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0001

Evaluation of the Physical Properties of Different PMMA

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Objective: The aim of this study was to compare transverse deflection and porosity of three PMMA commonly used for denture bases (two commercial and one experimental), as well as the influence of the commercial monomers in the experimental polymer using conventional and microwave techniques. **Methods:** Sixty transverse deflection specimens (6.5x10x2.5 mm) were prepared and divided into six groups (n=10): Group 1 used Lucitone 199; Group 2, Acron MC, both groups were cured using manufacturer instructions; Group 3, Experimental PMMA/Monomer polymerized in a water bath; Group 4, Experimental PMMA/Monomer polymerized by microwave irradiation; Group 5, Experimental PMMA/Lucitone 199 monomer and Group 6, Experimental PMMA/Acron MC monomer. Each specimen was tested in a three-point loading test to determine the values of deflection at 34.3 and 49 N according with ADA 12. All test specimens were examined in optical microscope for qualitative comparison of voids on the surfaces. Analysis of variance (ANOVA) was used for statistical comparison between groups. **Results.** Transverse deflections at 34.3 and 49 N were: Group 1 (1.56 and 3.10 mm); Group 2 (1.50 and 2.82 mm); Group 3 (1.82 and 3.32 mm), Group 4 (1.63 and 3.36 mm), Group 5 (1.53 and 3.06 mm) and Group 6 (1.64 and 2.88 mm). All groups showed similar values and no statistically significant differences ($p>0.05$) were found between groups at 34.3 N and 49 N. No voids were observed in the samples. **Conclusions.** The experimental and commercial acrylic resins transverse deflections values are similar and all fulfill the ADA 12 specification.

0002

DMFT/dmft Evaluation in an HIV+/AIDS Adolescent and Pediatric Population

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Tooth decay and AIDS are diseases of infectious origin not related one to the other. However, an increase and an aggressive evolution of tooth decay in HIV+/AIDS adolescent and pediatric patients have been observed when compared to healthy children. **Objective:** To determine DMFT/dmft in an HIV+/AIDS adolescent and children population. **Methods:** 57 HIV+/AIDS patients (<18 years old), 33 girls and 24 boys (age mean 7.38 ± 4.03) with confirmed diagnosis of HIV infection, coming from Immunodeficiency Clinic, Medicine School, Universidad Nacional Autónoma de México were included. Data obtained were gender, contagious route, CD4/ml quantity and viral charge. All patients had an oral exam according to the diagnosis criteria proposed by ECC-Clearinghouse. DMFT/dmft were determined by a calibrated observer. All data were compared with those expressed by WHO according to the age group. **RESULTS:** The DMFT/dmft average was 6.45. By age group, all the pediatric patients diagnoses with HIV+/AIDS had a DMFT/dmft of 5.84 ± 6.9 while adolescents had 7.63 ± 4.6 $p=0.22$.

CONCLUSIONS: HIV+/AIDS Mexican children present a major DMFT/dmft than the accepted by WHO.

0003

Panoramic Radiographs Findings in Maxilla and Mandible of Patient in the Admission and Diagnostic Clinic (ADC) at School of Dentistry, UNAM.

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Since the development of the radiograph, this instrument has been of great help to diagnose some illnesses, helping to understand their nature and to make a prognosis. However, it is very difficult to make a precise radiographic diagnosis.

Objective: To identify the radiolucid, radiopaque and mixed lesions (that can be described in panoramic radiographs) of the maxilla and mandible present in the patients that attended the School of Dentistry, UNAM, for clinical X-ray exams and diagnoses during January and February, 2005. **Methods:** Panoramic radiographs studies of new patients attending the admission clinic were obtained. An observational, descriptive, comparative, tranverse and analytic study was carried out. Radiolucid areas (decrease of bone radiodensity), radiopaques (increase of bone radiodensity) and mixed were determined. A descriptive statistical analysis was made. All the diagnosed lesions on the panoramic radiographs were identified and recorded. **Results:** 634 patients were received. The sample consisted of 544 panoramic radiographs, of patients whose age range was between 6 and 80 years old (315 female and 229 male); 382 panoramic radiographs presented findings: retained third molars (23.63%), lost bone for periodontal problems (19.52%), periapical lesions (15.75%), mesiodens and supernumerary teeth (1.37%) and odontomas (0.34%), among others. **Conclusions:** 60% of the population that is admitted to the Postgraduate Admission Clinic at the School of Dentistry, UNAM, presents some bone alteration. 26% had no central lesions that could be identified on panoramic radiographs. The radiographic diagnose is not definitive; the definitive diagnose is made by an histopathological evaluation.

0004

Antimicrobial Resistant Species in Subgingival Plaque Samples obtained in Mexican Subjects

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Microbial resistant patterns may vary due to different strategies of antibiotic usage and control in different populations around the world. **Objective:** The purpose of the present study was to determine antimicrobial susceptibility and the presence of resistance to amoxicillin, cefotaxime, ciprofloxacin, clindamycin, doxycycline and metronidazole in bacterial species isolated from subgingival plaque samples of untreated generalized chronic periodontitis and periodontally healthy Mexican subjects. **Methods:** Bacterial resistance was determined at break-point concentrations suggested by the NCCLS for antimicrobial susceptibility testing of anaerobic bacteria. A total of 962 clinical isolates identified using checkerboard DNA-DNA hybridization technique were evaluated. **Results:** Isolates exhibited a proportion of resistance in decreasing order from metronidazole, clindamycin, doxycycline, amoxicillin, ciprofloxacin to cefotaxime (34.3%, 10.3%, 8.2%, 8%, 4.5% and 0.3%, respectively). Strains of *Corynebacterium matruchotii*, *Selenomonas artemidis* and *Tannerella forsythia* were susceptible to all antibiotics tested. Isolates of bacterial species like *Porphyromonas gingivalis*, *Fusobacterium periodonticum*, *Prevotella melaninogenica*, *Actinobacillus actinomycetemcomitans* and *Eikenella corrodens* exhibited diverse susceptibilities including resistance and multiresistance to clindamycin, doxycycline and metronidazole. None of the resistant isolates, presented resistance to 4 or more antibiotics. **Conclusions:** A number of periodontal pathogens such as *Porphyromonas gingivalis* and *Actinobacillus actinomycetemcomitans* exhibited resistance and multiresistance to various systemic antibiotics commonly used as adjuncts to conventional periodontal therapy in the Mexican population. Further *in vitro* studies of antimicrobial susceptibility in bacterial species from subgingival plaque samples are warranted to provide an important source of information that can be used for clinical decisions in the selection of antimicrobials for the treatment of periodontal infections in different populations. Supported by DGAPA IN205402 and IN2130063.

0005

Effectiveness of Diamond Burs in Dental Grinding

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Objective: To compare the effectiveness of medium grain diamond burs (Brasseler®, Maillefer®, Diatech®, Mani® and Sorensen®) with different uses in grinding of human premolars comparing the taper size of each bur with SEM. **Methods:** 75 premolars were randomly included in 5 groups of 15 human premolars by brand. The efficiency of each bur was measured as the time needed to obtain the tooth axial grinding making furrows guides of .5 mm of depth and 1 mm of separation with 55/ml/min water irrigation. The size of the bur taper was measured before and after every use and SEM (80X) was obtained. ANOVA one way with Scheffé test (alpha .05) was used. **Results:** The less time to obtain the grinding was obtained by Mani burs (259 ± 55.8 s) and Brasseler (354.8 ± 74.6 s). Significant differences were not observed between the time used with different burs for dental grinding of 1 tooth ($p = .12$). Significant differences have been shown between different uses with: Mani, Diatech, Maillefer and K.G.Sorensen ($p < .05$). It was found that burs size varies according to the brand ($p = .001$) identifying loss of diamond grains since the first use. Mani burs presented the loss of diamond grains from the first use. **Conclusion:** Significant differences were found in axial grinding between the different studied brands. Differences in the burs size do not seem to influence in the time required for dental axial grinding.

