases the provisional crowns will serve as elements of diagnosis. Equally important is the role of these restorations in the motivation of the patient relative to the oral hygiene (ROSEMBERG et al, 1988). Thus, the objective of this work is to demonstrate, by the presentation of clinical cases, the role of the provisional crowns in the oral rehabilitation treatment.

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Impact of ion supplementation of a soft drink on *in vitro* inhibition of enamel erosion

Acidic soft drinks can exhibit an erosive potential on dental hard tissues. Thus, the objective of the present *in vitro* study was to evaluate the effect of calcium, fluoride, iron and phosphate supplemented alone or in combination to Sprite Zero® on dental erosion. Ninety enamel samples (4x4x3 mm) were randomly allocated to nine groups (n=10): G1 – pure Sprite Zero® (control); G2 – with 1 mM Ca; G3 – with 0.047 mM F; G4 – with 1 mM Fe; G5 – with 1 mM P; G6 – with 1 mM Ca and 0.047 mM F; G7 – with 1 mM Ca and 1 mM P; G8 – with 1 mM Fe and 0.047 mM F; and G9 – with 1 mM Ca, 1 mM P, 0.047 mM F and 1.0 mM Fe. During 24 h, the samples were subjected to 6 pH cycles. In each cycle, the samples were immersed in pure or modified Sprite Zero® (1 min) and in artificial saliva (59 min). During the remaining time (18 h), the samples were maintained in artificial saliva. Enamel alterations were assessed by profilometry (µm). Data were tested using ANOVA and Tukey's test (p<0.05). The highest enamel losses were observed in the control group (G1) and in the groups containing Fe (G4 and G8). The groups containing Ca (G2 and G6) showed significantly less wear compared to control. In conclusion, the modification of an erosive soft drink with low concentrations of Ca with or without F may decrease its erosive potential.

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Civil suit against dentists: early production of evidence and disclosure of documents

It is well accepted that the advent of Law 8.078/90, known as code for consumer protection, given its widespread knowledge, facilitated the access to justice. Consequently, the dentists were also hit by a real avalanche of cases, without however, improving their legal knowledge, aiming first to avoid such processes and, when it was not possible, providing an effective defense. Among the legal institutions that are still not well known by dentists are the protective measures of early production of evidence and disclosure of documents, provided for the Brazilian Legal Proceedings Code, granted as a rule by the judges when there is danger of dissolving the probation conditions by necessary and urgent treating, whether by natural disappearance of symptoms that will prove the occurrence of the damage. This study aims to clarify for dental professionals theoretical and practical aspects of the early production of evidence, thereby allowing them to adopt the best conduct before such an occurrence.

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Odontogenic keratocyst tumor: case report

Keratocyst has recently been classified as a benign neoplasm, constituting a new pathology among the group of odontogenic tumors. This reclassification is due to clinical and histopathological features of these lesions. According to the clinical studies, these tumors assume large dimensions because of their expansion capacity. Histologically, researchers have identified different patterns of protein and gene expression that are similar to those of benign odontogenic epithelial tumors. As a benign neoplasm, keratocyst should undergo surgical removal in order to eliminate the neoplastic components. However, due to lesion size, the decompression promoted by marsupialization can be an auxiliary technique prior to the definitive treatment because it reduces the cystic lumen and allows the definitive surgical procedure to be rendered in a subsequent moment with less risk of damage to important structures like nervous tissue and blood vessels. The aim of this study is to report a case that was initially subjected to marsupialization and later treated by lesion enucleation associated with mechanical treatment of cystic cavity. The patient has been followed up for two months after surgery.

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Implant supported-prostheses with internal hexagon: case report

The success of oral implantology in its 40 years of history is widely known. Nowadays, fixed prosthesis rehabilitations, which faced problems in the past such as wear of healthy teeth, absence of abutment teeth and large edentulous spaces, are now easily managed using endosseous implants to replace lost roots. However, order to have a favorable long-term prognosis of implant treatment, the dentist should look into the patient's oral and systemic factors, the planning and execution of all phases, the implant insertion technique, and the characteristics of the implant itself and its biomechanics. Studies have shown that internal hexagon implant has less tension concentration and better distribution of forces in the bone-implant interface. This fact can be explained by the depth of internal hexagon inside the implant, which helps decreasing the arm lever and dislocate the transfer point of force between prosthesis-implant for a region closer to the middle third of the implant. Moreover, the tension in the internal hexagon implant is reduced due to a better adjustment, increased contact area and frictional retention which lead to greater protection, passivity and stability of the screw of the prosthesis as well as less chance of fracture and failure of the prosthesis. Therefore, the aim of this case report is to describe all phases of a prosthetic rehabilitation in a patient that had her lost teeth (14 and 15) replaced by internal hexagon implants (RC Colossom Emfils). By the use of screwed metal-ceramic prostheses the indications and advantages/disadvantages of this kind of implant will be discussed.

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Resection of giant cell granuloma with dissection, lateralization and ind lowering of the mandibular nerve on partial reconstruction the mandible

The giant cell tumors are true neoplasms that may be more aggressive than the giant cell central granuloma. These neoplasms derived from undifferentiated cells from bone marrow support and are differentiated into giant cell granulomas, which apparently are reactive. Benign variants may have slow growth and bone expansion virtually identical to those of a giant cell granuloma. These lesions are generally asymptomatic and are initially detected in a routine radiographic examination and have a multilocular or unilocular appearance, with variable size. Differential diagnosis from keratocyst, dentigerous cyst and ameloblastoma should be done. They may present slow expansion of the bone plate and, in some cases, there is pain and paresthesia mainly when they invade the cortical bone. In these cases, ulceration of oral mucosa surface may occur. This work aims to report a surgical case, in a Caucasian 16-year-old female patient with a radiolucent multi-cystic lesion in the right angle and body of the mandible.

After confirmation of non-malignancy, resection of the lesion, lateralization of the dental plexus and partial mandibular reconstruction via iliac crest graft were performed. After two years of follow up, success of the surgery with the complete recovery of lip sensitivity and perfect integration of bone graft were observed. These outcomes demonstrate that the technique used was fully successful since these lesions have a relapse rate around 11 to 50%. It is important to note that old lesions may have considerable fibrosis of the stroma and areas on new bone formation.

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Ultrasonic wave application on glass ionomer cements and porosities

Ultrasonic wave has been used on glass ionomer cement (GIC) during its initial setting with the intention of improving some of its characteristics, such as decrease of the material internal porosity. The aim of this study was to evaluate the presence porosities in the material after application of ultrasonic waves. Eight specimens were fabricated with high-viscosity GICs (Fuji IX GP, Ketac Molar and Ketac Molar Easymix) using a bovine tooth mold. Half of the cements received a 30-s ultrasonic application during their initial setting. After the setting was completed, the specimens were fractured, analyzed under scanning electron microscopy (SEM) and micrographs were obtained. The micrographs were analyzed using Image J software to assess the amount of pores in the material interior. The statistical analysis showed that ultrasound excitation reduced the percentage of porosities in all materials (Fuji IX GP – from 4.4% to 2.6%; Ketac Molar Easymix – from 3.9% to 2.8%; Ketac Molar from 2.4% to 1.6%, this one presenting the least amount of porosities. Based on the employed methodology, it was concluded that the ultrasound excitation was effective in pore reduction within the material.

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Age estimation by teeth analysis: case study

Since the moment of fertilization until death, the organism experiences a variety of continuous changes. Age can be estimated by analysis of skin, appearance, bones, teeth, etc. Teeth study is considered the most reliable method for age estimation due to the fact that tooth eruption, from the 65th day of intra-uterine life until the complete development of the third molars, which occurs approximately at age 25, has a typical chronological model with well identified and characterized development stages succession. After this first phase, as teeth grow old, they pass through some changes, as crown wear and increase of tooth tissue internal volume. Age estimation based on tooth eruption chronology is determined by direct exam (clinical exam, where erupted teeth are compared with a table of pre-determined eruptions) or by indirect exam (comparison of panoramic radiograph with a table of teeth mineralization stages, such as the table recommended by Nicodemo, Moraes e Médici Filho, 1974). The use of panoramic radiograph provides more information about the teeth, since its crown formation until tooth development final stage. This work intended to estimate the age of a child left in an orphanage without civil records, based on an indirect exam, using the table of tooth mineralization stages recommended by Nicodemo, Moraes and Médici Filho (1974) and Cronothus software (1999). As the result of the exams, it was determined that the child age was between 6 years old and 6 years and 3 months. With this information, it was possible to start the legal procedures for civil registry of the child.

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The action of herbal medicines in surgical wound healing in rats – preliminary results

Brazil presents the greatest biodiversity in the world. Research on herbal medicines has been highlighted due to the discovery of new substances that can stimulate the process of cutaneous regeneration. The present paper was aimed at evaluating the effect of a 40% infusion of Ipomea batatas (sweet potato), Punica granatum (pomegranate) and Stryphnodendron barbatiman (“barbatimão”, a native Brazilian species) in the healing of cutaneous wounds experimentally induced in 72 Wistar rats. The lesions were made by means of metallic punches, with 2 centimeters of diameter in the skin of the dorsal region of the animals. After surgery, the animals were randomly distributed into 4 groups according to the type of infusion used for the treatment of the wound: G1 – sweet potato; G2 – pomegranate; G3 – “barbatimão” and G4 – sterilized distilled water (control). Two daily administrations of 0.5 mL of infusion/water were performed on the lesion in each rat. After 7, 14 and 21 days following surgery, the macroscopic evaluation and the measurement of the lesion areas were made. The average area of G1 lesions was: 2.06; 1.3 and 0.51 mm²; G2 - 1.99; 1.56 and 0.81 mm²; G3 - 1.84; 1.72 and 0.63 mm²; and G4 - 1.66; 0.98 and 0.38 mm² for days 7, 14 and 21, respectively. The obtained results were subjected to ANOVA and Bonferroni statistical analyses, which did not show significant differences among the areas of lesions in the four groups. Therefore, it was concluded that the 40% infusion of Ipomea batatas, Punica granatum and Stryphnodendron barbatiman did not have influence on the healing of cutaneous wounds that were experimentally induced in rats.

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Increase of vertical dimension of occlusion – case report

The prevalence of patients presenting alterations in the vertical dimension of occlusion (VDO) in dental offices, clinics or public services has increased in the last years (Ramfjord and Ash, 1984). In some cases, the professionals perform the rehabilitation by means of randomized reposition of missing teeth, not worrying about the highly compromised condition of muscles, ligaments, teeth, periodontium and temporomandibular joints usually present. As time goes by, there are disarrangements in the stomatognathic system, resulting in anomalies that are irreversible or difficult to be solved. The present paper shows a case of a 39-year-old patient who looked for dental assistance in order to improve her esthetic appearance. After a careful history review and clinical examination, it was observed that the patient presented absence of several teeth, wore a lower removable partial denture, had severely destroyed remaining teeth, which caused VDO alteration, and was diagnosed as having bruxism. It was then established a treatment plan aimed at oral rehabilitation, with recovery of VDO by the placement of a provisional partial acrylic resin plate intended to provide immediate reestablishment of VDO, giving back the esthetic and comfort to the patient. The lower partial removable denture was redone and the oral rehabilitation was concluded with placement of direct composite restorations in a single session in the worn teeth and an occlusal splint to be used during sleep to protect the dental and prosthetic structures against wearing and the musculature against the tightness. The use of a transitory partial plate before oral rehabilitation is important to provide a faster increase of VDO and patient comfort, eliminating the painful symptomatology. Moreover, it provides more accurate data about the suitability of a pre-established VDO.

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Periodontal plastic surgery for correction of gingival ingrowth areas after orthodontic treatment

Gingival ingrowth is a relatively common occurrence in areas of dental extraction and orthodontic treatment. They are present in 35% of the cases. The cause of these ingrowths is a slower remodeling of gingival tissues in relation to the bone, resulting in a passive folding of soft tissues. It has been suggested that these alterations contribute for the relapse of orthodontic treatment and for plaque retention, resulting in gingivitis or periodontitis. Gingival hyperplasia in these areas jeopardizes esthetics and bleeding on probing is a frequent finding. Gingival ingrowths may persist until 5 years after

orthodontic treatment. Some authors suggest that the placement of retention for a long period is sufficient to avoid relapse and enhance esthetic. Some clinical cases illustrating the success of periodontal surgery for treatment of gingival ingrowth will be presented.

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Evaluation of the incidence and oral features of monozygotic twins, with Down syndrome, considering the environmental and behavioral factors

Studies with monozygotic twins try to prove, since they have identical genetic load, if these individuals present similar characteristics deriving from both genetic and environmental factors. The objective of this study was to evaluate the incidence of monozygotic twins with Down syndrome and to compare their buccal characteristics, considering the environmental and behavioral factors. This study was performed at CAO (Center for Dental Assistance to Patients with Special Needs) of the Dental School of Araçatuba-UNESP and in some APAEs of the municipal districts of Araçatuba. Approximately 2,000 patients with Down syndrome were investigated, but only 2 identical twins met the study requirements. The results demonstrated similarities in some oral aspects related to the genetic features, but some differences in the systemic conditions and other conditions, when considered the environmental and behavioral factors. We concluded that the oral characteristics resemble each other in some aspects related to the genetic factors, but the environmental and behavioral factors can interfere in those similarities.

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The use of GaAlAs laser in the treatment of Behçet Syndrome's oral lesions

Behçet syndrome was described by a Turkish dermatologist, Hulusi Behçet, as a chronic multi-systemic manifestation with oral, genital, ocular, cutaneous, orthopedic, gastrointestinal and neurological features. The etiopathogenesis of this condition remains unknown but is believed to be mediated by a combination of factors, such as immune deregulation and inflammatory and infectious agents. The diagnosis is generally established in young adult patients and the most prevalent manifestations are the oral ones followed by the genital ones. No laboratory finding can settle a diagnosis for the Behçet syndrome. It must be made from the specific criteria proposed by the Behçet International Study Group that emphasizes oral manifestations such as recurrent oral ulceration and two other manifestations that can be ocular, genital, cutaneous features or rheumatoid arthritis. The prognosis for the Behçet syndrome very typical and varies a lot with frequent recurrences. The mortality rate is low and when it occurs is due to lung hemorrhage or intestinal perforation. In the absence of these complications the prognosis is good. This work has the objective to discuss the use of low-intensity laser to treat oral manifestations in patients with Behçet syndrome. The study was conducted at the Center for Special Patients (CAPE) of the Paulista University (UNIP) Indianapolis Campus, São Paulo, Brazil.

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Reconstruction of mandibular central incisors, lateral incisors and canine with composite resin

In present days, there has been a great patient demand for esthetics and fast results in Dentistry. Moreover, the constant improvements in adhesive Dentistry allow for a conservative approach with composite resin reconstruction. The patient S. M. C., male, 67 years old, presented to the UniEVANGÉLICA Dental Clinic with teeth 31, 32, 41, 42 and 43 significant wear of about 2/3 of the crown. There was no radiographic sign of pulp involvement and the teeth were teeth responded positively to the pulp vitality test. The dentin had been exposed for many years and did not present sensitivity upon application of stimulus. Dentin surface presented brightness similar to that of

worn dentin. The treatment of choice for the case was the reconstruction of the teeth with composite resin, with the aid of silicone matrix, after previous diagnostic waxing on a plaster model. TPH and Z250 composite resins (A3 shade) were used. Immediate and 6-month esthetics was satisfactory, demonstrating that simpler treatment approaches may sometimes solve esthetic and functional problems, avoiding the decision for more invasive procedures.

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Esthetic rehabilitation of anterior teeth with laminate porcelain veneer, metal-free crowns and dental contact lens

With the advance of adhesive dentistry, several esthetic treatment options are available to dentists and as a result rehabilitation of anterior teeth are gaining popularity by providing satisfactory outcomes due the harmonization of teeth and face. One of these options, very popular in these days, are the metal-free prostheses, presented as laminate veneers and porcelain crowns. This treatment option was used in R.C.F., a 38-year-old female patient who sought the Department of Restorative Dentistry of the Dental School of Araçatuba, State University of São Paulo/UNESP complaining about tooth color alteration particularly in the cervical region of upper central incisors. The following issues were observed after clinical examination: smile midline deviation, gingival recession in teeth 11 and 21, rotation of tooth 22. The rehabilitating esthetic treatment comprised home bleaching, re-counteracting of tooth 23, laminate porcelain veneer on tooth 12, two metal-free crowns on teeth 11 and 21, and the dental contact lens in tooth 22. The planned rehabilitation reached an excellent esthetic outcome and met the patient's expectation.