0006

Transfection and Overexpression of a Cementum Derived Gene in Human Gingival Fibroblasts

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Cementum is the mineralized connective tissue that covers the radicular surface of teeth. Among its main functions is to provide attachment for the periodontal ligament fibers. However, there is scarce information about the molecular factors that regulate the development and maintenance of this tissue due to the lack of a cementum biological marker. Recently such a factor has been isolated and characterized, cementum protein 1 (CEMP1) also known as CP23. This provides the possibility to determine the role of this factor during cementogenesis and regeneration of periodontal tissues. **Objective:** To transfect a cementum derived gene into human gingival fibroblasts (HGF) to determine if there was a phenotypic change. **Methods:** The gene CEMP1 was isolated from a cDNA library, then cloned into the entry vector pENTR/SD/D and afterwards it was recombined with the expression vector for eukaryotic cells pCDNA 40, this vector has a 6X his tag and it codifies for geneticin resistance, the plasmid was linearized with EcoR1 to transfect the cells. HGF were transfected using lipofectamine and for selection it was added gentamicin G-418. The cells were selected for 6 weeks. The presence of the gene was confirmed by PCR and the expression was monitored by Western Blot. The expression of molecules associated with biomineralization (ALP, AMEL, AMBN, BSP, CAP, CEMP1, COL I, ENAM, OCN and OPN) was determined by RT-PCR and Western Blots. **Results:** A change in the expression pattern was detected at the mRNA level in the transfected cells as they clearly expressed transcripts associated with a mineralizing phenotype which was not expressed by the control cells. This was confirmed at the protein level by Western Blot. These results confirm that the transfected cells acquired a mineralizing-like cell phenotype.

0007

Association between Oral Health Status and Mortality in Elderly from Three Localities in Mexico

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Poor oral health, periodontitis and missing teeth have been reported as risk indicators for general mortality, including cardiovascular diseases. **Objective:** To determine if there is an association between oral health conditions (number of missing teeth, root caries, severity and extent of periodontitis) with mortality in a six year period (1996-2002) in a 60 year old population, from three different locations in Mexico. **Methods:** Longitudinal study. The research was launched in 1996, a cross sectional study was performed in three locations (urban, marginal-urban and rural). Sociodemographic information, self perception of health, ability to perform daily life activities, body mass index, and serum values of glucose and cholesterol, as well as average number of teeth with root caries, extent and severity of periodontitis and missing teeth were recorded. In 2002, a second exam was carried out and information about the surviving condition of the person (deceased/alive) was registered (dependent variable). Variables recorded in 1996 were considered independent variables. A bivariate analysis was performed to look for an association between independent variables and mortality; those variables showing statistical significance were included in a logistic regression model. **Results:** 473 subjects were examined in 1996. In 2002, 295 were alive, 93 were deceased, 11 moved out and 69 could not be reached. The logistic regression model showed that persons with more missing teeth (OR= 1.04 CI95% 0.99 -1.1); men (OR= 2.5; CI95% 1.1-5.7); older subjects (OR= 1.05; CI95% 1.11 -1.003) and those with higher values of Low Density Lipoproteins (OR= 1.01, CI95% 1.0-1.02) were more likely to die. **Conclusions:** Better oral health status not only improves quality of life, but can possibly decrease the risk of mortality from different causes.

0008

Analysis of Dentinal Stress in the Insertion of Different Posts Designs

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Objective: To compare the stress distribution between prefabricated threaded posts when inserting them into the radicular canal. **Method:** Descriptive, Comparative and Longitudinal study. Central Superior Incisors simulated in 3D using the Solid Works 2005 software, were restored with different designs of posts: Flexi-Flange, Flexi-Post (EDS), partially active or active – passive, RS Espiga Radicular and Radix Anker Long (Maillefer) parallel post, using the Finite Element Method with ANSYS WB 10.0 program, with von Mises. **Results:** The Radix Anker Long post in the cervical third presents the highest stress value. 0 MPa values were obtained by Flexi Post and Flexi Flange in their cervical third. The best stress distribution was observed by Flexi Flange. Flexi Post generates a major displacement in the area where the post is affected, without affecting directly the tooth. During insertion, RS Espiga Radicular supported the lowest displacement in the medial third. The highest stress was produced with the Radix Anker Long insertion in the three thirds. **Conclusions:** Prefabricated active-passive threaded post design (Flexi-Post and Flexi Flange) produces a minimal stress on the radicular walls during the insertion. Threaded cylindrical or parallel posts cause higher stresses in the cervical third. In the apical third, where the tooth possess less structure and is more inclined to the fractures. The radicular area that exposed to more stress, displacement and elastic deformation was the apical third with the parallel threaded posts and in the cervical third with the active passive posts.

0009

Dental Students Knowledge, Perceptions and Attitudes toward HIV+ Individuals. Their Early Diagnosis and Treatment

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The Phuket Declaration calls for dentists worldwide to increase their involvement in the diagnosis, treatment and improvement of the quality of life for patients with HIV/AIDS, as well as to participate in public health efforts to reduce the dissemination of HIV. **Objective:** To survey dental students knowledge, perceptions and attitudes toward HIV+ individuals, their early diagnosis and treatment. **Methods:** A convenience sample of 400 dental students (112 male and 288 female) answered a 30 closed-question survey. **Results:** 41% rated as "acceptable" their education on HIV/AIDS but 47% rated "insufficient" their clinical abilities to identify oral manifestations of systemic disorders. All would like to receive training to apply rapid HIV tests chairside. 96% would routinely apply rapid tests to all their patients, 21% to identify and report new HIV cases, and 55% to prevent cross infections. 31% would use double surgical mask, double gloving, and 57% special instrument management when treating HIV/AIDS patients. 86%, perceived a professional obligation to treat HIV/AIDS individuals, yet aware of the patient's HIV infection 47% would only treat dental emergencies. Few students knowingly had previous social (8%) or clinical (2%) contact with HIV/AIDS individuals. 64% expressed "moderate" fear of being occupationally exposed to HIV. 57% consider that HIV has the same transmission risk than HBV. 71% rated as "small" their confidence on their training on infection control to work safely with HIV/AIDS patients. **Conclusions:** Fear and misconceptions are still prevalent. Rapid HIV tests, if introduced now, are likely to be used wrongly. Educational contents on infection control, oral medicine and public health must be enhanced.

0010

Comparative Survey of Oclussal Contacts, Using Mandibular Roth's Power Technique in the Records of Centric Relation

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All diagnosis in orthodontics must be based in centric relation, otherwise mistakes at the end of the treatment will be observed. The treatment in Roth William's philosophy is based in the principle of using a modified semiaadjustable articulator with mounting casts with termoplastic wax for centric relation through mandibular Roth's power technique. **Objective:** To evaluate the reproducibility of centric relation records comparing 4 records of the same patient. **Methods:** A group of 7 patients with TMJ disorders were analysed by a team of 4 members of the Orthodontic Department, Postgraduate Studies, School of Dentistry, UNAM. Each team member took a record of the same patient using the same method to obtain CR, and the 4 wax records where mounted and articulated. The first contact point with articulating paper in the four models was evaluated. Besides, the tooth and the contact zone were evaluated and the resulting data were statistically analyzed. **Results:** The highest coincidences in the first oclussal contact points were obtained and analyzed according to the statistical analysis. It was confirmed that the CR wax record was reproducible, so it had a great reliability. **Conclusions:** The CR record is very reliable using Roth's power centric technique when it is obtained by orthodontists with the same gnathologic knowledge.

0011

Immediate Placement and Loading Straumann Implants in the Anterior Maxilla

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Immediate placement of implants following tooth extraction have been reported to include reductions in the number of surgical interventions and in the treatment time required. It has also been suggested that ideal orientation of the implant, preservation of the bone at the extraction site, and optimal soft tissue esthetics may be achieved. The immediate loading considered the prosthetic connection in occlusion to an implant within 48 hours of surgical implant placement.