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Localization of broken needle fragments in the pterygomandibular space. X-ray analysis with emphasis on radioscopic use

In clinical practice, it is quite rare the event of needle fracture during anesthetic procedures. These accidents are an unpleasant experience for both the professional and the patient. These accidents result from sudden movements of the patient, incorrect technique and/or defective needles (manufacturing defects or bending/unbending). The professional should examine the needles before the anesthetic procedures or when repeating the procedures in the same patient using the same needle. Technological and material improvements have decreased the occurrence of these accidents, but fractures can still occur when the needle is bent. The removal of needle fragments can be aided by the use of periapical, panoramic, AP and PA and lateral mandibular radiographs. The fluoroscope is the best instrument that can be used to locate and remove fragments of broken needles from the pterygomandibular space. After removal of several needle fragments under local or general anesthesia, the purpose of this study is to show radiographically, the position of the broken needle fragments at the pterygomandibular space, their most usual locations and the use of x-ray by TV screen monitoring (fluoroscope). As the fluoroscope is well known in several medical specialties, but is not common among dentists, few considerations are made about their use, cost-effectiveness and safety.

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Assessment of the radiographic density of particulate bioglass. *In vitro* study

Particulate biomaterials, such as the bioactive glasses used in bone defect filling, are a clinical reality, but little is known about their radiographic characteristics. This study evaluated *in vitro* the radiographic density of commercial (Perioglass) and generic (45S5) bioglasses compared to the radiographic bone density of rat calvaria, which is a widely used area in studies with these biomaterials. For such purpose, ten 2.5-mm

diameter plastic microtubes filled with the tested biomaterials, simulating the bone thickness of rat calvaria, were radiographed using a digital system, with 5 samples/biomaterial. The obtained images were standardized with a metallic pattern, providing the radiographic density of the biomaterials in a 1,000 pixels area inside of the microtubes. The radiographic images of the calvaria of 5 rats (positive control) and 5 empty microtubes (negative control) were evaluated in the same way. The results were analyzed statistically by Shapiro-Wilk normality test and ANOVA. Perioglass presented the highest radiographic density, but both tested biomaterials presented higher radiographic density ($p < 0.05$) than the positive control. The negative control presented significantly lower radiographic density than all other groups. It can be concluded that the tested biomaterials presented higher radiographic density than the bone region where they are usually implanted in several studies, which can be a relevant methodological bias in radiographic studies with these biomaterials.

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Analysis of current characteristics of artificial teeth used in overdentures and implant protocols

The success on implant-supported overdentures and Brånemark protocols has increased their popularity as treatment options because of the discomfort produced by the lack of retention and stability of conventional lower dentures. In addition to comfort, these patients look for esthetics and function and have ever more demanded artificial teeth that reproduce, as close as possible, the characteristics of their own natural teeth. Dentists learn, at undergraduate and graduate courses, how to select artificial teeth, taking into account techniques, basic knowledge, methods, good sense and limitations. Based on the expectations of dental students and professionals, this work presents a literature review in the search for an answer to the selection of artificial teeth based on "chart molds" (space occupied by posterior teeth) from different commercial brands worldwide. Comparing these findings, we present suggestions about tooth width, shape, size and accuracy contained in the "chart molds." Comparisons were performed by assembling the artificial teeth in non-adjustable articulators, and the results showed that the information supplied by the manufacturers are inaccurate, which can compromise the esthetic and functional results in the construction of implant-supported overdentures and Brånemark protocols.

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Radiographic subtraction evaluation of the alveolar bone crest behavior after crown lengthening surgery

The purpose of this study was to evaluate, by radiographic subtraction method, the behavior of proximal alveolar bone crest, after crown lengthening surgery. Six adult, healthy patients, needing crown lengthening surgery in the proximal area of upper and/or lower premolars took part of this study. Bite records of acrylic resin were made in pre-fabricated plastic bite-wing radiographic film holders customized for providing standardized bite-wing radiographs. Radiographs were taken before and immediately after the surgery, and 30 days postoperatively. The surgical technique used was the internal bevel gingivectomy with ostectomy. The radiographs were digitized in a transparency scanner. The images were aligned, two by two (before and immediately after, immediately after and 30 days), using stable points on the dental surface. Then, the subtraction was performed. Of the six cases, two showed an increase in bone density (greater brightness, tone closer to white), while four showed decrease in bone density (lower brightness, tone closer to black) in the proximal area submitted to osteotomy, when the 30-day radiographs were compared to post-surgical ones. Even though, the mean intensity was lower after 30 days with no statistical significance. Mean bone removal observed between the pre and postoperative radiographs was 1.33 mm. When immediate post-surgical radiographs were compared to 30-day radiographs, five additional cases showed bone loss, and a single case showed gain of 0.18 mm. The mean bone loss after 30 days was 1.26 mm. The average total bone loss was 2.59 mm. It was concluded that with the radiographic subtraction method it was possible to observe proximal alveolar bone crest resorption 30 days after crown lengthening surgery.

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Analysis of cranial anthropometry to estimate sex, ethnic group, stature and age

The study of the Forensic Dentistry has as objective the study of physical, chemical and biological phenomena that can affect or have already affected humans, alive or dead or skeleton or even fragments or traces, resulting in reversible or irreversible partial or total injuries, comprehending the analysis, technical inspection or evaluation of events related to the dentist's activities. This assay had for objective to emphasize the importance of the Forensic Dentistry education and its relation with others disciplines of the undergraduate dental course by the anthropometry study of cranial features that allow estimating sex, ethnic group, stature and age. Divided in four years, the study and the understanding of Forensic Dentistry gain superlative value in the formation of residual knowledge of dental students. It may be concluded that the teaching of Forensic Dentistry is of paramount in the search for truth and for the strict interest of justice

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Microstructural analysis and investigation of biocompatibility of the different bioceramics in subcutaneous tissue

Calcium phosphate-based bioceramics have been used as bone substitutes in craniomaxillofacial surgeries. However, the physicochemical characteristics of hydroxyapatite (HA) or tricalcium phosphate (TCP) promote a different biocompatibility and speed of resorption of its composites. The purpose of this study was to evaluate under scanning electron microscopy (SEM) the bioceramics HA, TCP and HA/TCP (60/40), and to assess their biocompatibility in subcutaneous tissue. Four subcutaneous pockets were formed in dorsal regions of 35 rats. Each type of bioceramic was individually implanted and the fourth pocket was used as control of wound healing. The implants and adjacent tissues were collected after 7, 10, 14, 21, 28, 60 and 90 days and processed histologically. The SEM analysis revealed that HA showed smooth surface, no internal structure and rare porosity, the TCP exhibited irregular and unstable surface and HA/TCP exhibited several micropores. Histologically, between 7-30 days, the pores of the TCP particles were filled by fibroblasts and blood vessels, and the inter-particle spaces were filled by an intense inflammatory process, with several macrophages and multinucleated giant cells. This inflammatory process reduced only after 60 days with the formation of a fibrous capsule. The biocompatibility of the HA was markedly higher with gradual formation of connective tissue between the particles and some multinucleated giant cells after 28 days. There was no invasion of cells into the HA particles, except for areas of fracture. HA/TCP exhibited similar tissue response, but with invasion of cells and production of collagen fibers inside of the particles. In conclusion, the HA/TCP composite reduces the unwanted responses of each type of bioceramic, decreasing the TCP inflammatory process and creating more space for new tissue formation, due to rapid resorption of TCP. Fellowship: FAPESP.

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Effect of iron supplementation in a cola soft drink in human enamel and dentin erosion: *in situ* study

The aim of this study was to evaluate the effect of iron supplementation on inhibition of the erosion of human enamel and dentin submitted to an acidic drink. In this *in situ* crossover protocol, 10 volunteers wore palatal devices containing 2 human enamel and 2 human dentin blocks during two 5-day crossover phases. The difference between these phases was the addition or not of iron at 10 mmol/L in Coke® before the immersion of the devices. The volunteers immersed the devices for 5 min in 150 mL of cola drink, containing or not iron, 4 times per day. The effect of iron on the inhibition of erosion was evaluated by %SMH and wear analysis. Data were analyzed using t test ($p < 0.05$). For enamel, a significant reduction in the wear and a non-significant reduction in the %SMH were observed when iron was used. For dentin, the use of iron

significantly reduced the wear but significantly enhanced the %SMH. Hence, it may be concluded that under these conditions, the iron supplementation may reduce the erosion of human enamel and dentin caused by acidic drink.

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Restraint methods of cerebral palsy patients for dental care

Cerebral palsy (CP) is defined as a posture and movement disorder due to cerebral damage before the complete development of the central nervous system. The purpose of this study is to describe some techniques of physical restraint and the use of auxiliary devices for maintenance of mouth opening performed at CAOÉ (Dental Center for Assistance to Patients With Special Needs) in CP patients during dental treatment because these individuals present some pathological reflexes that interfere with their dental assistance. The auxiliary techniques used during the dental treatment in CP patients include physical restraint with bands or sheet to wrap them up, cylindrical pad or cushion made from a soft material, as well as simple devices, including an alternative one, to keep the mouth open, and are used in a safe manner in CAOÉ. All these simple devices are necessary because there are no available funds for purchasing expensive dental materials or equipments. Therefore, it is possible and easy to assist these patients, in an effective manner, even in public dental clinics in order to improve their quality of life.

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Direct composite restoration of anterior teeth: an 18-month clinical evaluation

Currently, society has given more importance to health and appearance and, as a result, the search for better esthetic results in dental treatment has increased significantly. Dentistry has reached stages of development of dental materials and direct adhesive restorative techniques, especially regarding the improvement of the physical and mechanical properties, which give the dentist resources to simulate the optical characteristics and mimic the dental structures. Any treatment must be evaluated on a long-term basis. The purpose of this work is to present a clinical follow up 18 months after placement of composite resin restorations in anterior teeth by the free hand incremental technique. It can be stressed that the direct restorative technique in anterior teeth preserves, in a significant manner, the dental structure, being a conservative and reversible procedure. It is also easy to maintain, does not cause any damage to the dentin-pulp complex, provides a high level of esthetics, restores the function and mimics the form, color and texture of natural teeth, reestablishing the patient's smile and the dentofacial composition. In conclusion, the clinical result presents satisfactory stability and durability.

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Cell and tissue kinetics of bone repair in critical-size defect treated with autogenous graft

Several factors limit the bone defect repair, including the graft donor area and size-defect. To evaluate the cell and tissue kinetics during bone repair in skull critical-size defect promoted by autogenous graft. An 8-mm diameter defect was made in parietal bone of rats. In the experimental group the defect was filled with particles of parietal bone removed and in the control group with blood clot. After 0, 7, 14, 21, 30, 90 and 180 days the skull were collected and processed histologically. The absolute volume (reactionary tissue, newly formed bone, graft, connective tissue, vessels, and tegument) and cell number (osteoblasts, osteocytes and fibroblasts) was morphometrically evaluated. The data were submitted to analysis of variance and linear regression analysis. The accumulation of new bone and bone cells were calculated by the linear equations. In the control group, bone neoformation occurred only between 7-30 days with mean rate of 0.27 mm³/day, stabilizing at 30 days. After 30 days, the defect was filled by 7.2 mm³ of bone, 4.2 mm³ of connective tissue and 20.8 mm³ of tegument. In

the experimental group, the graft remained with a volume of 55.9 mm³ in the analyzed period. Between 7-30 days, inter-particles spaces, initially occupied by the clot was replaced by bone tissue at rate of 0.87mm³/day, stabilizing at 21.7mm³. At 180 days the inter-particle spaces were filled with bone and marrow tissue. In both groups, the largest bone formation occurred between 7-21 days, with increase of osteoblasts and osteocytes of, respectively, 23.599 and 57.092% in the experimental group and 78 and 229% in the control group. In conclusion, Model used here show that particles of autogenous graft obtained of parietal bone is very slowly resorbed, remaining arrested inside of newly formed bone for long period, even after remodeling of new bone.

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Knowledge and behaviors for prevention of infectious endocarditis among dentists from the city of Anápolis and undergraduate dental students from UniEVANGÉLICA

The objective this study was evaluate the knowledge of infectious endocarditis (IE) and the clinical behavior for prevention of its occurrence among dentists from the city of Anápolis and 8th-semester undergraduate dental students from UniEVANGÉLICA. Fifty dentists and fifty students answered a questionnaire. Patients that were considered at risk of IE were those with prosthetic cardiac valve and previous IE. Regarding the dental procedures that were considered to need prophylactic antibiotic therapy were mentioned dental extractions, periodontal procedures and replantation of avulsed teeth. The prophylactic antibiotic regimen of 2 g amoxicillin 1 h before the procedure is the correct, but this was mentioned for only half of both groups. The results obtained in this study demonstrate that dentists and students have limited knowledge of IE, indicating the need to give emphasis on this subject during the graduation course and perform continued formation courses about the risk conditions to develop IE during dental practice and how to prevent this occurrence.

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Should the principles of cavity preparation still be considered after one century?

Although the principles of cavity preparation are turning 100 years old, it is possible to note that they have been constantly neglected by dentist. The first steps to perform cavity preparation started with Black in 1908 aiming the rationalization of operative procedures through interrelated phases. These stages had been classified as: contour, resistance, retention and convenience forms, cavity debris removal, finishing cavity walls and cleaning cavity. Along the years these principles underwent modifications and adaptations concomitantly with the new restorative materials that were launched in the market. Based on a clinical case, this work aims to emphasize the occasional mistakes made by professionals and also, show how general principles must be followed to avoid negligence and, consequently, an unsuccessful filling. The loss of a restoration that fell out of a premolar revealed errors in cavity preparation for amalgam restoration. The tooth was re-prepared, planning correctly the treatment and the steps that would be followed in accordance with the selected restorative material, composite resin. It was evident that not following the biomechanical principles of cavity preparation, irrespective of the restorative material, leads to a flawed, short-lived filling. In sum, we can conclude that the success of a restoration is not the simple fact of giving back the shape and function to the tooth, but also knowing how to plan a treatment and perform an appropriate cavity preparation for long-lasting results.

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Guidelines for treatment of congenitally missing maxillary lateral incisors: a case report

The two common alternatives of treatment for patients with congenitally missing maxillary lateral incisors involve orthodontic space opening for future prosthetic replacements and orthodontic space closure using canines to replace the missing maxillary lateral incisors. However, the decision to open lateral incisor spaces or close spaces by mesial movement of the canines requires a careful diagnosis, considering facial and dental characteristics of each patient, a comprehensive multidisciplinary treatment planning and the patient's opinion. Therefore, the purpose of this work is to outline a diagnostic protocol to assist the clinicians in the decision-making process, and present a case report of a patient with bilateral congenitally missing of maxillary lateral incisors. The treatment planning of the presented case involved reshaping canines after orthodontic space closure, providing an esthetic and functional improvement, in addition to meeting the patient's expectations. In a clinical context, independent of the treatment's decision, to close or to keep space, the multidisciplinary team is essential on treatment planning to achieve optimal esthetic results.

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Impacted molar traction using wire brass: case report

Dental impaction is a frequent phenomenon and is normally associated with mechanical obstacles. The most common causes of dental impaction are local, and result from one factor or a combination of them. Abnormal position of tooth permanent germ is the most common etiology. The ortho-surgical treatment guides the eruption, the position and tooth stabilization in the dental arch. There are many surgical techniques for dental traction, one of which is the interposition of an orthodontic wire between the teeth. The objective of this work is to present a case where a wire brass was used as dental retention treatment. Case report: patient D.G.M, 14 years-old, male, with retained lower second molar in mesioangular position, impacted on first molars as well as lower third molars that were retained too. The planning for this case was done with an orthodontist and the extraction of the lower third molar was done to set the distal space free; then the brass wire was installed between the lower first and second molars with the aim of bringing the second molars to their right position and allowing their eruption. In this case report the dental impaction was solved by making tooth eruption in the dental arch possible. It may be concluded that this is an easy technique, with a low cost, low morbidity and clinical success when properly indicated.

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Dentistry-Speech Therapy interdisciplinary approach in Monte Negro-RO

Dentistry-Speech Therapy interdisciplinary approach regarding the use of dentures is very important and was largely developed during the XV expedition to the city of Monte Negro-RO. Tooth loss is a very important event because it changes the stomatognathic system impairing functions like swallowing, chewing and speaking as well as denture adaptation (CUNHA, FELÍCIO, BATAGLION, 1999). Communication is vital for humans and specific problems in the oral structures may cause some alterations. The absence of teeth leads to changes in the quality of life of individual. Oral rehabilitation has several options for total and partial edentulous patients. Prostheses can be either removable or fixed. The city of Monte Negro is located in the state of Rondônia, north of Brazil, far from major health care centers. With a total population estimated in 12,627 inhabitants, the urban area has about 5,800 inhabitants. Each semester, a team of undergraduate and postgraduate dental students and professors of Bauru School of Dentistry, University of São Paulo perform interventions to assist the local population. This study presents the multidisciplinary work involving installation of total and removable prostheses and speeches to needy patients during the XV expedition to the city of Monte Negro-RO. The methods included screening, planning, stomatognathic system rehabilitation and instructions from the areas of Dentistry or Speech Therapy to the patients attending the Oral Health and Speech Therapy Clinic. Thirty dentures were installed. Nine patients received specific instructions to improve the conditions of the structures involved in functions like chewing, swallowing and

speaking. In conclusion, the multidisciplinary work between Dentistry and Speech Therapy was important in improving the quality of life, esthetics and function of the stomatognathic system of this population in northern Brazil.

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Replacement of anterior resin composite restoration – esthetics devolution

When the patient's smile is unsatisfactory, it is entailed to the professional the selection of the best material to give back the shape, function and esthetics. The aim of this work is to report a case of unsatisfactory resin composite restorations in the mesial proximal surface of teeth 11 and 21. Patient J.C.A., 33 years old, came to our restorative dentistry clinic, at Bauru School of Dentistry, University of São Paulo, requiring the replacement of worn restorations on teeth 11 and 21 due to unpleasant esthetics and painful sensitivity. After clinical and radiographic examination, a decision was made to replace the restorations of both teeth by new ones of the same material (composite resin). The shade was selected and, after rubber dam isolation, a spherical diamond bur was used to remove the old filling and a carbide bur was used to remove the carious tissue. After the preparation and cleaning of the cavities, a light-cure glass ionomer (Vitrebond, 3M/ESPE) base was made and photo-activated (Curing Light XL 1500, 3M/ESPE) for 30 s. A chamfer was prepared with 3118 diamond bur (K.G. Sorensen) on the palatal and labial surfaces. After that were done cavity conditioning with 37% phosphoric acid for 15 s, washing and drying, adhesive system application (Adper Single Bond 3M/ESPE), photo-polymerization for 30 s and restoration with Vit-I-escence composite resin (Ultradent Products, Inc.) (shades A1, A2, TM). Gross excess were removed using diamond polishing cloth strips, scalpel blades and hand instruments. After 7 days, the restorations were finished and polished with diamond burns (K.G. Sorensen), Sof-lex discs (3M/ESPE) and rubber points and abrasive paste. After the replacement of the restorations, the patient did not report painful sensitivity, being observed harmony between health and esthetics.

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Comparative analysis of the percentage of the area filled with gutta-percha in the apical third of root canals in three different obturation techniques

The aim of the present study was to compare the percentage of the area filled with gutta-percha, 2 and 4 mm from the apex of mesial canals of lower molars. The techniques assessed were: lateral condensation, modified McSpadden and TC system without the master cone. Fifteen mesial roots (30 canals) of first and second human lower molars were used in this experiment. The canals were instrumented using the double-flared technique, with the use of Gates-Glidden drills. The samples were distributed randomly in three groups, obturated according to the tested techniques and sectioned 2 and 4 mm from the anatomical apex. The slices were observed under 100x magnification and images were recorded. The percentage of areas filled with gutta-percha was evaluated using the software Acad 14. The TC system without the use of a master gutta-percha cone showed the best results regarding gutta-percha filling. The Kruskal-Wallis test revealed statistically significant difference between the 2 and 4 mm levels and the lateral condensation technique, while only at the 2 mm level of the modified McSpadden technique. No significant differences were found between the modified McSpadden and lateral condensation techniques.

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Insulin resistance induced by dexamethasone and influence in the parotid and submandibular glands of rat

Glucocorticoids are widely prescribed for treatment of several pathologies and postoperative therapies due to its antiinflammatory and immunosuppressant effects. However, chronic glucocorticoid therapy has induced diabetes and hypertension. Hypertension and diabetes are components of peripheral insulin resistance associated with obesity and arteriosclerosis. The purpose of this study was to assess metabolic parameters relating to the condition of insulin resistance in rats treated with low dose of dexamethasone and to evaluate morphometrically the influence on parotid and submandibular glands. The animals of experimental group received daily injection with dexamethasone (0.1 mg/kg) and control group received saline solution (NaCl 0.9%, 1 mL/kg). After 10 days, the metabolic parameters of glucose and plasmatic insulin, and hepatic glycogen were evaluated and the glands were collected and processed for histomorphometrical analysis. The data were compared between groups using the Student "t" test at significance level of 5%. The rats treated with dexamethasone showed reduction of 12% in body mass and metabolic parameters indicative of peripheral insulin resistance with plasma level of insulin 2.86 times higher than in control group, followed by HOMA rate. Morphometrically, in the animals treated with dexamethasone occurred decreased in the weight of parotid and submandibular glands in 30 and 17%, respectively, due to reduction in its acinar cell volume. This reduction was of 47% and 17% in the parotid and submandibular glands, respectively. In both glands the acinar cell number and volume density of ducts did not show differences between groups. In conclusion, dexamethasone in small pharmacological dose induces peripheral insulin resistance and provokes changes in the acinar cell metabolism and size in the parotid and submandibular glands.

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Functional appliances and temporomandibular disorders

The functional appliances act modifying the function for correcting the form. They alter the condylar and articular fossa shape and thus the relationship of the condyle-disc-glenoid fossa, which depend on the temporomandibular joint (TMJ) adaptive capacity, greater in growing patients than in adults, to maintain the normality. The indication of appliances for mandibular advancement as an orthopedic therapy in Class II malocclusion correction does not increase the development of TMJ disorders (TMJD). The correction of this malocclusion does not occur due to the adaptations in the articulation region, but mainly by dentoalveolar changes. People who have the condyles more advanced anteriorly at the end of the treatment are not more prone to have signs and symptoms of TMJD than those not treated orthodontically. The functional appliances are contraindicated to repair or recapture discs, they just maintain them displaced, but without pain. The posterior position of the condyles with the intention of treatment is contraindicated because it can press an adaptive region and initiate an articular pain process. The absence of participation of this therapy in the TMJD etiology does not indicate either the use of these appliances in the treatment of patients with TMJ intratubular disorders, since there is no scientific evidence about their efficiency.

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Esthetic treatment in fracture teeth: a clinical case

The occurrence of trauma in anterior teeth is frequent, and at sometimes it compromises the esthetics and function of the teeth. Fractures are more prevalent in anterior-superior teeth due to its location in the dental arch. Advances in dentistry in recent years are linked to the development of materials and techniques, which aim to reestablish not only the function, health and comfort of patients, but also esthetics. The composite resins are inserted in Dentistry in this context, playing a key role in recovering form, texture and color. The direct composite resin restorative technique assures the preservation of the adjacent dental structure. A bevel is performed with the purpose to mimicking the esthetic transition from the restoring material to the tooth, also increasing the retention of the material. The objective of this case report is to demonstrate a

clinical protocol to restore the function and the esthetics of a tooth with anterior fracture in enamel and dentin without pulp exposure and/or biological width invasion.

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Conservative esthetic indirect posterior restoration

Due to the increasing requirement for esthetic restorations in posterior teeth, and the limitations of the properties of composite resins, indirect restorations are indicated. The all-ceramic systems present esthetic properties as translucency and naturalness. The present work reports a clinical case of a female adult patient with the tooth 36 fractured on its lingual face and with an unsatisfactory extensive amalgam restoration. The treatment proposal was the functional restoration with a partial crown of all-ceramic system "IPS Empress" (Ivoclar-Vivadent). Firstly, a composite resin core was built using 4 intradentin posts. After that, the tooth was prepared according to the characteristics required for the ceramic system, and an impression was taken with addition silicone. The ceramic restoration was cemented with U-100 resin cement (3M-ESPE). The conservative indirect restoration recovered the function and esthetics of tooth. The success of the case is directly related to patient satisfaction. The professional must be familiar with different restorative alternatives to meet the patient's expectations.

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Immediate and mediate denture construction with the patient's natural teeth

The construction of an immediate denture, installed just after the teeth extraction, provides the patient some benefits such as: maintenance of the occlusion's vertical dimension and the condile/fossa relationship, conservation of the soft tissue support and prevention of the facial esthetic alteration, restoring the patient's self-confidence. The success of this treatment requires a detailed planning in order to provide the natural look of the remaining teeth, with regards to their form, color, size and arrangement. The present case reports the construction of an immediate and mediate denture for a female patient, 28 years old, for whom the extraction of all remaining teeth was advised. After the clinical examination, a treatment with immediate dentures was planned and the patient's natural teeth were prepared to be used in the mediate denture construction. The immediate denture was made of auto-polymerized resin applied on the stone dental cast. Later on, the mediate denture was made with the patient's natural teeth and conventional technique. The treatment obtained excellent results once the denture presents good retention, stability, and a pleasant esthetic appearance.

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The role of osseointegrated implants in planning the rehabilitation of partially edentulous patients

The concept of Osseointegration was developed by Dr. Per-Ingvar Branemark who discovered a direct strong bone anchor, in a titanium chamber that he had used while studying microcirculation of the bone repair mechanisms. The titanium chamber was surgically inserted in the tibia of a rabbit. Following additional information obtained in his study, he discovered that titanium was the best material for artificial root replacement. Based on these results, the fundamentals of Osseointegration and Branemark Implant System were created. Osseointegration is defined as a direct anchoring of a bone implanted in a body, able to provide a base for the support of a prosthesis; it also is able to transmit occlusal forces directly to the bone. This means that the implant should be made of inert material in direct contact with the bone, without soft tissue interface. Originally, the dental implants were developed for use in edentulous jaws. However, with the success and greater predictability of the technique,

its use spread for partially edentulous patients, showing also great success rates. Thus, there was a large expansion in the use of osseointegrated implants in rehabilitation planning, which now the first choice for the majority of cases that were treated before by conventional removable partial dentures, adhesive dentures or fixed prostheses. Therefore, the implants are one more option for the treatment or its complementation since they can be used as a pillar with or without teeth or be the single pillar of the prosthesis. With this new treatment option it is possible to maintain the integrity of the teeth, possibility of creating pillars where none existed before and able to change former removable prostheses into fixed prosthesis supported by implants.

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Evaluation of the accuracy of electronic apexlocators in determining the working length

This study aimed to assess comparatively the accuracy in the determining of the working length by the electronic apexlocators ROOT ZX, JUSTY II and FIT. Thirty human central permanent upper incisors were selected for the study, presenting approximate size and forms, with intact, straight roots and complete apices. The teeth were stored in a 10% formalin solution until use, when they were thoroughly washed with tap water. Next were done lingual access cavities and determination of the actual length of the root canal by the visual method. Afterwards, the specimens were included in floral foam, so that only the root remained in the foam. After this, the working length was determined by the studied devices and the results (in millimeters), were subjected to statistical analysis by ANOVA and the results showed that there were no statistically significant differences between the apex locators. Comment: ROOT ZX presented working length of 0.967, JUSTY II of 0.883 and FIT of 0.946

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Nasopalatine duct cyst: case report

Clinic of Stomatology of the Federal University of Valles do Jequitinhonha e Mucuri (UFVJM), Diamantina, MG. Nasopalatine duct cyst is an intraosseous developmental cyst in the midline of the anterior palate. A 63-year-old female patient was referred to the Service of Stomatology for evaluation of a lesion in the maxilla. In the anamnesis, the patient reported pain, swelling of the jaw which hindered the closing of the oral cavity. The injury lasted approximately 3 months without any treatment. In the extraoral examination was observed an upper lip protrusion with fading limits of the labial filter. The lips were half-open due to the interposition of the lesion. In the intraoral examination was detected the presence of extensive sessile nodule located in the incisive papilla region with 3.5 cm diameter and a firm consistency to the touch. The aspirative puncture of this nodule was positive for the yellow liquid. The occlusal radiograph showed a radiolucent area involving the both sides of the anterior maxillary region, measuring 2 x 2 cm. The periapical radiograph showed a nasal spine with preserved anatomical structures. Nasopalatine duct cyst was the diagnostic assumption. The histopathologic examination of the excisional biopsy revealed presence of a cavity surrounded by epithelial tissue of three kinds: simple columnar, pseudostratified columnar and stratified squamous. The capsule of connective tissue exhibited nerves and blood vessels. The closing of the oral cavity after surgery returned to normal. The patient is under clinical evaluation without relapse or alterations associated with the injury.

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Giant cell fibroma – report in a 2-year-old child

A 2-year-old male patient presented a nodular asymptomatic lesion on the palate, with pink color and papillary surface, noticed by his mother. No habit or traumatic reaction that could be involved in the etiology of the injury was identified. It was suggested to the parents to follow-up the lesion, which had 2 months of evolution, for an additional month. If no regression occurred, a biopsy should be performed. The patient returned 5 months later. The child could not be managed to perform the biopsy in the dental office, therefore a surgery was scheduled in the hospital surgical center to perform the biopsy. The parents gave consent and excisional biopsy of the lesion was made under general anesthesia. The diagnosis was giant cell fibroma. The giant cell fibroma is a fibrous tumor, not associated with chronic irritation. It affects mostly the younger patients, during the first three decades of life. Clinically, it is a sessile or pedunculated nodule, asymptomatic and usually less than 1 cm. Microscopically, it consists of vascular fibrous connective tissue and multiple large stellate-shaped and multinucleated fibroblasts. This is a benign tumour that rarely causes symptoms, unless it becomes traumatic or ulcerated. The treatment is the conservative surgical excision and recurrence is rare. Follow-up has been made and the patient is well.

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Subepithelial connective tissue graft – an alternative in periodontal plastic surgery

Gingival recessions are periodontal defects that may show good results with proper treatment. Many techniques have been suggested for this situation; however, those that associate the subepithelial connective tissue graft have a more predictable outcome. The authors report a clinical case showing an esthetic alternative for root covering in a Miller's Class II recession, using the aforementioned technique. This procedure has the advantage of presenting double blood irrigation in the graft, either from the periosteum or from the coronal flap. This avoids the risk of losing the graft, as well as favors the esthetic result in the postoperative period.

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The importance of multidisciplinary approach during orthodontic treatment

The orthodontic treatment of adult patients with tooth loss and extensive carious lesions often requires a multidisciplinary approach to attain a satisfactory static and functional occlusion and to obtain improvement on face and smile esthetics. This case report describes a 29-year-old female patient with unilateral Class II malocclusion, maxillary incisors crowding, anterior crossbite, previous loss of the right mandibular first molar, severe carious destruction of the left mandibular second premolar crown and notoriously unaesthetic restorations in the maxillary left incisors. The multidisciplinary treatment included orthodontic therapy with extraction of the right maxillary first premolar to correct the unilateral Class II malocclusion, endodontic treatment, prosthodontic rehabilitation with dental implant, esthetic restorations and tooth bleaching. This report shows that the orthodontic treatment provided a normal occlusal relationship and an adequate prosthodontic rehabilitation. The esthetic and occlusal results were considered satisfactory with two years of good posttreatment stability, which were essentially dependent on a multidisciplinary approach.

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Ethetic and functional restoration of fractured anterior teeth

The dental professionals, in their daily practice, often come across dental fractures. The objective of this work is to detail a restorative procedure on fractured teeth 21 and 22. A male patient came to the Restorative Clinic of the State University of Londrina exhibiting teeth 21 and 22 with a fracture on the middle third. After review of medical history and clinical examination, the restorative treatment planning was established. After rubber dam isolation and adhesive procedures, the palatal portion of tooth 21 was built with composite resin TN (Opallis-FGM). Next, the whole dentin core was made with the composite resins A2 and A3 (Opallis-FGM). Finally, the incisal characterizations were carried out and buccal enamel was made with the composite resin A1 (Opallis-FGM). The same treatment was performed on tooth 22. After final finishing and polishing, the esthetics and function of the teeth were restored conservatively.