Objective: The aim of this article shows a clinical case report with immediate placement and loading implants to re-establish the gingival contour with inter-dental papillae similar to the natural dentition. **Clinical Case:** Forty two year old woman without risk factors placed immediate implants *Straumann*® Tapered Effect SLA post-extraction upper central incisors in the Periodontics department, and immediately restored and loaded with RN synOcta® post for temporary restorations splinted in the Prosthodontics department. **Results:** The implants present a primarily stability of 32Ncm, this rank does not affect the osseointegration for immediate loading, also we can achieve well done an optimal soft tissue with harmoniously scalloped gingival line, intact papillae and convex buccal soft tissue of sufficient thickness, without lack of soft tissue closure and flap dehiscence over the extraction site. **Conclusions:** The immediate placement of implants and the immediate restored and loaded implants for single tooth and partial arch applications has to be considered as an option in treatment with implants. The selection of the patient, the correct treatment plan, the selection of the implant (height and wide), a low trauma surgical procedure and the correct application of prosthetic principles are highly recommend to ultimate the goal. In the 21th century implant dentistry could be more secure and systematized, to plan it, predict it and transforms the concept into clinical reality, easily, accurately and quickly.

0012

Prevalence of Lesions and Conditions of Oral Mucosa in 18 years old Patients in Ciudad Juarez, ChihuahuaAlejandro Donohue-Cornejo¹, Alberto de la Torre y Moran¹, Dalia Abril Guzmán Gastelum¹, Elba Rosa Leyva Huerta² & Luis Octavio Sánchez-Vargas^{1,3*}.

Objective: To determine the oral mucosa prevalence of lesions and conditions in patients older than 18 years old from a population of Ciudad Juárez, Chihuahua, a border city to El Paso Tx. USA. **Methods:** After obtaining an informed consent and according to the sequential scheme published by the WHO for the study of oral soft tissues based on the classification proposed by Roed Peterson and Restrump, an examination of the oral mucosa was carried out. The group sample was randomly selected among patients older than 18 years attending the admission clinic of the dental school at the Universidad Autónoma de Ciudad Juárez. The oral exam was done by an experienced oral pathologist, under artificial light, using # five dental mirror and gauzes during a visual observation and palpation of the oral structures. The information obtained was registered in a specific form that was analyzed using the SPSS® 11 statistic software program.

Results: 186 patients were examined, 119 (64%) women and 67 (36%) men, age ranging from 18 to 84 years (mean 42.7). 7 patients (3.8%) did not present any lesion, 46 (24.7%) had one, 55 (29.6%) had two, 47 (25.3%) had three, 23 (12.4%) had four and 8 (4.3%) had five diagnosed lesions or conditions in the oral mucosa. The most prevalent lesions were: White frictional lesions, 61 cases (32.8%); tissue swelling of a known cause 16 (8.6%); parulis 13 (7%); traumatic ulcers 6 (3.2%) and prosthetic stomatitis type II 5 patients (2.7%). The most prevalent conditions were: Racial melanosis 89 patients (47.8%); Fordyce spots 81 (43.5%); mandibular tori 35 (18.8%); leucoedema 30 (16.1%); oclusal white line 21 (11.3%); lingual varicose veins 20 (10.7%) and fissured tongue 14 patients (7.5%). **Conclusion:** In the Mexican population, racial melanosis and Fordyce spots can be considered normal conditions as has been reported previously. The most frequent lesions were: white frictional lesions and a tissue swelling of known cause. However, it is important to highlight the prevalence of the mandibular Tori that has not been reported previously.

0013

Effects of IFN- γ on NF- κ B Activation in Endothelial Cells treated with TNF- α .

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Tumor necrosis factor (TNF- α) and Interferon gamma (IFN- γ) are required for an effective immune response to bacterial infections. These cytokines act in combination in several biological responses such as the expression of cytokines (IL-1, IL-6) and adhesion molecules (ICAM-1, VCAM-1). Diseases that affect the oral cavity such as: periodontal disease, oral mucositis and pulp pathology are characterized by initially presenting inflammatory processes. In the early stages of these diseases the activated macrophages secrete pro-inflammatory cytokines that attract cells towards the damaged site, through the adhesion of circulating cells to the vascular wall of the vessels, where the endothelial cells become active, as defined by a change in the gene transcription. Its expression depends of the transcription factor NF- κ B. **Objective:** To analyze the effect of IFN- γ on the activation of the NF- κ B system in human endothelial cells treated with TNF- α . **Methods:** Cell cultures of human umbilical vein endothelial cells (HUVECs) were obtained as well as a human microvascular endothelial cell line (HMEC-1). The cells were treated with a combination of TNF- α and IFN- γ and analyzed by western blot and flow cytometry to evaluate the expression of adhesion molecules and the activation of transcription factor NF- κ B. **Results:** ICAM-1 and VCAM-1 were over-expressed (two-fold) in presence of the combination of TNF- α and IFN- γ in human endothelial cells (HUVECs) and in the HMEC-1 line compared to non-treated control cells. Higher activation of NF- κ B was induced in the presence of the combination of TNF- α and IFN- γ . **Conclusions:** The combination of TNF- α and IFN- γ is more efficient than TNF- α alone in the activation of NF- κ B and in the expression of ICAM-1 and VCAM-1 suggesting that during the inflammatory response IFN- γ increased the effects of TNF- α .

0014

Biological Activity of the Attachment Protein (CAP) to Cementum in Cells Derived from the Human Periodontum

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Cementogenesis is the most important process for periodontal regeneration. However, the factors that control cellular and molecular mechanisms under this process has not yet been elucidated. Cementum contains molecules that appear to be specific for this mineralized tissue, and these include the cementum protein (CP), that has shown to promote several biological activities, such as cell attachment, and cell differentiation. The cementum attachment protein (CAP) has been purified from bovine and human cementum, immunolocalized in cementum and endosteal spaces. It has been observed that it is capable of recruiting cementoblastic populations on the radicular surface. Arzate et al. have expressed and purified the CAP from a cellular line of a human cementoblastoma. They designed a monoclonal antibody anti-CAP. Therefore it is important to know the CAP role during the biological activity of cells derived from the human periodontum. Hypothesis: CAP will promote attachment, proliferation, differentiation and mineralization in periodontal ligament cells. **Objective:** To determine the role of CAP in periodontal ligament cells. **Methods:** Immunoaffinity chromatography was used to purify CAP from cellular extract and conditioning medium. Electrophoresis and Western Blot (WB) were used to anti-His, anti-CP34, anti-CAP, anti-V5. **Results:** it was determined that the cells segregate CAP to extracellular medium because during the purification of cellular extract evaluated by WB bands were not found. The WB of the purifications of the extracellular medium revealed a clear band of 55Kd approximately. During the purification of cellular extract of transfected human gingival fibroblasts with CP23 (HGF23) the WB reveal four different clear bands antiCAP with different molecular weights. CAP has Mr of 55 Kd therefore the other bands could represent different post-traductional modifications of the same one. **Conclusions:** CAP is segregated to extracellular medium by periodontal ligament cells. The HGF23 synthetize CAP future research should focus on determining the biological functions of CAP and its post-traductional modifications an alternative splicing.