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Analyses of the gutta-percha filled area in C-shaped mandibular molars obturated with a modified microseal technique

This study analyzed the gutta-percha filled area of C-shaped molars obturated with the modified MicroSeal technique considering the radiographic features and the C-shaped canal configuration. A total of 23 mandibular second molars with C-shaped roots were classified according to radiographic features as: Type I-merging; Type II-symmetrical, and; Type III-asymmetrical. The root canals were endodontically treated and filled by using a modified technique of the MicroSeal system. Horizontal sections at 600µm intervals were made 1 mm from the apex to the subpulpal floor level. The percentage of gutta-percha area from the apical, middle and coronal levels of the three radiographic types was analyzed using the Kruskal-Wallis test. Complementary analysis of the C-shaped canal configurations determined from cross-sections (C1, C2 and C3) from the apical third was performed in a similar way. No significant differences were found between the radiographic types concerning the percentage of gutta-percha area at any level ($p>0.05$): apical third, type I (77.04%), II (70.48%) and III (77.13%), middle third, type I (95.72%), II (93.17%), III (91.13%) and coronal level, type I (98.30%), II (98.25%), III (97.14%). No significant differences were found between the C-shaped canal configurations apically; C1 (72.64%), C2 (79.62%), C3 (73.51%) ($p>0.05$). In conclusion, the percentage of area filled with gutta-percha was similar in the three radiographic types and canal configurations types of C-shaped molars. Furthermore, the percentage of the filling material was lower in the apical third. These results confirm the difficulty of achieving a predictable obturation of the root canal system when this anatomical variation exists.

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The importance of integration between restorative dentistry and Orthodontics

Restorative Dentistry is the branch of Dentistry that deals with cosmetics and dental restoration. Orthodontics aims at the harmony between teeth, lips and jaw bones, leading to an adjusted face balance. The integration between the two specialties is often necessary, because in some situations, one area only cannot fully return the balance of the stomatognathic system. Thus, interdisciplinary work is important during dental treatment, based on a correct diagnosis and an appropriate treatment plan. The purpose of this work was to show by a clinical case the good results of an interaction between orthodontics and restorative dentistry. A 28-year-old female patient had complaints of "dental wear, poor dental positioning and dark teeth." The first stage of treatment was to correct the teeth positioning using orthodontic movements. In this way, a pleasing esthetic and improvement in functional movements of the teeth was obtained. All the teeth of the patient were bleached until stabilization of the color. The restorative treatment was started with the inferior/anterior teeth. It was noticed that in the protrusion, there was a deviation from the midline to the right, which before the restoration was to the left. The canine guides were also fully recovered. The central superior incisors were restored and the deviation of midline was eliminated. It may be concluded that the integration among the diverse modalities of the dentistry facilitates to obtain the esthetic and functional re-establishment forming a wider sense.

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Photoelastic study of the stress distribution in the support structures of distal-extension removable partial dentures

The double system of support, in which the distal-extension removable partial denture adapts, causes the occurrence of inadequate stress around abutment teeth, increasing the possibility of unequal bone resorption. Several ways to reduce or more adequately distribute the stress between abutment teeth and residual ridges have been reported. However, there are no definitive answers to the problem. The purpose of this study was to analyze, by means of photoelasticity, the most favorable stress distribution utilizing three different retainers: bar T, RPI and circumferential with mesialized rest. Three photoelastic models were made simulating a Kennedy Class II inferior arch. Fifteen dentures with long saddles, five of each design, were adjusted to the photoelastic patterns and submitted first to uniformly distributed load, and then, to a load localized on the last artificial tooth. The saddles were then shortened and the tests repeated. The quantitative and qualitative analyses of stress intensity were done manually and by photography, respectively. The RPI retainer, followed by the bar T, demonstrated the best distribution of load between teeth and residual ridge. The circumferential retainer caused greater concentration of stress between dental apexes. Stress distribution was influenced by the type of retainer, by the length of the saddle and by the manner of load application. The best distribution was achieved with the RPI retainer, followed by the bar T and then by the circumferential retainers. The long saddles and the uniformly distributed loads demonstrated better distribution of stress on support structures.

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In-office vital tooth bleaching with and without previous acid enamel etching - case report

Tooth bleaching has long been considered as a conservative and effective treatment to reestablish the original color of teeth and the in-office tooth bleaching is an alternative when tooth color was affected by intrinsic and/or extrinsic factors. The objective of this case was to compare the in-office tooth bleaching with hybrid light (LED and LASER) with and without previous enamel acid etching, depending on the degree of color change. Prophylaxis was performed and the initial color was selected. Before the bleaching procedure, both the superior and the inferior arches were treated for 15 s with 37% phosphoric acid and then removed. Both arches received treatment with 35% hydrogen peroxide (Laser Peroxide - DMC Equipamentos). The gel was applied on the buccal face of the teeth for 1 min, which is sufficient time to allow its deep penetration. The hybrid light (Whitening Laser II - DMC Equipamentos) was applied for 3 min simultaneously on all anterior teeth. After 1 min, when the gel was cool, another application was made for 3 min. In the bleaching session 4 applications of the bleaching agent were done and a 5th application was done only on the superior canine. The teeth were then polished with felt and aluminum oxide paste and an application of desensitizer and laser therapy. Previous enamel acid conditioning provided a greater degree of bleaching on the patient's teeth.

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Esthetic restoration with self-threading dentin pins

In restorative dentistry, retentive dentin pins are widely used to retain dental restorations in teeth that suffered extensive crown destruction, in order to reestablish basic principles of retention and resistance. The dentist may use many kinds of dentin pins and techniques. Dentin pins are a good option, when correctly recommended, as they enable the performing direct restorations in teeth that otherwise would be referred to endodontic or prosthetic treatment. Among dentin pins, self-threading ones are the

most used by far, because they need flatter orifices and therefore present a lesser risk to the dentin-pulp complex, they also provide better retention than cemented and friction-retained pins. Additional advantages of these dentin pins in relation to other treatment possibilities concern the handling facilities, working time and socioeconomics factors. This work is a case report of the dental reconstruction of a pulpotomized right mandibular first molar which was directly restored using composite resin (Filtek™ Z250 A1 and A2) and self-threading dentin pins (Retopin™ Gold - Edenta). By this technique, it was possible to return the tooth to its anatomic characteristics, function and esthetics, providing satisfaction to the patient and professional.

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Immediate total prosthesis: Importance of the planning of oral rehabilitation with implant fixtures

For most of the patients, the simple mention on the possibility of the loss of natural teeth causes an emotional commotion equivalent to the loss of a part of his body. The total or partial loss of teeth can provoke unbalance, interferences and functional alterations on the occlusion and the whole estomatognathic system. The majority of the edentulous patients present great resistance to a conventional total denture. There are some reasons for this like inadequate stability and retention of the prosthesis, as a result of great atrophy of the alveolar crest, the time required by the tissues healing process for posterior installation of the prosthesis. Therefore all surgical procedure strategy must be judiciously considered, which means that extration procedures must be delayed as much as possible to prevent bone loss or be planned in such a way that the patient comes out of the surgery with a ready immediate total prosthesis. The extration of all natural teeth and the consequent use of a complete denture inevitably results in gradual loss of the alveolar bone, mainly in the mandible. The objective of this work was present an immediate installation of a total prosthesis and planning for the instalation of implant fixtures. A 56-years-old patient, presented maxillary teeth with periodontal commitment and indicated for extration. For the rehabilitation, it was planned the installation of one immediate complete prosthesis and, after the healing period, installation of the implant fixtures in this region. With the aid of total immediate denture, preventing a greater collapse of tissues and bone resorption, obtaining better conditions for the dental implants.

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Novel technique of periodontal plastic surgery to correct unaesthetic connective tissue graft healing

The term periodontal plastic surgery was established in 1988 by Miller, as a surgical procedure aiming to prevent or correct anatomic, developmental, traumatic or plaque associated defects on soft and hard tissues. One of the most frequent indications of this type of surgery is the treatment of oral gingival recessions. The demand for this treatment, is mainly due to the patient's desire to enhance the smile esthetics harmed by radicular exposure. The subepithelial connective tissue graft is usually indicated for the elimination or reduction of gingival recessions, due to its high predictability of root coverage and great esthetic results, providing it is well indicated and skillfully performed. However, in some cases, despite the achievement of root coverage, the healing of the subepithelial connective tissue graft may result in changes in the contour and gingival texture in relation to the surrounding tissues, and in most of these cases, the chosen procedure is the gingivoplasty of the grafted area. However, the desired result is not always obtained with this procedure and total relapse of the gingival condition before the gingivoplasty may occur. There are 2 possible justifications for such an occurrence: genetic memory of the donor site and partial coverage of the graft by the flap. In this case report with 5-month follow-up, root coverage of teeth 24 and 25 by subepithelial connective tissue graft resulted in an early exposure of the graft due to suture dehiscence and consequent anesthetic color. Also, the transplanted palatine rugae became apparent. An innovative corrective surgery was performed consisting of partial peeling of the grafted tissue and covering by a mucosal flap positioned coronally, recovering the initially desired esthetic result to the area.

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Apical isolation for root-end filling

In endodontic surgeries for root-end obturation, control of haemorrhage and humidity can be a problem and may affect placement of the retrograde filling material in the apical cavity. Independent of the selected root-end filling material, placement of the material requires adequate access, visibility, illumination and a dry and sterile field. To meet these goals, various devices and materials have been used, such as bon wax, calcium sulphate, haemostatic agents and adapted instruments. The present paper presents a device for apical isolation designed to aid apical surgery and root-end obturation. The device is easy to place, low cost and does not require an assistant to hold it in place. The described device was developed by the Endodontics Department, Bauru School of Dentistry, in partnership with Indusbello (Indusbello Indústria de Instrumentos Odontológicos Ltda. Londrina, Pr, Brazil). It is made of sterile silicone, comprising a 2.5-cm diameter disc with a 2-mm diameter central perforation and two parallel 1-cm long straps. For isolation, the perforated disc is initially placed on the apex of the tooth and then gently pulled. The straps are stretched up to the tooth crown and secured on its proximal aspects. The disc is then adjusted inside the surgical cavity, isolating the root apex. The success rate of endodontic surgery has increased since the advent of new resources, such as operative microscope, ultrasound and improved retrograde filling materials and membranes. However, when a retrograde filling material is placed in an apical cavity, humidity and bleeding complicate or even prevent this procedure. Ideally, the root apex should be isolated before root-end filling is performed.

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Panoramic radiography: an important tool in orthodontic diagnosis

For the radiographic examination to be an important means of diagnosis, it must be efficiently performed, with minimal exposure and loss of time for the professional and patient. Thus, a dental radiograph rich in details, with minimum distortion, the desired density and contrast are indispensable requirements for a correct interpretation and diagnosis quality. The radiographs used for helping in the diagnoses often offer surprises to the professional; highlighting anomalies of hard and soft tissue such as: anodontia, impacted or supernumerary teeth, anomalies in shape, deformation, resorptions, fissures, caries, periodontal diseases, cysts, infections (osteomyelitis), tumors, injuries, trauma, fractures, disorders of TMJ, calcifications, systemic diseases, etc. Moreover, may reveal defective location and positions, very important informations for Surgery and Orthodontics. The purpose of this work was to focus on the importance of the panoramic radiograph to overview the structures, which may show presence of dental malposition, eruption disturbances, number of teeth and structures - nasal septum, mandible, facial sinuses, dental follicle, hyoid bone, floor of the orbit. However, the panoramic radiograph must be supplemented by further detailed examinations of specific areas.

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The use of tube-screw rigid connections as a viable alternative to the tooth-implant combination

The connection between natural teeth and implants using fixed partial dentures must be considered a viable alternative in implantology. However, there is a difference of compressibility between the periodontium and the bone tissue around the implant. So, which situations allow the correct combination of teeth and implant? Which type of connection may be used in these cases? These are the topics that must be considered when an implant/tooth-connected restoration is planned. The aim of this work is to evidence by a case report the viability of rigid connection of tube screw type as a

system of non-harmful union to teeth, implants and prosthetic components, with the advantage of mechanical rigidity and reversibility of the implant supported dental prosthesis.

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Five-year-follow up of a ceramic-ceramics fixed prosthesis

Nowadays, the ceramic systems represent in dentistry an alternative to metal in the prosthetic treatment, producing prosthesis with better characteristics of biocompatibility and esthetics. In the majority of the cases, mainly in anterior prostheses, the behavior of these systems is satisfactory. However, with the increasing valuation of esthetics and the increase of use in the posterior areas, new more resistant materials are demanded. Therefore, knowing the available systems, the form of laboratorial processing and the clinical procedures, is necessary because these issues can influence the mechanical properties of ceramics and the consequent clinical longevity. This work reports the follow up of 5 years and 6 months of 47-years-old a patient who presented an edentulous space in the region of the maxillary left first premolar (tooth 24). The reposition of the tooth was done with a 3-element fixed ceramic-ceramic prosthesis (Empress 2). After this period, prosthesis fractured in the areas of the connectors (previous and posterior). In view of this, this study will address what can be expected in terms of failures, in such a way that the professional can be able to decide if the material will offer benefit, thus justifying its indication or not in prosthetic rehabilitations. It should always be held in mind that there is no ideal material neither ceramic system that can withstand all clinical situations.

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Serial extraction: why to do it?

Serial extraction can be defined as a therapeutic procedure that reconciles the volume of the teeth with the volume of basal bones by eliminating, in a sequential way, some permanent and primary teeth. As long as precisely indicated and well planned, the use of serial extraction can be successful in the field of Orthodontics by reducing the severity of malocclusion. Serial extraction reduces the crowding of the anterior teeth and improves the therapy. Its goal is to achieve a bone-dental harmony demanding less time for dental treatment in a future intervention. This treatment can be applied both in private clinics and in public health services. In this case, the indication could minimize esthetic and functional problems of a population with restricted access to a specialized care. The purpose of this work is to report the importance of serial extraction and present an updated review about indication, treatment, advantages and disadvantages on this subject, followed by the presentation of a clinical case.

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Median rhomboid glossitis: description of a clinical case

Median rhomboid glossitis (MRG) is an inflammatory disease that affects the back of the tongue. It is located in front of the circumvallate papilla, in the midline, in the posterior and/or middle third of the tongue. It comes in two variants: the first as a reddish papilla-free area of depressed oval or rhomboidal form; the other presents a tumoral aspect, with an elevated mass, usually granulated (agglomerated nodular) and pink. When present in the form of a nodular agglomerate, it can reach 4-5 mm high. The lesion is erythematous and has irregular limits. It is usually asymptomatic and is commonly found in routine clinical exams. Its etiology is widely discussed because it was formerly believed that it was a congenital anomaly caused by the persistence of the odd tuber. Now, chronic infectious factors related to *Candida albicans* are suggested as etiologic factors. Its prevalence is low, reaching less than 1% of the population and it affects more individuals in the 4th and 5th decades of life. It is not considered as a precancerous lesion, but it is important to now how to identify this lesion in order to make the differential diagnosis, other tongue pathologies. The presented clinical case

refers to a male child aged 1 year and nine months, G. D. S., with history of oral candidosis who was treated at the Center of Dentistry for Babies of the State University of Londrina.

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Electromyography of cervical, scapular and trunk muscles in patients with temporomandibular disorders

The aim of this work was to evaluate the electromyographic activity of trapezius muscles, upper and middle portion, at rest, in isometric extension of scapula and head, and lumbar portion of longissimus and iliocostalis muscles, at the rest and in isometric extension of the trunk, bilaterally, before and after myorelaxing occlusal splint installation. Clinical and electromyographic examinations were done in 20 patients with temporomandibular disorders, before, one week and one month after the installation of the occlusal splint. Root mean square (RMS) values were compared between using by the test of Wilcoxon test ($p < 0.05$). The results showed statistically significant differences between the right and left sides for the longissimus and upper trapezius muscles, and between the study stages for the left iliocostalis, upper trapezius of both sides and right middle trapezius. It may be concluded that there is an interrelation between the occlusion and the cervical and postural muscles, in which any unbalance will be able to compromise the muscular components at distance and compromise the organic functions.

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Design and implementation of an electronic facial arch

During the analysis of dental occlusion, it is important that it is observed in a static and dynamic manner. In the present, the instrument that allows the study of occlusion is the articulator by means of the facial arch. In the market, there are mechanical facial arches, which, if not handled properly, can produce errors. The interest in developing an electronic facial arch is to reduce these errors and facilitate the clinical routine, as well as to establish a correct spatial orientation, and better dynamics for each case. The purpose of this study was to develop an easy-to-use equipment to obtain measurements of spatial positioning of the upper jaw with reference to the Frankfurt plane. The design consists of two parts: the first refers to the physical structure and the second part will cover signal processing. Basically, the physical structure of this facial arch will consist from one horizontal bar, inside which there are sensors to determine the inter-condylar distances with reference to the Nasion, and another vertical bar that will have an angular sensor, to determine an angular measurement of the occlusal plane. When parking is obtained from physical structure these quantities will arrive to a visual box; in that moment one LCD will show us the obtained measurement. It was found that the used sensor systems provide a good resolution, precision and accuracy, making the equipment reliable in addition to reducing the protocol for their use. The development of the equipment allows for obtaining in an easy and efficient manner the static measurements of the spatial positioning of the maxilla with reference to Frankfurt plane.

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In-office bleaching with 35% hydrogen peroxide with no light: case report

Tooth bleaching has long been considered as a conservative and effective treatment to reestablish the original color of teeth and the in-office tooth bleaching is an alternative when tooth color was affected by intrinsic and/or extrinsic factors. The objective of this case was to compare the in-office tooth bleaching with hybrid light (LED and LASER) with and without previous enamel acid etching, depending on the degree of color change. Prophylaxis was performed and the initial color was selected. Before the bleaching procedure, both the superior and the inferior arches were treated for 15 s with 37% phosphoric acid and then removed. Both arches received treatment with 35% hydrogen peroxide (Laser Peroxide – DMC Equipamentos). The gel was applied on the buccal face of the teeth for 1 min, which is sufficient time to allow its deep

penetration. The hybrid light (Whitening Laser II – DMC Equipamentos) was applied for 3 min simultaneously on all anterior teeth. After 1 min, when the gel was cool, another application was made for 3 min. In the bleaching session 4 applications of the bleaching agent were done and a 5th application was done only on the superior canine. The teeth were then polished with felt and aluminum oxide paste and an application of desensitizer and laser therapy. Previous enamel acid conditioning provided a greater degree of bleaching on the patient's teeth.

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Noise in Dentistry Clinic: an occupational problem

Dentist's auditory health has been investigated since the appearance of pneumatic turbines and high-speed handpieces, as well as, other instruments incorporated to dental practice with the technological advance, such as ultrasound and vacuum pumps. A prolonged period of high-noise-level exposure in the work environment predisposes the professionals to hazards of ergonomic, chemical, physical and biological nature. Amongst these are a prevalence of auditory alterations and various other related adverse effects such as sleep disturbances, difficulties in concentrating and communicating, tinnitus, headache, irritability and fatigue. The purpose of this work is to show the noise level found in the diverse dental clinics of Bauru School of Dentistry - University of São Paulo. The noise level was measured by the measurer of sound pressure level "Sound Level Meter - Radio Shack" and while the graduation and postgraduate students worked throughout different specialties. The sound pressure levels in the dental clinical environment varied between 66 to 74 dB SPL. The measurement in different specialties had the following results: Operative dentistry, of 80 to 82 dB SPL; Oral rehabilitation, 82 to 86 dB SPL; Radiology, 70 to 72 dB SPL; Orthodontics, 68 to 76 dB SPL; Endodontics, 70 to 72 dB SPL; Pediatric Dentistry, 82 to 86 dB SPL. In conclusion the dentists are displayed to high sound pressure levels in their work environment, which could cause auditory alterations throughout their work years.

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Compound odontoma: a clinical report

Odontomas are mixed odontogenic tumors that can be divided into two types: complex and composite odontomas. Composite odontoma is constituted by several tooth-like structures involved for a fibrous capsule, more common in the anterior maxillary region. Surgical treatment of these lesions consists of local removal and curettage. We report a case of a 14-year-old male patient referred by the orthodontist with a lesion involving the anterior maxilla. The panoramic radiograph revealed a well circumscribed radiopaque image, containing several tooth-like structures, close to tooth 22, leading to a diagnostic hypothesis of a composite odontoma. The patient was submitted to an excisional biopsy. Final microscopic diagnosis was composite odontoma. The patient has been followed-up for 30 days and no clinical and radiographic signs of lesion recurrence were found.

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Comparison of calcium ion release promoted by calcium hydroxide associated with different substances

The objective of this study was to evaluate the ion calcium release promoted by calcium hydroxide paste with different substances. Forty acrylic teeth with simulated canals were divided into four groups according the paste: group 1 – Ca(OH)₂ + chlorhexidine 1% with propyleneglycol; group 2 – Ca(OH)₂ 2% + chlorhexidine gel; group 3 – Ca(OH)₂ + Casearia sylvestris Sw (guaçatonga) extract in propyleneglycol; group 4 – Ca(OH)₂ + propyleneglycol. After root canal filling, the teeth were immersed into flasks with 10 mL of deionized water and, after periods of 10 min, 24 h, 48 h and 7

days, the teeth were changed from one flask to another, and the calcium released of the anterior flask was measure by spectrophotometer atomic absorption. The values (mg/dL) were statistically compared using the ANOVA and Tukey, and the gotten results were: 10 min, group 1 – 0.44, group 2 – 0.07, group 3 – 0.28, group 4 – 0.33; 24 h, group 1 – 0.91, group 2 – 0.43, group 3 – 0.68, group 4 – 0.33; 48 h, group 1 – 0.50, group 2 – 0.27, group 3 – 0.47, group 4 0.73; 7 days, group 1 – 0.78, group 2 – 0.60, group 3 – 0.72, group 4, 0.73. At 10 min, there were statistically significant differences (p<0.05) between 1 and 2. At 24 h, the significant differences (p<0.05) occurred at 2 x 4 and 2 x 1 comparisons. At 48 h, the significant differences were in the 2 x 4 and 4 x 3 comparisons. At 7 days, no statistically significant difference were found (p>0.05). In conclusion, the paste with 2% chlorhexidine gel caused less calcium ion release mainly in the initial periods

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Use of absorbable membrane and xenogenous graft for guided tissue regeneration in degree II furcation lesion

The periodontal stability is crucial to determine tooth longevity. However, some factors facilitate the accumulation of plaque, which is an etiologic factor of periodontal disease, causing loss of stability. An example of such factors is the furcation lesion. The areas of furcation make plaque control and periodontal treatment more difficult. When the periodontal alterations have already damage these areas, a possible treatment is the guided tissue regeneration (GTR), which is the cellular selection for the repair process, by the use of a barrier or membrane. The objective of this work is to present a case in which a degree II furcation lesion was treated by the GTR technique. Patient LNS, 34 years old, female, came to the Periodontics clinic of the University Federal de Mato Grosso do Sul with periodontitis. After the clinical and radiographic exams, the presence of the degree II furcation lesion was found on the buccal side of tooth 37. The conventional periodontal treatment showed no sign and symptoms of regression and so the surgical procedure was chosen. The surgery consisted of infiltrative terminal anesthesia in the buccal and lingual tooth regions; intrasulcular incision, from the middle third of tooth 35 to the distal of tooth 37; mucoperiosteal flap elevation in the buccal and lingual sides; removal of granulation tissue; root scaling and planning; root conditioning with tetracycline; insertion of xenogenous graft in the furcation area; adaptation absorbable membrane in the area; flap repositioning; suture and medication prescription. After 6 months of case follow up, the furcation area was filled. In spite of the unfavorable prognosis, GTR technique is a procedure that has satisfactory results.

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Conventional maxillary denture construction with artificial teeth selected from the patient's inner canthal distance

There is no consensus of data regarding a reference to estimate the width of artificial teeth. Thus, tooth selection is a procedure without scientifically based parameters, and depends on the professional's skills. The relationship between facial measurements and natural teeth can be used during the selection of artificial teeth. Previous studies showed a strong relationship between the inner canthal distance and the combined mesiodistal width of the maxillary anterior teeth, and a linear regression equation was concluded to relate such measures. The present case reports the construction of a conventional denture with artificial teeth selected by means of the referred linear regression equation from the patient's inner canthal distance. The patient, who was complaining about the esthetic appearance of her old denture, has been followed up for 30 months. The treatment showed good results, as the denture presents good retention and stability, and a pleasant esthetic outcome.

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The influence of motivation on undergraduate students in dealing with HIV patients

The World Health Organization considers that dentists have the professional obligation to treat persons infected with the human immunodeficiency virus (HIV). In this context, it is mandatory that these professionals have knowledge of this condition. This study analyzed the influence of teaching on changes in expectation, attitudes, and knowledge of undergraduate students for dental care to patients with HIV. Questionnaires were applied to 87 fourth-year undergraduate dental students of Paulista University in two moments: at the beginning (1st stage) and at the end (2nd stage) of teaching. The answers were analyzed by percentage. The results showed that the expectation to learn something interesting was 40.3% in the first stage, increasing to 63.7% in the second one. The students had no initial knowledge related to HIV (5.1%), but 65% of them reported to have acquired sufficient knowledge for the treatment. In relation to rejection in the treatment, the percentages were similar at the beginning and at the end (80.5%). On the other hand, 54% were afraid at the beginning and 61% were not afraid at the end, justifying the importance of not missing biosecurity, while others were afraid of accidental contamination during treatment. All students answered that the learning process is important for their professional future. In the beginning of the year, 5% of students would treat these patients after graduation; while 73% of them told later that they would treat them. Regarding biosecurity, 48% of students had knowledge at the beginning, whereas this percentage increased to 98% at the end of the study. These results showed that most students felt prepared to treat to patients infected with HIV at the end of the course, thus revealing positive changes throughout teaching.

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Indirect restorative technique: an alternative in pediatric dentistry

The oral rehabilitation of primary teeth with great coronal destruction requires the professional knowledge of dental anatomy, occlusion, techniques and materials available in order to restore not only the function and esthetics, but also the emotional balance of children. Indirect composite resin restorations are an alternative treatment option for oral rehabilitation in the primary dentition, being an efficient method in esthetic and functional solution and offering satisfactory long-term clinical results. In this technique, the restoration is constructed on a plaster model and later cemented in the cavity, aiming mainly to improve the adjustment, reducing the polymerization shrinkage and clinical time. The objective of this work is to report the case of a patient treated at the Pediatric Dentistry Clinic of the Dental School of Araraquara-UNESP, whose primary molar was reconstructed by the placement of an indirect composite resin restoration, as well as to address and discuss conservative indirect restorative alternatives for primary molar with severe coronal destruction. In conclusion, the use of composite resin by the indirect technique seems to be efficient in the restoration of primary molars with large coronal destruction and therefore enables the esthetic and functional rehabilitation of lost anatomic structures, with good marginal adaptation and excellent polishing, wear resistance, being a simple, rapid, low-cost technique indicated in Pediatric Dentistry, mainly for patients that do not allow much clinical chairtime for clinical care. It is worth emphasizing that the success of any treatment depends on oral evaluation, diagnosis and correct plan treatment of the existing clinical situation for each individual patient.

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Root fracture in the third middle: Case report

In spite of being difficult to solve, cases of root fracture due to dental trauma can be treated by fracture reduction and splint. The aim of this work is to present a case of a 7-year-old patient who sought treatment at the Polyclinic Complex of UNIDERP after a bike accident occurred 48 h before. The upper right and left central incisors were slightly intruded with a greater degree of mobility, and a smaller degree of mobility in the upper right lateral incisor and upper left lateral incisor. In addition, gingival laceration was observed in the region of tooth 21. The radiographic examination showed root

fracture in the third middle of the upper left central incisor and extrusive luxation of upper right central incisor. The immediate treatment consisted of anesthesia and replacement of the upper right central incisor and upper left central incisor and splint with light-cure composite resin anchorage in the upper right lateral incisor, upper left lateral incisor, primary upper right canine and primary upper left canine. As the splint presented inadequate fixation, it was removed and a new splint made with 0.07 mm orthodontic wire and composite resin. Monthly follow-up visits were scheduled within one year and no adverse clinical or radiographic alteration was observed.

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Immediate occlusion loading in cleft lip/palate patients

The use of implant in oral rehabilitations has reached high levels of success, being necessary the development of new surgical and prosthetic protocols to simplify the technique, reduce costs and meet patient's needs in an immediate fashion. Thus, the immediate occlusion loading in implantology has become ever more a common practice. If well-established criteria are set and respected, the installation of an implant and its immediate function may be predicted and beneficial for both the patient and the dentist. This study emphasizes the criteria for the application of immediate occlusal loading on the routine dental implantology, with cases to exemplify the use of single anterior implants in grafted areas, and cases of mandibular fixed complete dentures.

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The use of low intensity laser in Down syndrome patients with periodontal disease

Down syndrome is featured by chromosome 21's trisomy. The patient with Down Syndrome has some particular malformations such as hypotonia (floppiness), small mouth, delayed eruption of teeth, microdontia, high incidence of caries and periodontal disease, the last being presented precociously and more aggressively when compared to non-Down Syndrome patients. This work reports a case of the use of low-power laser as therapeutic aid on periodontal disease treatment after periodontal scraping with ultrasound and good oral hygiene and supervised toothbrushing. A.L.C., a 16-year-old female patient with Down syndrome attended the NIAPE (Special Care Patients Integrated Center), presenting severe periodontal disease, calculus and mobility. Periodontal scaling was performed with ultrasound and low-power GaAlAs (gallium aluminum arsenide) laser at 790nm-30mw was applied for 3 min per point in each interdental area - marginal gingiva equivalent to about 4 J/cm², as a therapeutic support. The application took place on a weekly basis, in a total of 4 sessions. There was a significant improvement concerning the periodontal disease, observed both clinically and radiographically with the GaAlAs laser, which proved its analgesic, antiinflammatory and bactericidal efficiency, and its capacity to stimulate tissue repair. When associated with periodontal scaling and effective improvement on hygiene and toothbrushing, the results were satisfactory since there was a significant decrease in plaque, calculus, edema and mobility.

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TMD multifactorial etiology- case report

Pain is an intriguing and unpleasant phenomenon, a personal and subjective experience, influenced by cultural learning, situations and other psychological variables. Among facial pains, temporomandibular disorders (TMD) have demonstrated an increasing prevalence. The TMD are characterized by the presence of signs and symptoms in the masticatory muscles, temporomandibular joint (TMJ), or both. Obtaining a precise diagnostic is a decisive factor for treatment success. Differences related to the etiology, progression and treatment response are obstacles in determining the causal factors, individual predisposition and to establish the best treatment. This presentation describes

a case of a young female, with mixed TMD (articular and myogenic), complaining initially of severe clicking at the right TMJ. A closed lock joint accompanied by severe pain at the right side of the face, headache and problems during mastication were features of a follow-up visit. We intend to emphasize the importance of analyzing possible biological and psychological mechanisms involved on TMD, allowing a correct approach during diagnosis and treatment.

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Trauma to the primary dentition and its consequences to permanent dentition

Dental trauma, mainly to primary dentition, is a problem with high incidence and difficult prevention. As result of lower mineralization on the local bone and the close relationship between the roots of primary teeth and the crowns of permanent teeth, traumatic displacement of anterior teeth can result in morphological alterations to the permanent successors, such as dilaceration. This occurs during odontogenesis due to a displacement of the tooth germ causing deviation of tooth long axis. In general, this pathology occurs in the upper and lower central incisors and the main consequence is fail in eruption in 50% of the cases. Because of this the children can develop psychological and functional problems. The aim of this presentation is to report a case of dilaceration of the permanent upper central incisor secondary to trauma, diagnosed radiographically at the Pediatric Clinic of Araraquara Dental School - UNESP. The clinical proceeding approach and the etiology of this pathology will be discussed as well as the importance of the treatment, with emphasis on the importance of an early diagnosis to select the most treatment and have a good prognosis, avoiding psychological problems to the child.

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Immediate chairside fabrication of band and loop space maintainer

The maintenance of arch length in the primary, mixed and early permanent dentition is important for the normal development of the occlusion. Premature loss of primary teeth can result in the loss of arch length leading to malocclusion. Space maintenance after early molar extraction, which is still frequent in Brazil, can often prevent space loss and either prevent the development of a later malocclusion or reduce its severity. Various space maintainers are used in pediatric dentistry. However, their construction requires time-consuming laboratory procedures. This paper describes the construction of a new direct technique of fabrication of band and loop space maintainer and the advantages over the conventional technique.