0015

Distribution of Genetic Polymorphisms TNF-B+252, IL-6-174 and IL-12+188 in Mexican Subjects

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It has been suggested that polymorphisms in genes that encode for inflammatory cytokines could be responsible for the pathogenesis of a number of diseases such as periodontitis. An association has been reported between periodontal disease composite genotype in the IL-1 genes, however, recent studies indicate that such an association is not present in a number of populations around the world. **Objectives:** The purpose of the present study was to analyse the distribution of the polymorphisms TNF-B+252, IL-6-174 and IL-12+1188 in Mexican subjects with generalized chronic periodontitis (GCP) and generalized aggressive periodontitis (GAgP). **Methods:** 118 Mexican subjects were included (GCP n=66, GAP n=22 and healthy periodontium (PH) n=30). Clinical measurements including plaque accumulation, gingival erythema, bleeding on probing, suppuration, pocket depth and attachment level were recorded at 6 sites per tooth. Polymorphisms were detected by RFLP and the associations between genotype frequencies were determined among clinical groups using Fisher's exact test (F). Risk estimates were calculated by Mantel-Haenszel's (MH) common odds-ratio (OR) with confidence intervals 95% (CI). **Results:** Homozygous individuals for alleles 1 (A1/A1) and 2 (A2/A2) in TNF-B+252, IL-6-174 and IL-12+1188 polymorphisms were detected in all clinical groups, except for A2/A2 in IL-6-174 which was not detected in any subjects. Genotypes A2/A2 in TNF-B+252, A1/A2 in IL-6-174 and A1/A2 in IL-12+1188 were the most frequently detected in all clinical groups. The differences in the distribution of genotypes between GCP or GAgP subjects and PH individuals were not statistically significant for either one of the polymorphism evaluated. However, a substantially larger proportion of GAgP subjects (72.7%) were carriers of genotype A2/A2 in TNF-B+252 than PH subjects (46.7%) (F p=0.08, OR=3.1, CI=0.93-9.92, MH p=0.06). **Conclusion:** The data suggested that the homozygous genotype A2/A2 in the TNF-B+252 polymorphism could be associated with GAgP in the Mexican population. Supported by DGAPA IN205402 and IN2130063.

0016

Influence of the Adhesive Layer Thickness on the Bond Strength Properties of two Adhesive Systems

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Introduction: In some clinical situations when using adhesive systems, the dentist increases the number of layers recommended by the manufacturer expecting more adhesion strength on the composite resin used. **Objective:** To compare the adhesion strength of one step adhesive systems with one and two layers. **Method:** 32 molars without caries were evaluated and divided into four groups with eight teeth each. Single Bond –group A-(3M Products) and PQ1 –group B-(Ultradent) adhesive systems applied with one and two layers were used. 24 hours after restoring the specimens, a load was applied with an INSTRON Universal Test Machine reporting values on MPa. **Results:** The adhesive system A obtained 15.4 and 9.5 MPa values with one and two layers, the adhesive system B obtained 10.5 and 7.8 MPa values, respectively. Turkey test p<0.05 reported differences between the two groups. **Conclusions:** Under this methodology both evaluated adhesive systems do not behave in the same way.

0017

Conservative Dentistry: Anterior Guidance. Principles of Function and Esthetics.

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The anterior guidance plays a fundamental role in the mandibular dynamics, defining itself as the harmonious interaction between upper and lower anterior teeth that protect the posterior teeth, TMJ's and the stomatognathic system.

The porcelain laminate veneer restores function and esthetics. They are minimally invasive restorations. Its use allows us to increase lip support, correct tooth malalignment, and modify the tooth length, tooth shade, incisal position and angulation, improving the anterior guidance. The research and development of restorative materials and tooth preparation techniques in the last three decades allow the restorative dentist to have the chance to do natural looking esthetic minimally invasive restorations. **Objective:** The objective is to describe the functional and esthetic parameters for establishing the anterior guidance with minimally invasive dentistry. **Results:** The literature review describes that the porcelain laminated veneers forms an adhesive complex highly resistant that achieves functional and esthetic parameters In oral rehabilitation, taking in account the following points: Tooth preparation 100% in enamel, the right choice of the adhesive and the luting cement and adequate occlusal contacts. **Conclusions:** The use of porcelain laminated veneers helps the restorative dentist to establish the correct diagnosis with enough knowledge of the functional and esthetic needs of the patient. Without this the restorative treatment can fail during treatment or alter the treatment.

0018

Dental Crossbite Prevalence in Paediatric Patients of "Aguilas Clinic": Evening shift

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Malocclusions represent the third place among oral pathologies (WHO, 1991). Dental crossbite is a multiple factor malocclusion, which carries functional and aesthetic problems. It is clinically diagnosed by leading the patient to a centric relation occlusion. Crossbite classification: (anterior, posterior or mixed), whether unilateral or bilateral. **Objective:** To determine crossbite prevalence and its relation to sex, in paediatric patients of "Aguilas Clinic" evening shift October 2005 to March 2006. **Methods:** Three hundred and thirty seven patients of children's clinic were included. Sex, age and bite type were registered; association to sex was analyzed with a X^2 test. **Results:** Fifty one percent of the patients were male; all the patients were between 2 and 13 years old, with an average of 7 years. Sixteen percent of the patients (53) showed crossbite. Forty seven percent had anterior crossbite, Sixty percent showed mixed crossbite. Forty two percent had posterior crossbite; in 55% it was bilateral. An 11% showed mixed crossbite, total anterior and bilateral posterior. There was no significance between crossbite and sex ($p = 0.740$). **Conclusions:** Dental crossbite was found in 16% of the patients, anterior crossbite frequencies and posterior ones were very similar and there was no association between crossbite and sex.

0019

Clinical-Pathological Study of Salivary Glands Lymphomas: Analysis of 32 Cases

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Objective: The complexity and special characteristics of salivary glands lymphomas (SGL) contribute to the relevance of their study. Nevertheless, the reports that examine the aspects of these malignant neoplasms on specific populations are scant. The objective of this study was to analyze the clinical-pathological characteristics of Mexican patients with primary SGL. **Methods:** 32 cases diagnosed as SGL were collected. The patients that had hematologic, ganglionic or visceral abnormalities, as well as those with lymphoma diagnosis in other locations were excluded. The clinical-pathology information was obtained. Finally, the statistical analysis was realized. **Results:** In our series, 59.4%(19) of the patients were of the female gender and 40.6% (13) of the male gender. The predominant location was the parotid gland (71.8%). The ranging age was from the third to the seventh decade. The diffuse lymphoma of B cells was the predominant diagnosis (65.6%). Interestingly, MALT lymphomas represented only 34.4% of the cases. 75% (6) of these cases were associated with Sjögren's Syndrome. In these patients, the Sjögren's syndrome was secondary in 83.3% with arthritis rheumatoid as the associated pathology in 80%. 54.2% of the diffuse lymphomas of B cells was of high grade, 33.3% of intermedium grade and 12.5% of low grade. 100% of the patients were recipient of chemotherapy with CHOP as predominant schema (62.5%). 6.3% of the patients were recipient of radiotherapy concomitant. All patients with MALT lymphomas are alive, while, 66.6% and 12.5% of the patients with low and intermedium grade diffuse lymphomas are live. No patients with high grade diffuse lymphomas are live at present. **Conclusion:** Our results confirm that, in Mexican patients, SGL is a heterogeneous group and that MALT lymphomas are an indolent disease frequently associated to Sjögren's Síndrome.

0020

Oral Health, Masticatory Function and Nutrition Status of the Three Elderly Groups in Mexican Population

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In the elderly groups the nutritional status can be worsened due to oral health conditions as a consequence of dental loss, carious processes in crown and roots, periodontal disease and mucosal lesions as a result of the use of prostheses. **Objective:** to find out the relation among oral health status, masticatory function, and nutritional conditions (related with the kind of daily intake) of different elderly groups of three communities of Mexico. **Methods:** A transversal study was carried out in 305 subjects in three different communities: Valle de Solís, Estado de México (45.6%), Isidro Fabela, Mexico City (34.1%), and CUPA, Mexico City (20.3%). Each patient was visited at his house, examined (body mass index, anthropometric measurements, and 24 hours intake) recorded and the nutritional and socio-demographical data was collected by a questionnaire. The masticatory function was evaluated through chewing ability index, and the oral health status utilizing CPOD, ICR, ISE, IHOS, the number of functional teeth, edentulism and kind of prostheses. A model was built of logistic regression with the masticatory efficiency as a dependent variable to identify the variables considered as potential predictors. **Results:** the prevalence of edentulism was low (13.1%), the oral hygiene of the elderly patients of 57.3% was regular or deficient and only 39.7% of them had a functional dentition. Of all the individuals that utilize prosthesis, 70% had functional ones. There was a high index of dental caries and periodontal disease. 87% of the sample presented masticatory dysfunction; this percentage was found under the daily recommendations. Two variables were identified as potential predictors for the masticatory dysfunction: residence and dental health status. **Conclusions:** A good diet related to the health status of each individual would be beneficial for the general health of the elderly population.

0021

Prevalence of Soft Tissues Alterations in Down Syndrome Children

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The children with Down Syndrome (DS) present several physical alterations, particularly in the craneofacial region and in the oral cavity. **Objective:** To describe the prevalence of several soft tissues alterations in children with DS. **Methods:** Bibliographical review from 1950 to 2006 search in Medline, MDConsult, PubMed, Current Contents, Elsevier Science, Lilac's, Embase, IME. **Results:** Down syndrome or Trisomy 21 is an autosomic congenital alteration characterized by a generalized growth deficiency and a great variety of functional disorders. Several oral manifestations have been reported including soft tissue alterations, such as fissured tongue and lips, angular cheilitis, cleft palate, xerostomy and lichen planus. A protruding tongue together with mouth breathing, can be etiological factors for oral lesions. The international prevalence of soft tissue alterations in pediatric patients with Down syndrome has been reported by several authors: *fissured tongue*: Øster (59%), Levinson (44%), Cohen and Winer (37%), Aguiar (39%), Gullikson (5 to 11%), Ercis (20%), Hernández (73%), Ferrando and Escobar (72%), Assen (80%), Sastre et. al. (31%); *fissured lips*: Scully (20%), Cadena (40%), Hernández (5%); *angular cheilitis*: Scully (20%), Hernández (6%), Ercis (6%) Ferrando and Escobar (11%); *cleft palate*: Cadena (2%), Acevedo and Cordón (2%); *lichen planus*: López (2%). **Conclusions:** The presence of xerostomy and angular cheilitis are suggestive data of defects in the queratinization of pediatric patients with Down Syndrome. Fissured tongue was the most frequent finding. Ulterior research is recommended in mexican population in order to offer Down Syndrome patients dental care according to their needs.

0022

Prevalence and Patterns of Caries in Preschool Children from Iztapalapa

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Objective: In Mexico as others countries from Latin America, dental caries remains an oral health problem. The purpose of this study was to describe pattern and prevalence caries in preschool children living at Iztapalapa. **Methods:** A representative sample of 373 children aged 4 to 6 were examined by one calibrated pediatric dentist following WHO basic methods for oral health surveys, dmft-t and dmft-s and O'leary indexes were registered. We also observed the pattern of the disease and identified association with risk factors. **Results:** 78% of preschool children present caries, the average of dmft-t was 4.85 ± 4 and dmft-s 8.8 ± 9 . The variables associated with caries were the presence of dental plaque in more than 30% of teeth and the beginning of hygiene practice after the age of 3. ($p < 0.05$). The occlusal surfaces of second primary molars were more often affected (56%). We also observed a high prevalence of caries in maxillary incisor teeth.

Conclusion: We observed a high prevalence and severity of caries, the majority of the preschool children had more than 4 teeth affected and only 15% had visited dentist so its important to improve preventive programs.

PAPITT IN 207805-2

0023

Influence of Halides and a Carboxylic Acid in Working and Setting Time in the Dental Cements¹López D*, ²Álvarez C.¹ *Especialidad en Materiales Dentales. División de Estudios de Posgrado e Investigación. Facultad de Odontología. UNAM,*² *Profesor de la Especialización en Materiales Dentales. DEPEI. FO. UNAM.*

Objective: To determine the influence of the addition of tartaric acid (TA), calcium fluoride (CaF₂) and cobalt fluoride (CoF₃) in the working and setting times of a dental cement. **Methods:** A 0.5ml polyacrylic acid cement was used (PAA) and 0.21g zinc oxide (ZnO). The samples were prepared using CaF₂ in two different proportions: 0.02g and 0.04g, CoF₃: 0.04g and 0.02g and TA: 0.10g. Three samples of each of the mixtures were made and the working and setting times were measured, following the parameters established by ADA norm # 96. The results were compared utilizing basic statistics. **Results:** Taking as a parameter the mixture of PAA + ZnO it was recorded a working time of 23 s and a setting time of 3 min. It was observed that by adding tartaric acid to this mixture, the working time was modified to 30 seconds and the setting time up to 9 minutes. The addition of cobalt fluoride 0.02g, modified the working time to 90 s and setting time to 12 min, the values had a significant increase when 0.04g of CoF₃ was added in which the working time was of 154s and setting time 29 min; on the other hand adding 0.02g of CaF₂ the time was reduced to 18 s in working time and 1 min in setting time, there were no significant variations by adding 0.04 g of CaF₂ in comparison with the previous mixture. **Conclusions:** With this study it was demonstrated that carboxylic acid, as well as the fluorides present in the mixture, increase or decrease significantly the working and setting times as well as the manipulation properties. The study was supported by PAPIIT IN117603.

0024

Prevalence and Distribution of Histopathological Lesions on Mexican Children.

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This 13 year retrospective study consists in reviewing histopathologic studies results from biopsies of pediatric patients. **Objective:** to determine the prevalence of oral lesions according to type, age, gender and distribution. **Methods:** Data were obtained from the files of the Oral Pathology Service of the Postgraduate Studies and Research Division of Dentistry School, UNAM. The data were collected from the files over a period from January of 1993 to December of 2005. The lesions were classified into 8 groups: 1) inflammatory and reactive, 2) infectious, 3) cystic, 4) odontogenic tumors, 5) benign tumors, 6) malignant tumors, 7) other lesions and anomalies, and 8) dental specimens and normal tissues. Lesions were quantified and the percentage of benign and malignant lesions was obtained, as well as the data concerning the type of lesion, age, gender and distribution. **Results:** A total of 1058 (11.413%) oral biopsies from patients under 15 years old were diagnosed, 0.85% (n=9) were malignant and 99.149% (n=1049) benign. Inflammatory and reactive lesions formed the largest group of biopsies (36.40%) followed by infectious (10.37%), cystic (18.64%), benign tumors (10.19%), and dental specimens and normal tissues (13.81%). According to age distribution: group A (0 a 5 years of age) was 9.73% (n=103), group B (6 a 10 years of age) 35.91% (n=380) and group C (11 a 15 years of age) 54.34% (n=575). Mucocele was the most frequent, followed by hyperplasic dental follicle, fibrous hyperplasia, dentigerous cyst and pyogenic granuloma. In gender distribution 46.12% (n=488) were male patients and 53.87% (n=570) female. **Conclusion:** There were more inflammatory and reactive lesions because children are more affected by accidents and they present nocive oral habits that may produce irritations.

0025

Smoking and Alcoholism Associated to Self-report to Dental/buccal ProblemsC.E. Medina-Solis^{1,2*}, R. Pérez-Núñez², G. Maupomé³, A.A. Vallejos-Sánchez⁴, A.P. Pontigo-Lo-yola¹, M. Minaya-Sánchez⁴¹ Área Académica de Odontología de la Universidad Autónoma del Estado de Hidalgo. Pachuca, Hidalgo, México,² Centro de Investigación en Sistemas de Salud del Instituto Nacional de Salud Pública. Cuernavaca, Morelos, México,³ Oral Health Research Institute, Indiana University / Purdue University at Indianapolis School of Dentistry. Indianapolis, IN., USA,⁴ Facultad de Odontología de la Universidad Autónoma de Campeche. Campeche, México.