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The effect of rinsing with water immediately after topical fluoride application on enamel remineralization: an *in situ* study

This crossover study involved a double-blind design and was performed in three 3-day phases to determine the effect of rinsing with water on enamel remineralization immediately after topical fluoride application (ATF). Ten volunteers wore acrylic palatal appliances each containing four bovine enamel blocks with artificial caries lesion, selected after surface microhardness (SMH) analysis. Following the neutral fluoride (2% NaF) application and depending upon the group assignment: 1) the volunteers were asked to refrain from rinsing their mouth or consuming any liquids or solids for the next 30 min; 2) the teeth were immediately washed with water jet; 3) the volunteers received no treatment on the enamel blocks (control group). Two enamel blocks were removed from the appliances for calcium fluoride (CaF₂) analysis (Formed). The other two blocks were subjected to a remineralization process. After 3 days, the blocks

were removed for surface microhardness analysis to calculate percentage of microhardness recovery (%SMHR) and formed CaF₂. The normality and homogeneity of the sample were tested and the data were submitted to ANOVA (p<0.05). All fluoride treatment regimens showed a higher formed fluoride concentration in enamel blocks (p<0.05) and a statistically significant increase of their remineralization (%SMHR) when compared to control group (p<0.05). However, no significant differences between them were observed (p>0.05). The results suggest that the practice of asking patients to refrain from drinking water following a professionally applied topical fluoride treatment does not influence the remineralization effect of the APF gel.

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300

Use of homogenous bone matrix implants in the orbital floor reconstruction: histomorphological analysis in rats

The high car accident rate allied to the current violence result in a large number of individuals with craniofacial trauma, which usually involve the zygomatic-orbit complex. Several materials have been used in orbital floor reconstruction in an attempt to correct and prevent these complications. This histological study evaluated homogenous bone matrix implants used in the orbital floor reconstruction. Twenty-two rats (*Rattus norvegicus*, *albinus*, *Wistar*) were used. Four animals composed the bone matrix donor group and the remaining animals (18), composed a single group. The right side (treated) of each animal, received bone graft and the left side (control) did not received any type of material, only the preparation of the receptor site, simulation the orbital floor comminuted fracture. Six animals were sacrificed at 10, 25 and 45 postoperative days. The histological data obtained from the demineralized bone matrix group were very to those of the control group. It may be concluded that the homogeneous demineralized bone matrix is well indicated for the orbital floor reconstruction.

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301

Evaluation of the upper airway of individuals with obstructive sleep apnea and hypopnea syndrome related to the facial type

The obstructive sleep apnea and hypopnea syndrome is a breathing disturbance characterized by the obstruction of the upper airway that occurs during sleep, leading to successive episodes of wakening that repeat cyclic during the whole night. The pathogenesis of this syndrome involves anatomic components that contribute to reduce the dimension of the upper airways as well as the craniofacial complex arrangement. The sample consisted of 38 adult individuals of both genders aged 22 years and 5 months and 78 years and 2 months with clinical and polysomnographic diagnosis of obstructive sleep apnea and hypopnea syndrome. Lateral radiographs were obtained from each selected individual subsequent evaluation and, based on the values obtained in the Ricketts' et al. (1989) cephalometric analysis, the patients were classified according to the facial type as patients with neutroversion, proversion and retroversion using the following cephalometric measurements: facial axis, total facial height and height of the dentition. In the analyses of facial type, the method of data exclusion by repeatability was chosen for being a serial evaluation of qualitative aspects. Analyzing the facial types according to the classification of the apnea-hypopnea index (AHI) (mild, moderate and severe) by the qui-square test, we observed the distribution of these three AHI categories those associated with the different facial types ($\chi^2= 8.235$; $p= 0.083$). The analysis of the percent results from the absolute values showed that the predominant facial types in mild and moderate SAHOS were neutroversion (30.80%) and proversion (71.40%) respectively. In the individuals with severe SAHOS, the most common facial type was retroversion. These findings are consistent with those of most related works.

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Esthetic resolution of smile by tooth bleaching

The purpose of this study is to present the in-office bleaching in a female patient with chromatic alteration of dental crows, submitted to an application of 35% hydrogen peroxide activated with a Led/Laser source. Recently, dentistry goes far beyond the restoration tooth form and function, but is rather concerned with patient self-esteem and welfare, offering resources to provide a harmonious smile with bright and aligned teeth. By a number of reasons, the teeth can present altered color and/or shape, compromising esthetics. In some cases the anterior teeth show only color alteration, with good shape, alignment and superficial texture. In these cases, depending on the etiology and intensity of color alteration, tooth bleaching is the first treatment option. Is thus important that professional knows how to identify the different etiologies of this alteration because the correct diagnosis allows for selecting the best treatment. Among the new treatment approaches, the use of laser devices has been proved safe and has provided satisfactory, fast and efficient results..

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Diastema closing with composite resin

The reestablishment of esthetic appearance is challenging for restorative dentistry. A patient sought treatment motivated by the need of improving the esthetics of his anterior teeth. The aim of this work is to present an alternative restorative technique for anterior diastemas by the use of adhesive systems and composite resins. The chemical properties of these materials have been constantly improved resulting in the increase of durability and resistance and providing a satisfactory esthetic outcome. The treatment plan was established with the aid of diagnostic waxing on a plaster model where the diastema was eliminate, proportioning harmony and esthetic rehabilitation of patient's smile. A silicone matrix was obtained to be used as a guide. Vitalescence/Ultradent composite resin was then applied according to a color stratification technique. Finishing and polishing procedures were done with Diamond pro and Diamond flex with a Diamond paste (FGM) to optimize the esthetic results. The results of this case demonstrate that it is possible to improve the patient esthetics using conservative techniques.

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Considerations about anterior open bite: a case report

The anterior open bite malocclusion is one of the major esthetic and functional problems usually characterized by dental and skeletal alterations. It can be defined as a negative overbite measured on the incisal edges of the upper and lower anterior teeth. It is known that the etiology of this malocclusion is multifactorial. The most common features are: deleterious oral habits, hereditary succession; lingual interposition; oral breathing and trauma. The anterior open bite must be early corrected, providing easy therapeutics and good prognostic. The aim of this study is to express the importance of the multidiscipline treatment and to present an updated review on the etiology, diagnosis and treatment of this malocclusion, followed by a case report.

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Procera® System: application in a posterior tooth

The use of metal-free ceramic systems has become an alternative to substitute the indication of metal-ceramic works. Many of these systems incorporate great technological advances that make it possible for the dentist to indicate and execute single-unit indirect restorations that associate excellent esthetics with the mechanical resistance and clinical longevity. The Procera System is one of these alternatives. This work presents the fabrication of a metal-free porcelain crown on tooth 46 in a female

patient. A zircon framework of the Procera® system was made for this case (Estocolm/ Sweden). The tooth already had a gold cast dowel-core and an adequate endodontic treatment. The tooth fractured on the lingual face, invading the biological width. Among treatment possibilities, such as tooth traction, subgingival preparation followed by fabrication of a porcelain crown with last-generation framework was the best option, with the possibility to achieve an adequate marginal adaptation and good resistance to fracture, thus reducing future risks. After case completion it was observed an excellent adaptation of the crown, which cemented with resin-based cement (Multilink®-Ivoclar Vivadent®). The case was followed for 1 year and did not show any problem related to the crown or the patient. The characteristics of this system should offer further advances and technical facilities, providing esthetic, mechanically safe and guaranteed prosthetic works.

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306

Rapid prototyping: new technology for dentistry

A good diagnosis is decisive for the determination of an adequate treatment and, consequently, to increase case prognosis. Therefore, the advance of the rapid prototyping is extremely important even for the most complex cases in dentistry. Guided by computed tomography scans, it is possible to generate a model of a specific region of the bone tissue and even of soft structures. This three-dimensional reconstruction presents higher accuracy of details, assisting the surgeon on the preparation and planning of surgical procedures that pose more difficulties. The advance of the 3-D rapid prototyping, allied to other techniques of medical diagnosis, places our country among the most developed ones for the diagnosis and surgical preparation for the most complex operations in dentistry. This literature review aimed to present the rapid prototyping techniques and to explain its use in dentistry.

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Evaluation of antimicrobial activity of plant extracts from the Brazilian savannah on *Streptococcus mutans*

This *in vitro* study evaluated the antimicrobial activity of plant extracts of the Brazilian savanna on *Streptococcus mutans*. *Streptococcus mutans* GS 5 and ATCC 1910 and 5 clinical isolates from patients with high caries risk and identified according to their biochemical-physiological and morphological characteristics were used. Aquous and hydroalcoholic plant extracts of *Anadenathera falcata*, *Psidium cattleianum*, *Solidago microglossa*, *Astronium urundeuva*, *Anacardium occidentale*, *Anacardium giganteum*, *Maytenus ilicifolius*, *Vanillosmopsis erythropappa*, *Terminalia argentea*, *Cedrela fissilis*, *Ficus enornis*, *Roupala montana*, *Patagonula americana*, *Tabebuia impetiginosa*, *Platypodium elegans*, *Jacaranda cuspidifolia*, *Gallepsia gorarema* and *Caryocar brasiliense* were prepared. Of all tested plant extracts only the *Psidium cattleianum*, *Astronium urundeuva*, *Maytenus ilicifolius*, *Vanillosmopsis erythropappa*, *Ficus enornis*, *Patagonula Americana*, *Platypodium elegans*, *Jacaranda cuspidifolia* showed the capacity of inhibiting the bacterial growth. The extracts of *Ficus enornis* and *Jacaranda cuspidifolia* were not able to inhibit the microorganisms significantly. It was observed that the extract that showed greater activity related to the strains de reference tested also showed a greater and faster activity of inhibition related to the microorganisms in planktonic state and forming biofilms.

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Malocclusion in children and adolescents: a systematic review

The aim of this study was to identify the most prevalent occlusal alterations in children and adolescents and to verify the most commonly used epidemiologic instruments in Public Health. A systematic review of the scientific literature on malocclusion from 1997 to 2007 was conducted in the electronic databases (MEDLINE, LILACS, BBO and SciELO). The following descriptors were used: "malocclusion", "epidemiology",

“dentition primary”, “dentition permanent”, “dentition mixed”, “child”, “adolescent”, “public health dentistry”, “World Health Organization” and “indexes”. A total of 191 articles were searched, resulting in 21 articles that met our inclusion criteria and had served of base for this study. The epidemiologic indexes more used had been DAI and the IOTN. It was observed the prevalence of open bite in the primary dentition, related with deleterious oral habits. On the other hand, there was a prevalence of tooth crowding in the mixed and permanent dentition. The knowledge of the occlusal conditions of the population allows the adoption of public policies directed to prevention and treatment.

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Incidence of parafunctional habits in individuals with temporomandibular disorders

The parafunctional habits are activities of the stomatognathic system that do not have functional purposes. They are frequently associated with the etiology of the temporomandibular disorders (TMD) and can be classified under the group of neuromuscular factors. The purpose of this study was to evaluate the incidence of parafunctional habits in individuals with TMD and orofacial pain and to compare them to a control group. The study was randomized with 100 volunteers of both genders aged between 18 and 65 years. Descriptive statistics was done and softwares, such as Excel and BioEstat 3.0, were used. The results showed that the group of individuals with TMD had a higher incidence of sleep bruxism and daytime-awake bruxism when compared to control individuals. However, the habit of biting objects had a higher incidence in subjects of the control group. Based on the obtained results, a correlation between sleep and daytime-awake bruxism and DTM can be established.

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Oral manifestations of candidiasis in HIV positive/AIDS patients

The acquired immunodeficiency syndrome (AIDS) caused by the human immunodeficiency virus (HIV) has multiple systemic and oral pathologies in its clinical presentation. Oral candidiasis is an opportunistic disease strongly associated with HIV. Several epidemiological studies emphasize its importance as the mediator of the progression of the disease and the increase of immunosuppression. This work addresses the clinical manifestations of oral candidiasis in its different forms, such as pseudomembranous, presented as non-adherent white plaques that when removed leave an erythematous area associated with burning sensation and halitosis, frequently appearing on the cheek pouch mucosa, palate and tongue. Erythematous candidiasis exhibits red lesions that can be found as acute atrophic candidiasis, accompanied by burning sensation and diffuse loss of papillae, leaving a red and bald tongue. In angular cheilitis, fissures and cracks are observed in lip commissure associated with ulceration, redness and white plaques. Quite often the dentist is the health professional to get in touch with HIV+ individuals and has an important role in the early diagnosis in these alterations.

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Treatment of multiple gingival retractions class I of Müller, using the semilunar remnant

The gingival recessions can be caused by traumatic toothbrushing, periodontal disease, anatomic and development factors. However, various surgical techniques for root coverage have used, such as pedicle graft, free autogenous gingival graft, subepithelial connective tissue graft and guided tissue regeneration. Active periodontal disease, poor oral hygiene, risk factors (tobacco and smile line), mechanical trauma, inadequate root and tissue preparation, technical factors (instruments, materials, operator skills and necessary indication) and patient selection (psychological and behavioral factors) were limitations for root coverage. In this case report, the semilunar flap was used. This technique is less traumatic, easy to perform and has good prognosis in shallow recession defects. The multiple gingival recessions were classified as Müller's Class I, presenting 3 mm (canine), 2 mm (premolar) and 1 mm (molar) in apical extension. The results were unsatisfactory, the gingival recessions did not present root coverage. The cervical abrasion, wide recession and a possible toothbrushing trauma might have affected the esthetic result.

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Treatment of anterior crossbite in primary and mixed dentition: report of case

This case clarifies a situation that may occur frequently in orthodontic and pediatric clinic. It is a case of anterior crossbite due to change in the eruption path of the primary upper incisors treated within a short period (39 days) by a removable upper appliance fabricated with double digital spring for buccal rotation of these teeth and bilateral posterior bite elevation to “unlock” the occlusion and facilitate the desired movement. After exfoliation of the primary lower and upper incisors and subsequent eruption of the permanent successors, the anterior crossbite reappeared and a second intervention with a removable orthodontic appliance similar to the first one was necessary for a short period (50 days). It may thus be concluded that since the orthodontic intervention in the primary dentition does not change the intraosseous positioning of the permanent incisors there is guarantee that the malocclusion will not appear in the mixed dentition. However, its early correction is entirely justified because it is very quick, easy and, mainly, promotes a maxillomandibular growth harmony

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Enamel-dentin fracture: case report

The fracture of anterior teeth is frequently reported in the dental literature and the adequate restoration of the esthetics and function of these teeth has been a constant concern of dental professionals. Adhesive autogenous tooth fragment reattachment is a conservative treatment that aims to use the remaining fractured tooth structure. Moreover, it is a fast, easy and low cost treatment option. The use of contemporary adhesive systems may favor the success of bonding of the autogenous tooth fragment on both short- and long-term bases. The purpose of this work is to present a case in which adhesive autogenous tooth fragment reattachment was performed to recover the esthetics and function, as well as to discuss the aspects related to the technique.

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Oral-facial-digital syndrome type 1: features in 12 patients submitted to clinical and radiographic examination

The oral-facial-digital syndrome type 1 (OFD 1; OMIM #311200) is characterized by heterogeneous clinical features involving malformations of face, oral cavity and digits. It is an X-linked dominant condition with lethality in males. Mutations in gene OFD1 Cxof5 (Xp22.2–22.3) are considered the cause of OFD 1 and the prevalence of this syndrome is 1:50,000 live births. The most commonly reported oral manifestations of the syndrome are hyperplasia of frenula, bifid or lobulated tongue, small median cleft or pseudo cleft of the upper lip, cleft palate, highly arched palate, supernumerary teeth, tooth agenesis and ankyloglossia. Facial and digital manifestations include hypertelorism, facial asymmetry, alar hypoplasia, polydactyly, clinodactyly and syndactyly. The aim of this study was to evaluate the oral features of 12 females with OFD 1. According to the patient's age at the moment of evaluation, mixed or permanent dentitions were clinically and radiographically examined; the patients also had their medical files evaluated. Associated oral malformations were observed in all individuals (100%), the most frequent findings being tongue hamartomas, multiple buccal frenula, asymmetric lips, asymmetric tongue, bilateral maxillary gingival swelling and swerved median line. Interestingly, atrophy of maxillary labial frenum was also observed in all the individuals examined. This feature had not been reported so far. In conclusion, patients with OFD type 1 present several extraoral and intraoral alterations that can be firstly diagnosed by the dentist. It is hence mandatory the knowledge of these features by the professionals of dentistry.