The smoking and alcoholism are factors associated to the poor oral health. **Objective:** To estimate the prevalence and to determine the strength of the association between tobacco smoking and alcoholism with the report of buccal/dental problems in adults of 18 years and more. **Methods:** From data obtained from the National Performance Evaluation Survey of 2002-2003 the prevalence of self-report of buccal/dental problems were calculated. The survey was coordinated by the Ministry of Health with the support of the National Institute of Public Health and the World Health Organization. The sample design of the survey was of probabilistic, multi-stage and by conglomerates. Only in 20 of the 32 states of Mexico dental data was recorded. An individual was chosen in each family at random. The final sample consisted of 24,159 subjects. Self-report of dental problems was estimated with based in the question: "During the last year, have you had a buccal or dental problem?" The statistical analysis was made with binary logistic regression in STATA 8.2 using the "svy" module for complex samples. **Results:** the average age was 39.6 years and 41.8% were men. In the multivariate model, associated variables ($p < 0.05$) to self-report of dental/buccal problems were: occasional smoking (OR=1.16; 95 IC %=1.04-1.31) and daily smoking (OR=1.26; 95 IC %=1.07-1.49), a long time of alcohol consumption (0-15 years old, OR=1.26; 95% IC =1.09-1.45, 16-30 years OR=1.32; 95 IC %=1.13-1.55, and more than 31 years OR=1.37; IC95%1.13-1.65), additionally, diabetes, socioeconomic status, self-report of general health status, years of formal education, physical disabilities, and job. **Conclusions:** The findings of this study showed that, in Mexican adults, the tobacco and alcohol consumers have a higher possibility to present buccal/dental problems during the previous year of the survey, even considering several variables.

0026

Prevalence of Dental Caries in Children 9 to 13 years old in a School Population of the Border Region México-USA in Ciudad Juarez, Chihuahua, MexicoRoberto Mendoza-de Elias¹, Alejandro Donohue-Cornejo¹, Javier García-Godínez¹, Aida Borges-Yañez², Gerardo de la Torre-Morán¹, Juan Carlos Cheda-Laso¹ & Luis Octavio Sánchez-Vargas^{1,3*}.¹ Departamento de Estomatología, Instituto de Ciencias Biomédicas, Universidad Autónoma de Ciudad Juárez, Chihuahua México² Facultad de Odontología, Universidad Nacional Autónoma de México, México DF, Mexico³ Laboratorio de Microbiología, Instituto de Ciencias Biomédicas, Universidad Autónoma de Ciudad Juárez, Chihuahua México

Objective: To determine the prevalence of dental caries in a group of school children between 9 to 13 years of age in a population of the border region Ciudad Juarez, Chih Mexico- El Paso Tx. USA, as well as some behavior patterns and the level of information regarding prevention aspects in oral cavity health. **Methods:** After an informed consent of the parents of each child a questionnaire was obtained regarding both socio demographic and socio economic factors, attitudes and information that children have about preventive procedures and oral hygiene, nutritional factors and eating habits. The exploration and diagnosis of caries were carried determining the number of teeth, decayed, missing and/or filled (CMDf) according to the WHO criteria. **Results:** 156 children were included (73 boys and 83 girls) age group 9-13 years. It was found that only 14.7 % (23) of the children were free of caries in both dentitions. The media CMDf was 2.6 ± 2.3 for the cefd was 1.4 ± 1.9 and the total CMDf was 3.09 ± 3.1 . 85.3% of our population presented carious lesions being girls and the children of university educated parents the less prone to develop the dental condition. Children eating during school breaks, food rich in carbohydrates, presented a greater prevalence of caries, being evident that those who ate sweets between meals also presented more lesions. Evidently children that have no preventive instruction on brushing techniques presented more dental caries as well as those who did not brush their teeth before bed time. **Conclusions:** The disease is a multifactor problem and affects a high percentage of our pediatric population, it is therefore mandatory to establish prevention oral and dental health programs and to improve the public health systems in northern of México.

0027

Declination of Dental Caries and Increase of the Dental Fluorosis by the Use of Fluoride Compounds

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Dental caries in Mexico is still a public health problem. In the last years fluoride has been added to the salt and tooth-pastes to diminish the prevalence and severity of it, but this has caused an increase of dental fluorosis. **Objective:** To determine the prevalence, severity of dental caries and dental fluorosis in students in the south of Mexico City that have consumed fluoridated salt during a period of ten years (1995-2005). **Method:** A descriptive and longitudinal study was done in students of 12 years of age born and grown in the same area. They were classified in population A and B. Population A was reviewed clinically in 1995 and population B in 2005. Dental caries was determined by a calibrated dentist (Kappa 0,92) with the criteria of the WHO for CPO and CPOS. The dental fluorosis was scored according to Dean Index. **Results:** In population A the CPO was of 4.33 ± 4.62 and CPOS 5.3 ± 5.9 while in population B the CPO was 1 ± 1.15 and CPOS 1.36 ± 1.75 , being a reduction of 3,3 in CPO and 3,5 in CPOS. In 1995 there were no cases of dental fluorosis meanwhile in 2005, 21 children (20,8%) presented/displayed dental fluorosis distributing itself in very mild scores 16 (76,2%) and in mild scores 5 (23,8%). The Communitarian Index value of Dental Fluorosis was 0,31 that corresponds to a negative significance of public health. **Conclusion:** In the present study we have found that due to the incorporation of fluorine compounds, like salt, there has been a beneficial effect on the population, diminishing dental caries, but this measurement has caused the presence of dental fluorosis as well. Although it is necessary to continue with this preventive measure, there must be an adequate control over fluoride compounds consumption.

0028

Characterization of Gingival Fibroblasts in a Biological Matrix as an Autologus Grafts for Root Coverage

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Tissue engineering has been developed and used in different fields of contemporary medicine and dentistry. This technique can be an option of treatment for mucogingival deformities such as gingival recessions, thus helping in some limitations in the management of damaged tissue and creating an option for periodontal regenerative therapy. **Objective:** The aim of this study is to develop autologus grafts based on the culture of gingival fibroblast supported in a biological matrix for the coverage of root exposure in gingival recessions. **Methods:** Two systemically healthy patients with generalized gingival recessions and limited prognosis for mucogingival conventional treatment participated in this study. A palatal biopsy was taken to develop two cellular lines, the cells were treated in collagenase during three days until obtaining a good fibroblastic population. Gingival fibroblast grew in 75 cm² culture bottles during eight days. Afterwards they were placed in bottles of the same size so that the population of fibroblasts were frozen in three vials of one thousands cells each, in -80°C temperature. Afterwards, cells will be defreezed in presence of a serum substitute to avoid any immunological reaction so then we can be able to culture gingival fibroblasts in a submucosal intestinal pig membrane. In order to characterize each graft, recessions were measured in a study models. **Results:** The fibroblast culture produced good cell proliferation to characterize grafts.

0029

Subgingival Microbiota of Mexican Subjects with Aggressive and Chronic Periodontitis

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Studies have suggested that a specific subgingival microbiota may be associated with different forms of periodontal disease. However, specific microbial profiles that may distinguish between generalized aggressive-periodontitis (GAgP) and chronic-periodontitis (GCP) have not been yet described. **Objective:** The purpose of the present study was to describe the subgingival microbial composition of mexican subjects with GAgP and compare it with that found in GCP and healthy periodontum (PH) subjects. **Methods:** 77 subjects with GAgP (n=19), GCP (n=39) and PH (n=19) were selected. Clinical measurements including plaque accumulation, gingival erythema, bleeding on probing, suppuration, pocket depth and attachment level were recorded at 6 sites per tooth. Up to 28 subgingival plaque samples were obtained from each subject and analyzed using the checkerboard DNA-DNA hybridization technique. **Results:** GAgP and GCP subjects harbored significantly higher levels and/or proportion of *Porphyromonas gingivalis*, *Tannerella forsythia* (levels: $p < 0.001$, proportion: $p < 0.01$), *Prevotella nigrescens* ($p < 0.05$ levels) and "red" complex species ($p < 0.001$ proportion) than PH subjects. All GAgP subjects were carriers of *P. gingivalis* and *P. nigrescens*. No significant differences in any of the 40 microbial species tested were detected between GAgP and GCP subjects. **Conclusions:** The results revealed that the microbial differences between GAgP and GCP subjects were only discrete and none of the bacterial species tested seemed to specifically differentiate the subgingival microbial profile of either periodontitis group.