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Headache: fisiopathogenesis, diagnosis and treatment

Headache can be defined as an episodic pain characterized by intense migraine accompanied by neurological, gastrointestinal and autonomous symptoms, with duration of 4-72 h in adults and 2-4 h in children. Its prevalence ranges from 3 to 35% in the population, affecting 6% of men and 15-18% of women. Its classification is divided in aural and non-aural headache. The primary mechanism of this type of migraine has not yet been fully understood, although much progress has been done towards the knowledge of pain mechanism. The correct diagnosis of this pathology allows the accomplishment of an appropriate treatment, which consists of the non-pharmacological and/or pharmacological therapy. The non-pharmacological therapy is based on patient counseling while the pharmacological therapy can be divided in preventive (prophylactic) and acute phase (abortive) therapy. The lack of treatment, over-medication and the appearance of episodic headache crises at an early age (under 20 years old) are the factors responsible for the appearance of transformed headache

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Gingival depigmentation – case report

Gingival hyperpigmentation caused by excessive melanin pigmentation is more common in black people. In spite of gingival hyperpigmentation being a physiological condition and not offering any risk to health, patients usually complain of unaesthetic dark gums, especially those with a "gummy smile". Gingival depigmentation techniques have been done with chemical and abrasive products or surgical procedures (gingivectomy/gingivoplasty, free gingival graft, electrosurgery and cryosurgery) or laser therapies (Er:YAG, CO and Nd:YAG). All of these procedures cause discomfort to the patient and recurrences have been reported 3 to 6 months after treatment on the average. The CVD-coated diamond tips adaptable to conventional ultrasonic devices have been used for elimination of the melanin-pigmented areas. One of the advantages in its use is a simple procedure that can be done with only topical anesthesia. The objective of this paper is report a clinical case of gingival depigmentation using CVD-coated diamond tip and results after 30 months of follow up. This procedure was considered practical, fast, safe, low-cost and painless, presented satisfactory long-term esthetic result.

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Effect of periodontal treatment on the quality of life in a patient with diabetes mellitus

World Health Organization (WHO) stated that the increase in Diabetes Mellitus prevalence is an epidemic. The WHO estimated there were 217 million people who had diabetes worldwide in 2005. By 2030, the WHO predicts this number to increase to at least 366 million. Current evidence shows that diabetes and persistent hyperglycemia lead to an exaggerated immunoinflammatory response to the periodontal pathogenic bacterial challenge. This results in more rapid and severe periodontal tissue destruction. Oral health-related quality of life is a relatively new concept in the oral health sciences literature. It is defined as that part of a person's quality of life, which is affected by one's oral health status. Specifically, it includes how oral health affects a person's function, such as chewing, biting, and speaking; experiences of pain/discomfort; and psychological and social well-being. Some studies have shown that the periodontal status impacts the quality of life of patients. This case report describes the successful periodontal treatment of a diabetic patient. A 40-year-old female presented for treatment with history of pain, tooth mobility and very unsatisfactory esthetics. She lost many teeth and had a fixed partial prosthesis in very poor conditions in the maxillary anterior region, which had been broken and repaired many times. The patient had been recently diagnosed with severe type II Diabetes Mellitus and was undergoing medical treatment. A progressive improvement in her periodontal condition and glycemic control was noted after initial periodontal therapy. New temporary removable partial prostheses were delivered in both arches. In addition to the improvements in function, such as chewing, biting and speaking, the patient reported that the dental treatment had a significant positive impact on her psychological and social well-being.

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Interdisciplinary management of Bolton tooth size discrepancy

The discrepancies of size and form of teeth compromise the harmony of the smile in a significant form. Among them, it is distinguished the discrepancy described by Bolton in 1962, which is characterized as a significant lack of dental structure and impairment of both height and width of many teeth in the same arch. An interdisciplinary approach is indispensable in the diagnosis, planning and treatment of these cases, since they usually present limitations as inadequate tooth size and position, which make impracticable its resolution with purely restorative or orthodontic treatments. The aim of this work is to present a clinical case with 18 months follow-up, demonstrating the Bolton tooth size discrepancy treatment by means of interdisciplinary approach. The treatment consisted in an appropriate orthodontic distribution of restoring spaces, harmonization of the gingival arches by gingivectomy and dental re-countering, laying hold of direct composite resins restorations to create adequate dental dimensions and to restore the function and esthetic harmony.

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Evaluation of osseointegration in dental implants with surface modification by laser beam. Biomechanical study in rabbit tibias

To accelerate the osseointegration and to improve quantity and quality of the bone-implant interface on adverse conditions, numerous implant surface modifications have been used. Titanium implants surface characteristics have been modified by additive and subtractive methods. This study evaluated, using a biomechanical test, the force needed to remove the implants with laser (Nd:YAG) surface modification, in two conditions, LOW and HIGH. Nine rabbits received one implant of each surface, laser-modified surface (LMS) in the two conditions, LOW and HIGH, in the tibia. After 12 weeks of healing, the removal torque was measured by a torque gauge. The surfaces studied were analyzed according to their topography, chemical composition and

roughness. Average removal torque in the period to implants with surface modified by laser beam was, in the conditions LOW and HIGH, 42.77 Ncm and 41.22 Ncm, respectively. In conclusion, Based on these results, it was possible to conclude that LMS implants physical-chemical properties increased bone-implant interaction.

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Considerations about planning and fabrication of direct composite laminate veneers

Direct composite resin laminate veneers have been an often used alternative in dental clinic when it is necessary to restore teeth with color or form alterations. In addition to representing a valuable resource in esthetic Dentistry, since a conservative preparation is needed, they have lower cost when compared to the indirect techniques, being available to any dental professional. The placement of direct composite resin laminate veneer, however, demand knowledge of composites' mechanical and optical properties as well as currently available restorative techniques. Besides, it is fundamental that the dentist has good manual ability and is familiar with the specific anatomical details of the buccal surface of anterior teeth in order to reproduce the characteristics of natural teeth. The aim of the present work is to discuss important aspects in the planning and preparation technique of direct composite resin veneers, trying to guide the clinician in the decision and accomplishment of this modality of restorative treatment.

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Joint disorder – disc displacement without reduction and with limitation of opening. Case report

The disorders that involve the temporomandibular joint (TMJ) represent 8% of all temporomandibular disorders (TMD), making difficult the diagnosis and treatment due to its low prevalence. Patient C.N., 18 years old, white, female, came to the Orofacial Pain Service of FAODO - UFMS with complaint of pain on the right TMJ, trismus with maximum opening of 29 mm since 3 years ago. After a detailed clinical interview, the diagnosis was disc displacement without reduction and with limitation of opening. The treatment was based on infiltration in TMJ with anesthetic followed by mandibular manipulation. After the therapeutic approach, the patient presented clinical signs of normality with absence of trismus and mandibular movement without displacement. The patient was followed up for two years and did not present recurrence of the pathology.

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Orthodontic treatment in adults: a case report

Adults are ever more interested in the orthodontic treatment, mainly due to improvement of the quality of orthodontics, as well as the increase of the social acceptance for the use of appliances. The orthodontic treatment varies according to its complexity, mainly, as well as time required and number of accessory components. The treatment of adults is not generally longer than the usual time, nor demands special accessory components. The differences rely on the procedures with respect the forces applied and special attention to the mechanics is needed due to certain limitations such as absence of growth, periodontal problems and treatment response, which depends on patient commitment and general health status. Moreover, the orthodontic treatment demands detailed planning and follow up by means of periodical radiographs. In this direction, the objective of this work was to demonstrate, by means of the presentation of a clinical case, the advantages and the benefits of the orthodontic treatments in adult

patients. Patient J.A.A., 48 years old, female, white, came to the Clinic of Specialization in Orthodontics of UNIP University, São Paulo-SP unsatisfied with her facial esthetics. The patient presented missing teeth, extrusions, diastemas and poor periodontal condition. The treatment was limited to the upper teeth, associated with micro-implant used as anchorage. The prognosis of the orthodontic treatment in adults creates excellent expectations due to great patient motivation and cooperation. However, the limitations of the orthodontic treatment must be clarified. Additionally, the movement forces must be soft and the risk of the periodontal disease must be controlled before the beginning of the treatment and the patient must be treated by a multidisciplinary team in most cases.

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323

Restoration esthetic-functional of fractured anterior teeth

The dental professionals, in their daily practice, often come across dental fractures. The objective of this work is to detail a restorative procedure on fractured teeth 21 and 22. A male patient came to the Restorative Clinic of the State University of Londrina exhibiting teeth 21 and 22 with a fracture on the middle third. After review of medical history and clinical examination, the restorative treatment planning was established. After rubber dam isolation and adhesive procedures, the palatal portion of tooth 21 was built with composite resin TN (Opallis-FGM). Next, the whole dentin core was made with the composite resins A2 and A3 (Opallis-FGM). Finally, the incisal characterizations were carried out and buccal enamel was made with the composite resin A1 (Opallis-FGM). The same treatment was performed on tooth 22. After final finishing and polishing, the esthetics and function of the teeth were restored conservatively.

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Two methods for preparation of platelet-rich plasma: quantity and quality of platelets. An experimental study in rabbits

The purpose of this study was to compare the quantity and quality of platelets in platelet-rich plasma (PRP) samples prepared using either the single or the double-centrifugation protocol. Ten adult white New Zealand rabbits were used. Ten milliliter of blood were collected from each animal via cardiac puncture. Each blood sample was divided into two equal parts for PRP preparation: 5 mL of blood were centrifuged according to a single-centrifugation protocol (Group I) and 5 mL were centrifuged according to a double-centrifugation protocol (Group II). Manual platelet counts were performed on the whole blood and PRP samples of each group. Smears were also done on all samples in order to see the morphology of the platelets. Percentage data were transformed into arcsine for statistical analysis (ANOVA, Tukey, $p < 0.05$). The average whole blood platelet count was 446.389/ μ L. The PRP samples in Group II presented a percent increase in the platelet count compared to the whole blood samples significantly higher than that of Group I (347.68% \pm 58.0% and 80.73% \pm 31.01%, respectively). The PRP smears of Group II presented some round-shaped deformed platelets. Within the limits of this study, it can be concluded that the double-centrifugation protocol resulted in higher platelet concentrations than the single-centrifugation protocol. However, the double-centrifugation protocol caused alterations in platelet morphology and was more sensitive to small processing errors.

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Direct composite veneers as an esthetic resource in a tooth with dystrophic calcification

The direct composite veneers are usually indicated to restore anterior teeth with discoloration or anatomic shape alteration. Direct composite veneers request a conservative preparation and present low cost. The aim of this work is to present the

esthetic resolution obtained by the placement of a direct composite veneer in an upper central incisor, discolored due a dystrophic calcification occurred after traumatic injury. There was a necessity to apply an opaque agent to mask the dark dentin and the use of different dyes to make an intrinsic characterization of the restoration. In addition, important aspects of direct composite veneer preparation and fabrication technique will be discussed to help the clinician in accomplishing this restorative treatment alternative.

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Evaluation of two simplified protocols for preparation of PRP: concentration of platelets and leukocytes. A study in humans

The biological effect of PRP depends on the levels of growth factors (GFs). In addition to platelets, other sources of GFs such as leukocytes should be evaluated in the PRP. The purpose of this study was to evaluate the concentration of leukocytes and platelets in the PRP prepared using either the single or the double-centrifugation protocol. 10 ml of blood were drawn from each of 10 subjects. Blood samples were divided into two groups according to the protocol used for PRP preparation: Group I (single centrifugation) and Group II (double centrifugation). The platelets and leukocytes in the whole blood and PRP samples from each person were counted automatically. Data were submitted to statistical analysis. The normality of the data was confirmed and the *t* test was used ($p < 0.05$). The average whole blood platelet and leukocyte counts were $252,000 \pm 68,330$ and $7,422.22 \pm 2,003.62$, respectively. The PRP samples in Group II presented a percentage increase in the platelet count compared with the whole blood samples significantly higher than that of Group I ($524.29 \pm 206.67\%$ and $155.53 \pm 27.05\%$, respectively). No statistically significant differences were found between the concentrations of leukocytes of Groups I and II ($289.22 \pm 39.52\%$ and $354.86 \pm 99.14\%$, respectively). Within the limits of this study, it can be concluded that the protocol used to prepare the PRP influences the concentration of platelets but not of leukocytes.

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Immediate loading over implants in the mandible: case report, clinical and laboratorial approaches

Oseointegration has opened a wide array of possibilities to rehabilitate total edentates. In the evolution of these treatments, the possibility to apply early load to the implants with occlusal function is known as immediate loading. The use of immediate loading carries concerns with the prognosis, planning, clinical and laboratorial procedures and patient managing. This study has the aim to demonstrate how a case of immediate loading is conducted, starting with patient examination up to the installation of the implant-supported denture, including the surgical and laboratorial procedures, always respecting the theory and the correct technique, in order to reach success.

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Temporomandibular dysfunction as main complaint at emergency dental care

In spite of the vast literature on the temporomandibular disorders (TMD), indicating a high prevalence of TMD signs and symptoms in the population, there are a few studies on TMD incidence in urgency dental services. The objective of this work is to determine the percentage of patients who sought treatment at the Urgency Dental Care Service of the Federal University of Uberlândia having DTM as the main complaint, report

the symptomatology described by these patients and how the clinicians managed these cases. A total of 10,975 files from patients that attended the service between May 5, 2003 and December 12, 2003 were reviewed. The following data were collected: institutional ID number, gender, age, main complaint, current disease history, intraoral examination and type of accomplished treatment. Only 0.4% of all patients had TMD as the main complaint. This low percentage of patient with main complaint of TMD signs and symptoms can be related to chronic nature of TMD, the search for other assistance health services or misdiagnosis.

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Pyogenic granuloma: case report with recurrence

A 58-year-old female patient sought treatment at the postgraduate Stomatology Clinic of the Bauru School of Dentistry, University of Sao Paulo, complaining of a "lesion in the mouth". The intraoral examination showed a rounded reddish painless pediculated nodule with irregular surface and measuring approximately 1 cm in diameter, which was located in palatal side of the maxillary right premolar region and had 1 month of. The radiographic examination showed no bone involvement. Pyogenic granuloma was suggested. The lesion was submitted to an excisional biopsy and the histopathological report confirmed the diagnosis. It was verified hyperplastic mucosa with ulcerated area and recovered by a serofibrinous pseudomembrane, polymorphonuclear cells and connective tissue with great endothelial cell proliferation. After 15 days, lesion recurrence was observed in the same site and with the same characteristics, however, the size has increased to about 2 cm in diameter. The patient was submitted to a second biopsy and periodontal scaling of teeth 14 and 15. The histopathological report confirmed the diagnosis again. The patient was observed for 8 months, with no clinical signals of recurrence.

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Electronic apex locators. Review of literature

Accurate determination of root canal length is essential for successful endodontic therapy and plays a crucial role in the treatment and prevention of periapical disease. Prior to root canal treatment at least one undistorted radiograph is required to assess canal morphology. Conventional methods using radiographic interpretations show a considerable rate of failure in localization of apical constriction, reaffirming the need of more accurate methods for calculating the working length. For this reason, the electronic apex locators (EALs) have been developed. The EAL helps reducing the treatment time and the radiation dose, which may be higher with conventional radiographic measurements. Other roles include the detection of root canal perforation. They may also indicate cases where the apical foramen is at some distance from the radiographic apex. The first EALs had limitations in the readings in teeth with presence of moisture inside the canals. In view of the need to develop devices that surpassed such initial difficulties, modifications in the functioning principles of EALs were performed aiming at measurements in canals filled with liquid. The aim of this study is to review the literature and the working mechanism of the currently available EALs, and suggest the correct use of these devices for optimal canal length measurement.

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Surgical approach for periimplant papilla reconstruction in the posterior region

The papillae are areas made of keratinized mucosa that fill the interdental and/or inter-implant gaps. Its function is mainly the maintenance of periodontal health and its absence can occur due to many factors, such as trauma during toothbrushing, shortened distance between the teeth or bone loss due to periodontal disease and other infections. The lack of papillae can result in areas of food impaction, harming the periodontal and periimplant tissue in two ways: due to the physical compression of the soft tissue

(mechanical trauma) and due to the maintenance of a site with food storage, favorable to the proliferation of harmful microorganisms, mainly in posterior regions. In addition to its biological role, the papillae are responsible for the esthetic of teeth, harmonizing the smile and allowing a better swiftness between the gingival zeniths. In this context, the lack of periimplant papillae is one of the most debated problems in implant literature nowadays. In view of this, several surgical procedures have been proposed aiming at the management of bone and soft tissues.

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Restoration with composite resin and fiber glass intra-radicular post – Case report

Composite resin is the most widely used direct restorative material when esthetics is required. However, in some cases, when reinforcement is also needed, resources must be used to provide increase resistance. In this way, this work reports a case involving the restoration of the palatal surface of an endodontically treated tooth (22) in a 33-year-old patient who attended the Restorative Dentistry Clinic of the Bauru School of Dentistry, University of São Paulo. During the clinical and radiographic examination, the presence of a carious lesion was diagnosed. It was opted for a composite resin restoration because of the esthetic involvement. However, strengthening was needed with fiber glass intra-radicular post. A spherical diamond bur was used to remove the provisional restoration and a carbide bur was used to remove the carious tissue. After removal of 2/3 of the endodontic filling with Largo burs, a fiber glass intra-radicular post (Reforpost in the 2 - Angelus) was cemented with Rely-X Luting Cement (3M/ESPE). A bevel was prepared with 3118 diamond bur (K.G. Sorensen) on the palatal surface, followed by conditioning with 37% phosphoric acid for 15 s, washing and drying, adhesive system application (Adper Single Bond 3M/ESPE), photopolymerization for 30 s and restoration with Renamel Microfill (Cosmedent) composite resin (shades A1, A2, A3). After 7 days, the restorations were finished and polished with fine-grain diamond burns (K.G. Sorensen), Sof-lex discs (3M/ESPE) and rubber points and abrasive paste. After completion of the treatment, esthetic and resistance were recovered.

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The importance of the inclusion of dental students in preventive actions

The oral health promotion has the aim of improve the quality of life. The school is a propitious environment to the development of healthy oral habits. The success of preventive actions is related to the correct execution and elaboration of the action planning. The purpose of this study was to offer to the undergraduate students of the Dental School of Araçatuba – São Paulo – Brazil (FOA-UNESP) the opportunity to plan and accomplish preventive actions in schools. Three hundred and twenty-five children aged 4 to 6 years attending municipal kindergartens of Araçatuba – SP were invited to participate in this study. First were performed oral hygiene evaluation by the SOHI (Simplified Oral Hygiene Index) and evaluation of the conditions of the facilities (sites designated for the preventive actions to be rendered). The absence of an oral hygiene routine was mentioned by the students as a negative point, and so changing this scenario was defined as the goal. Every 15 days, during 8 months some strategies were pre-established: oral health educations activities (games, tricks, movies and theater), teacher and employee orientation by means of lectures, supervised toothbrushing, toothbrush collection, fabrication of toothbrush cases, and establishment of a toothbrushing routine at the school facilities. The SOHI examination revealed a mean value of 0.64 at the beginning of this study and of 0.56 at its end. The academic participation in the planning and execution of the preventive program corroborate to the knowledge construction from the real experiences, increasing motivation, and breaching out of the practice of traditional education, where the student is a passive element. These facts reflected in a positive impact on children's oral hygiene habits and knowledge of teachers and employee.

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The association of growth factors and bone xenografts: a tool in regenerative dentistry

The development of osseointegration has increased the numbers of implant in the oral rehabilitation. However, some patients have defects in alveolar ridge that difficult its installation in a great position. Its etiology is linked particularly to the loss of teeth that result in 60% of bone resorption in the first three years, which is aggravated by the pneumatization of the maxillary sinus. To restore this bone defect, surgical procedures had been developed. Among these, the techniques involving bone graft or bone substitutes are the most accomplished. The autogenous bone is the most studied and used. In addition, its properties of osteoconduction, osteoinduction and osteogenesis are ideal and considered the gold standard. However, its disadvantages are associated with the need for a second surgical site, which increases the risk of stroke, neurological and postoperative morbidity, and the fact that it provides a limited amount of bone tissue. Xenogenic bone grafts are one alternative source of bone grafting material. The processing of these biomaterials removes the cellular component preventing any trace of osteogenesis. On the other hand, its osteoinductive property is shown in some studies, but the osteoconductivity is its main feature. To improve to this xenograft biomaterial with biological characteristics, autogenic growth factors (PDGF, TGF- α and IGF) obtained by processing the plasma rich in platelets (PRP) have been associated with it. Although the performance of these factors in the process of bone formation is questionable, their action in the early stages of healing favors a quick closing of the surgical wound, which is fundamental to the procedures for bone regeneration. This work presents a case of sinus lift and alveolar bone preservation using a pool of organic and inorganic bovine bone associated with the PRP.

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Esthetic and functional planning of a prosthetic rehabilitation in integrated clinic

The acquisition of function, esthetics and consequently the satisfaction of the patient are criteria for success in a comprehensive dental treatment. Moreover, procedures performed individually do not always warrant success. Whenever possible, it is necessary to give the patient a range of options for the same purpose and, after establishing which procedures will be performed, it is important to plan the correct sequence in order to shorten treatment time and obtain subsequent procedure stability. The patient J. B. S., 54 years old, male, was not satisfied with his smile and his mastication was deficient. In the first examination, it was detected that he had crossbite, periodontal disease and needed prosthetic rehabilitation in the upper and lower arches. However, only after a detailed radiographic and clinical examination, it was found that he needed a more comprehensive assistance. This work intends to clarify, by the presentation of a case report, the currently available treatment options to meet the functional and esthetic satisfaction of the patient, aiming to integrating them in order to select the best sequence to be adopted and reach prosthetic rehabilitation success.

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Situational study of former participants of Bauru School of Dentistry's PET and SI programs

One of the goals of dental course of the Bauru School of Dentistry, University of São Paulo is the follow up of former students. In 2004, a research study was performed by means of situational questionnaire with former students, situating them according to professional involvement and satisfaction with the graduation course. One aspect not accomplished, in this research, refers to professional insertion of former participants of programs such as: Scientific Initiation Program/Pibic, which presents great involvement of students/scholarship holders in activities centralized in basic and applied research of advisor's thematic area; and Tutorial Education Program/PET, currently linked to SESu, implemented in Bauru School of Dentistry in 1985. Considering the

relevancy of school commitment with the formation of professionals apt to meet the demands coming from formative competences and abilities, it is fundamental to evaluate the level of accomplishment of the institutional objectives, comprehending equally the insertion of incentive programs and the professional formation. Therefore, the present research will, among others objectives, subsidize and provide the follow-up commissions of PET and SI programs with quantitative and qualitative information about the graduate professionals, identifying and evaluating the professional enrollment levels with complementary analysis in continuous education courses after the end of the graduation course. The present project was linked to the research line about professional insertion of former students aiming at investigation the situation of former Pibic and PET participants. It was formulated and applied a questionnaire with topics that characterize the former scholarship holders' post-college involvement, with descriptive analysis referring to professional career development and/or enrollment in activities related to teaching and research institutions, trying to reach the intersection between the formative process and the influence of the specific parameters of both programs, in consignment of professional development and satisfaction.

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Ethetic and functional treatment for diastema closure: a case report

Dental diastema can be defined as a space between two adjacent teeth in the same dental arch. It presents multifactorial etiology and its prevalence varies with age and race. Anterior diastema might compromise the harmony of a patient's smile. Nevertheless, not only the esthetic aspect should be considered. Etiologic factors, previous gingival conditioning, and individual treatment planning are essential in the restorative approach. Occlusion should also be considered and may enhance the esthetic results. Thus, the aim of the present work is to present, by means of a clinical report, a restorative sequence for a diastema solution associated with gingival tissue conditioning with composite resin, considering the occlusal aspects.

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Postural evaluation of patients with temporomandibular disorders submitted to the installation of occlusal splints

The aim of this work was to evaluate the position of abnormal head position (AHP) and postural alterations of the head and shoulders, before and after myorelaxing occlusal splint installation. Twenty patients with temporomandibular disorders (TMD) were submitted to clinical and postural examination, before, 1 week and 1 month after the installation of the occlusal splint. The results showed significant statistical differences for AHP, between the initial values and after one week of use of the occlusal device ($p=0.048$) and also between 1 week and 1 month of evaluation ($p=0.001$). Decrease of painful symptomatology, maintenance of the rectification and alteration of the side of head inclination were also observed. It may be concluded that the postural position of the individual can suffer biomechanical alterations resulting from stomatognathic modifications, causing clinically visible alterations and interfering with the performance of the involved structures.

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Adhesion to dentin after deproteinization and tubular occlusion

Dentin adhesion presents limitations, especially regarding the stability of the hybrid layer over time. Alternative procedures have been investigated with the objective to reduce the difficulties on the adhesion to dentin substrate. This study aimed to evaluate, *in vitro*, the influence of the deproteinization on etched dentin, occlusion of dentinal tubules and the combination of these techniques on the adhesion to dentin. For such purpose, the employed methodology included analysis of the treated dentin surface by scanning electron microscopy (SEM); SEM analysis of the resin-dentin interface; and microtensile bond strength test. Twenty-one human third molars were divided according

to their adhesive protocols in the following groups: (1) application of the adhesive system Single Bond (SB) (3M ESPE), (2) application of sodium hypochlorite solution (HPS) for 1 min, washing (L) and removal of excess moisture (REM) followed by the application of SB, (3) application of potassium oxalate (OX) by 30 s, L / REM and application of the adhesive system SB. The composite resin used for restoration was Z250 (3M ESPE). The results of SEM analyses showed the removal of collagen promoted by the HPS and the obliteration of the subsurface dentinal tubules promoted by OXP. SEM analysis of resin-dentin interfaces showed lack of hybrid layer formation in the groups treated with HPS and short resin tags when OXP was associated. The results of the microtensile bond strength test showed statistically significant lower values for groups 2 and 3, respectively treated with HPS and OXP, compared to group 1, treated with SB alone. It was concluded that dentin deproteinization alone or associated with tubular occlusion affects the formation of the hybrid layer, compromising the bond strength.

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The role of root acid conditioning on periodontal regeneration

Root planning is the process of smoothening the root surfaces and removing any infected tooth structure such as cement, and tartar, leaving the smear layer on the surface. This has a negative effect on periodontal tissue by limiting new insertions (Mayfield, 1998) and so root planning alone is not enough to eliminate endotoxins on the root surface, keeping an inflammatory response on the host unless all cement is removed with this procedure. (Lopez, 1980). Various conditioning agents have been used, like citric acid, phosphoric acid, EDTA and tetracycline, in an attempt to make the contaminated root surface biocompatible with the periodontal tissue. The acid acts as a root decontaminant (Daly 1982), freeing chemotactic factors for the fibroblasts (existing factors in the collagen matrix of dentin and/or cement) inhibiting apical migration in favor of reinsertion, removing the smear layer and exposing the dentinal tubes that will act as an anchor to the new cementum. Another function of the acid is the establishment of a well organized clot that will provide a better adherence to the root (Lourenço, 1996). The acid produces a demineralized zone of 4 μm in depth and increase the exposure of collagen fibers (Carranza 2007). It has been shown that the acid has effects on the epithelial cells, causing edema with alterations of the cytoplasm (increase in tonofilaments) and the nucleus (cariolise) and reducing the number of desmosomes, foreseeing the formation of a long junctional epithelium (Valenza 1982). The main objective of this article is to stress the importance of chemical root conditioning to ease the formation of new periodontal ligament compatible with periodontal health.

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The difficulty in the treatment of multiform erythema in patients under multi-drug therapy after ischemic cerebrovascular accident

Multiform erythema is an acute mucocutaneous inflammatory and hypersensitivity reaction characterized by skin and mucosal eruptions, which occurs especially in young adults between 20 and 40 years old. The main drugs related to its etiology include anticonvulsive agents, oral hypoglycemic drugs, codeine, furosemide and protease inhibitors. A 40-year-old male, black, smoke-quitting patient was referred to the Oral Oncology Center of the Dental School of Araçatuba/UNESP for oral examination. The patient had dysphagia, weight loss, controlled hypertension and stroke history 1 year before. He reported being using captopril, atenolol, furosemide, phenobarbital, carbamazepine and phenytoin. At the extraoral examination large ulcer was observed in all lower lip with spontaneous bleeding. The intraoral examination revealed, painful multiple ulcers of fibrinous surface located in the dorsal and ventral surfaces of the tongue and bilateral cheek pouch mucosa. Incisional biopsy was performed and the histopathological examination was compatible with multiform erythema. The patient is currently under follow up at the outpatient service and still presents active lesions. The difficulty in the treatment of the multiform erythema regarding the discontinuation or replacement of the medications involved in its etiology will be addressed.

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Evaluation of the adhesive interface of dual-cure resin-based cements to root dentin

There is an effective cementation of esthetic posts due to simple procedures, simplified adhesive systems and easy-to-handle resin-based cements, aiming at establishing micromechanical retention by the creation of an interdiffusion dentin-resin zone. The objective of this study was to analyze quantitatively, the integrity of the adhesive interface of the dual-cure resin-based cements to root dentin in the cervical, middle and apical thirds, by scanning electronic microscopy. Single-rooted human teeth were randomly divided into two groups according to the materials used: G1 (n = 9)-Prime & Bond 2.1 and self cure Activator + Allcem; and G2 (n = 9)-Adpater ScotchBond Multi-Use Plus + Rely X ARC), cemented tapered, smooth, size 1 White Post DC fiberglass posts,. After 48 h of storage in 100% humidity at 37°C, the specimens were cut along the long root axis and epoxy resin replicas were obtained. The SEM micrographs were analyzed by Auto Cad2002 software. The length of the root canal and root canal thirds was measured, considering the attached extensions. Statistical analysis by Friedman's and Mann Whitney tests ($\alpha = 5\%$), showed no significant differences between the thirds for ARC (C = 40.8; M = 39.4; A = 37.5, Total = 37.8 with $p = 0.2636$) and Allcem (C = 34.4; M = 21.1; A = Total = 32.1 and 25.3 with $p = 0.5523$). When the materials were compared, there were no significant differences at the cervical third ($p = 0.3359$), middle third ($p = 0.5006$), apical third ($p = 0.7728$) and total canal length ($p = 0.7003$). The high C factor in the root canal is able to generate forces superior to the adhesive strength, resulting in the formation of cracks in the cement/adhesive interface.

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Dental caries index in children from a Infantile Education Center enrolled in a preventive-educative program

The objective of the study was to evaluate the oral health conditions of children aged 18 months to 6 years in a day care center of the city of Alfenas/MG participating in Project Smile, directed to dental care for preschoolers. Initially, this study was reviewed and approved by the Research Ethics Committee of the UNIFAL-MG. The ceo-d index was used for data collection. Examination was done by a previously calibrated examiner, using dental mirror and a specific probe (CPI), under natural light. The data were processed using the EPIBUCO statistical software. It was observed that 46.66% of the children were male, with index ceo-d 2.35 and 53.33% female, with index of 3.06. In the age group of 18-36 months, the ceo-d was 3.3 and 80% of the children need dental treatment. In the age group of 3-6 years, the ceo-d was 2.67, and 40% of children needed treatment. In conclusion, it is necessary to improve the preventive-educative measures of the program in order to reduce the prevalence of dental caries in the studied population.

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The influence of the diagnosis of the oral breathing in the orthodontic planning

Breathing is a vital function of the organism and the presence of a breath disturbance can cause morphological and functional alterations in the stomatognathic system. The oral breathing can occur due the impossibility of nose breathing in case of obstruction of the respiratory ways. Some factors that can impede partially or totally the normal airway flow: septum deviation, nasal turbinate hypertrophy, hypertrophy of palatine and pharyngeal tonsils, nasal polyps and allergic rhinitis. Oral breather can present some characteristics, among which, labial incompetence, altered structures facial (prolonged and narrowed face), short and hypotonic upper lip, small and thin nose, deep under eye circles, reduced physical performance, learning difficulty, alterations of corporal posture, nocturnal snoring, alterations in the speech, mastication, deglutition, etc, which interfere in the life quality. Occlusal alterations can occur, such as crossbite, open bite, protrusion of the maxillary anterior teeth, narrow maxilla and narrow palate.

Therefore, this dysfunction should be treated as early as possible by a multidisciplinary team, including professionals of the several specialties, such as the Dentistry, especially the Facial Orthopedics and Orthodontics, for the correction of the occlusal problems resulting from the morphologic re-establishment and functional balance; Medicine, in particular otorhinolaryngologists and pediatricians, for detection and treatment of the etiologic agents; Speech Therapy, which reestablishes the muscular function in the development of the breathing and other vital functions; Physical Therapy, which corrects orthopedic posture deviations. Therefore, it is very important the adoption of preventive measures and the treatment based on the diagnosis of all those alterations provoked by the oral breathing, which if no corrected, can interfere in the normal process of growth and development of the face and the occlusion.

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