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0030

Application of an experimental adhesive based on HEMA to enhance bond strength between a composite resin and acrylic teeth

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Whether for function or repair, denture acrylic resin teeth are modified with composite resin. Surface conditioners and adhesives are used in order to achieve proper adhesion between composite resin and acrylic resin. **Objective:** In vitro samples were examined to determine the union strength obtained between acrylic resin denture teeth with a methylmetacrylate (MMA) and light-cured composite resin and acrylic resin, a commercial composite resin adhesive and a 2-hidroxyethyl methacrylate experimental adhesive (HEMA). **Methods:** Denture acrylic resin teeth were used as work surface; light-cure composite resin and self-cure acrylic resin (PMMA) were used as repair material and as an adhesion system: methylmetacrylate, an experimental adhesive and a composite resin adhesive. 40 MMA samples were prepared and conditioned, only 20 received adhesive. 4 groups were formed. The adhesion strength between different systems was compared. The test was performed in an Instron Universal Mechanical Test Machine with a cross speed of 1mm/min at a 20°C. **Results:** The one way ANOVA analysis did not show statistically significant differences between groups. The result for MMA with composite resin was 9.8 ± 1.8 MPa; MMA with commercial adhesive: 13.1 ± 2.2 MPa; MMA with experimental adhesive: 13.2 ± 2.4 MPa; MMA with PMMA: 10.2 ± 1.7 MPa. **Conclusions:** The adhesive treated surfaces increased the bonding strength between the methacrylate-base materials opposed to the non treated surfaces. The experimental adhesive presented a higher value than the commercial adhesive.

0031

LDH Activity in Gingival Crevicular Fluid (GCF) and Saliva of Smoker and non-smoker Patients with Chronic Periodontitis

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The response of the body to periodontal disease includes the production of intra-cellular enzymes like lactate dehydrogenase (LDH) which is released by damaged periodontal cells. The LDH can be found in the gingival crevicular fluid and saliva as a result of cellular death and damage. Its activity can rebound in metabolic changes in periodontitis. Some risk factors such as smoking promote the development and persistence of periodontitis. An increase in LDH alters the function of periodontal cells like neutrophils avoiding their capacity to phagocyte and diminishing their proliferation. This increased LDH also reduces protein synthesis and collagen production. **Objective:** To compare clinical and radiographic parameters, periodontal plaque index and LDH activity in gingival crevicular fluid and saliva of smoker and non-smoker patients with chronic periodontitis from the Periodontology Clinic of the Graduate School of Dentistry, UNAM. **Methods:** 13 male patients (30 to 50 years of age) participated in this study. A medical record as well as an oral and periodontal exam were performed. Inclusion criteria were: chronic periodontitis, no systemic diseases, no previous periodontal treatment and no antibiotic therapy during the previous 2 months. Samples of stimulated total saliva as well as four samples of gingival crevicular fluid while probing periodontal pockets (≥ 6 mm deep) with standardized #30 endodontic paper points were obtained. The enzymatic activity of LDH was recorded and was quantified by spectrophotometry. Statistical Analysis ANOVA. **Results:** No differences were found for clinical parameters or in the amount of crevicular fluid. The enzymatic activity of LDH in gingival crevicular fluid and saliva was greater in smoking patients compared to non-smoking patients. **Conclusions:** These results suggest that LDH activity in saliva and gingival crevicular fluid can be used to evaluate the progression of periodontal disease as well as the effects of smoking.

0032

Dental Caries Prevalence and Oral Hygiene in Subjects with DisabilitiesPontigo-Loyola AP¹, Aguilar-Rivero I¹, Velásquez-Ordóñez A¹, Islas-Márquez AJ¹, Borges-Yáñez AS², Mendoza-Rodríguez M¹¹Área Académica de Odontología del Instituto de Ciencias de la Salud de la Universidad Autónoma del Estado de Hidalgo. Pachuca, Hidalgo., México.²Facultad de Odontología de la Universidad Nacional Autónoma de México. México, DF., México.

There are many factors that cause mental and physical disabilities that modify the quality of human life. Some of them rebound in the oral hygiene and health status of the individuals. **Objective:** To determine the prevalence of dental caries and the oral hygiene status in participants of the Special Olympic Games (for individuals with disabilities) in Hidalgo 2004. **Methods:** With the previous consent of the parents, one examiner standardized according to the World Health Organization in the diagnostic criteria for dental caries and oral hygiene, examined to 300 subjects, 96 were excluded (32%). A questionnaire face-to-face was applied to parents/guardians to obtain sociodemographics data. Parametric and non-parametric test were applied according to variable measure scale. **Results:** 204 subjects (75% male and 25% female), with an age average of 21 ± 7.05 years old were examined. Dental caries prevalence was 67.2% (n=137), the DMFT index was 1.32 ± 0.86 . Regular oral hygiene status was observed in 69.6% (n=142), while good oral hygiene percentage was 30.4% (n=62). Significant differences ($p < 0.05$) were found in DMFT index as well as the missing and filling components by age. **Conclusions:** 50% of the subjects presented carious lesions. Most of the individuals had a regular oral hygiene (this is an important factor for development of dental caries). It is suggested to continue with studies on this same line and to enhance the prevention among these groups.

0033

Analysis of Demineralized Dental Enamel Surface by Polarized Light TechniquePrado-Rosas SG¹, Valenzuela-Espinoza E², Araiza-Téllez MA³¹ Alumna de la Especialidad de Odontopediatría, División de Estudios de Posgrado e Investigación, Facultad de Odontología, UNAM.² Profesor de la Especialidad de Odontopediatría, División de Estudios de Posgrado e Investigación, Facultad de Odontología, UNAM.³ Profesor de la División de Estudios de Posgrado e Investigación de la Facultad de Odontología, UNAM

Objective: Determine optic characteristics of dental enamel previously demineralized and treated with fluoride solutions [silver diammine fluoride (SDF), acidulated phosphate fluoride (APF) and difluorsilane (DFS)] under pH cycling conditions. **Methods:** A demineralized surface was produced in enamel of 120 third permanent molars by exposition on demineralizing solution during 96h with the purpose to produce an initial enamel lesion. The demineralizing solution contained 2.2 mM CaCl₂, 2.2 mM NaH₂PO₄, 0.05 M CH₃COOH and the pH was adjusted to 4.4 with 1M KOH. Fluorated solution were applied during 5, 10 and 15 days to the surface lesion (one treatment per group) using a pH cycling model. Specimens were sectioned (100 m thickness) samples were observed under polarized light and tholuet's solution in a photomicroscope (Axiophot, Carl Zeiss, Germany) in order to determine its birefringence. **Results:** Optic enamel changes appear in the following table:

Group	Tx 5 days media±D.E.	Tx 10 days media±D.E.	Tx 15 days media±D.E.
Control	0.2±0.422	0.3±0.483	0.4±0.516
SDF	1.1±0.876*	1.5±0.850*	1.1±0.316
DFS	0.8±0.632	0.6±0.699	1.0±0.816
APF	0.6±0.516	0.8±0.789	0.8±0.789

Statistical evaluation (ANOVA) was performed with Sigma.Stat programm (Jandel, USA). **Conclusion:** Enamel remineralization-demineralization on incipient caries lesion can be evaluated successfully using polarized light technique. Supported by IN121205 PAPIIT, DGAPA, UNAM.

0034

Malocclusions Prevalence of 6-12 Years Old PatientsRobledo* R, Oropeza P, Elorza H, Hernández M.
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Malocclusion is defined as a dental condition that involves abnormal occlusion teeth and is considered a human morphologic variation. This is a prospective, transversal and descriptive study. **Objective:** To determine the prevalence of malocclusions. **Methods:** The study was carried out in a sample of 30 patients (6-12 years) in the Aragon Clinic School of Dentistry, UNAM. The cranial index was obtained by measuring the maximum anteroposterior and transverse diameter of the head. For the index, the morphologic diameter of the face and the bizigomatic distance were measured. Considering this the type of facial profile, malocclusion according to Angle and Dewey-Anderson, pernicious habits, interproximal caries and tooth loss were obtained. **Results:** 12 patients (40%) were class I, 8 patients (26.6%) class II, 7 patients (23.3%) class II division 1, 2 patients (6.6%) class II division 2 and 1 patient (3.3%) class III. The more frequent habits observed in this study were buccal breathing 20 patients (66.6%) and lingual protrusion 17 patients (56.6%). According to Dewey-Anderson analysis the type 1 was 50% more frequent that the rest. 50% of the study population presented an euriprosops facial index, the 76.6% a brachiocephals cranial index, 53.3% had a straight profile, 40% convex and 6.6% concave. In the study 56.6% of the patients had from 1-5 interproximal caries lesions, 13.3% had missing teeth as a result of carious lesions, 6.6% several causes and 23.5% had no caries or lost teeth. **Conclusion:** The malocclusions observed at an early age, are due to genetic factors, local factors such as caries lesions, pernicious habits, vicious mastication, soft diet which causes a lack of harmonious development of maxilla and mandible.

0035

Comparative Study of Two Anesthesia Techniques

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Objective: To determine if the use of computerized anesthesia allows the dentist to provoke less discomfort, pain and apprehension to the patient in comparison to the conventional technique. **Methods:** This study consisted in the examination of 100 patients, who were anesthetized either with the conventional technique or by computerized means, at the same anatomical point (canine in the upper right quadrant), with the same amount of anesthetic in both techniques (the content of one cartridge), a 9 questions questionnaire was applied to the patients based on a pain scale. Inclusion criteria: a (Patients older than 17 years old, b) Patients on a healthy status, c) Residents of the city of Saltillo, Coahuila, México. **Results:** On a pain scale for the computerized technique the greatest percentage was located at level 5 and 6 with a 23% and a 22% respectively compared to the Carpule technique where the greatest was located at level 4 with a 22%. **Conclusion:** Although the results did not show significative difference Carpule technique is the best choice in terms of discomfort caused to the patients.

0036

Knowledge and Practices from Dental Surgeons for the Diagnosis and Treatment of Oral Lesion Related HIV.

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The Phuket Declaration calls for dentists worldwide to increase their involvement in the diagnosis, treatment and improvement of life quality for patients with HIV/AIDS, as well as to participate in public health efforts to reduce the dissemination of HIV. **Objective:** To determine dental students' ability in the identification, early diagnosis and treatment of oral manifestations of HIV. **Methods:** A convenience sample of 400 dental students (112 male and 288 female) answered a 7 closed-question survey. **Results:** Four hundred dental students had the opportunity to name the seven oral lesions most commonly associated with HIV/AIDS. Of 2800 possible right answers, only 515 (18.3%) were obtained. Of the seven "cardinal" lesions, among these 400 students, few correctly named "candida" (47%), Kaposi's sarcoma (37%), Gingivitis (16%), Periodontitis (13%), "leucoplakia" (12%), "lymphoma" (5%), "linear erythema" (0.25%). In each academic year, 100 students had a chance to score 700 potential correct answers, among them 39 (6%) right answers were scored by first year students, 34 (5%) by second year students, 185 (26%) from third year and 257 (37%) by fourth year students. **Conclusions:** Five out of seven cardinal lesions were most commonly mentioned. However few students could mention any of these 5 most common lesions. Just some students could diagnose any lesion, just a few of them knew the correct treatment for these lesions. The number of right answers increased according to the academic year, but even in fourth grade they could not obtain an acceptable score of right answers.

0037

Characterization and Comparative Study Between Two Adhesives of Maxillofacial Prosthesis

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During the use of a maxillofacial prosthesis changes and physiological secretions occur on the supporting tissues that influence on the adhesion degree, increasing or diminishing it. Nowadays there are several adhesives to be used on maxillofacial prosthesis but no one of them has endured 8 hours of adhesion. **Objective:** To determine the composition and compare the adhesive strength in samples of silicon and acrylic, of two different adhesives Pros – Aide and Tisuacryl. **Methods:** The characterization was done with infrared spectroscopy determining the composition according to the functional groups. For the adhesive test 20 rectangular samples were done using *Nictone* and 20 using *Dow Corning Silicon*, the dimensions of the samples were 30 per 10 mm for those in acrylic and 50 per 10 mm for the silicon ones. The samples were divided into two groups. Those in acrylic remained in deionized water at room temperature during the whole test. The adhesive materials were manipulated according to the manufacturer instructions and were placed in a 15 mm area in each type of sample and then they were put together. After 1 and 8 hours the samples were taken to the universal machine for mechanical test Instron to measure the adhesive strength with a speed load of 5 mm/min. **Results:** The characterizations for infrared spectroscopy showed that all the adhesive system have different molecules in its formula. The values of adhesion were analyzed with a t – student in MPa (10^{-2}) and U of Mann – Whitney, Tisuacryl 1.69 and 2.94 MPa and Pros – Aide .978 and 1.51 MPa at 1 and 8 hours respectively. **Conclusion:** Under this methodology the adhesive system that obtained the major values of adhesion to silicone-acrylic was Tisuacryl. This work was financed by the PAPIT IN117603 Project.

0038

Microlakeage Determination in Cavities Kind V Restored with the Newest Glass Ionomer Cements

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A common cause of failure of restorations is the marginal microlakeage caused by multiple factors, among them: contraction of the material and lack of adhesion of the restoration to dentinal and enamel tissues. This study arises from the implementation of techniques that recommend the use of Glass Ionomer as a material for permanent restorations that has not been thoroughly evaluated. **Objective:** To determine the marginal microlakeage on Class V restorations with the newest Glass Ionomer Cements. **Methods:** Forty human extracted molars were used. 120 cavities Class V were prepared and then divided into two groups.

- Group A, 40 restorations with Glass Ionomer 3M ESPE Ketac™ Molar
- Group B, 40 restorations with Glass Ionomer 3M ESPE Ketac™ Molar Easymix.

They were stored for 24 hours in distilled water. Afterwards they were put into Thermocycling for 918 cycles, one minute per cycle. They were put into a 10% water solution of blue methylene for 24 hrs. They were then cut longitudinally and were examined with an optical microscope evaluating the penetration level of the colorant using the following scale:

- 0= absence of filtration
- 1= filtration that reaches the enamel around the restoration area
- 2= filtration that reaches the dentine around the restoration area
- 3= filtration that reaches the pulp tissue.

Results: The independent group tests with non-parametric variables Mann Whitney U reported a value of 2.1634 where $p \leq 0.05$ giving a significant difference between both groups. **Conclusion:** The group restored with Glass Ionomer Easymix showed a better marginal sealing. This seems to be because of the texture of the powder, the viscosity of the liquid, a mixture with less porosity, less sticky and with more working time that makes it easier to handle inside the cavity.

0039

Characterization and Expression of a Novel Gene (3AS) in Human Tooth Tissues

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Teeth are comprised of four mineralized tissues: enamel, dentin, alveolar bone and root cementum. This work focuses in root cementum, which is a mineralized tissue that covers the root surface of teeth. Cementum is a unique tissue, however, yet little is known about its growth and differentiation. **Objectives:** The aim was to analyse the *in silico* of 3AS gene sequence and to determine the homologies with previously reported sequences, and mRNA expression and localization in cells and human tooth tissues. **Methods:** For the sequence analysis we used the NCBI data bases to determine the homologies in accordance to its amino acid composition. To study the mRNA temporal and spatial expression we used RT-PCR in periodontum cells line (osteoblasts, cementoblasts, PDL cells and gingival cells) and *in situ* hybridization in human teeth tissues slices. **Results:** The results of the 3AS sequence analysis gave us a sequence of theoretical protein of 179 a.a. with collagen I homology, with a theoretical molecular weight of ~18.82 kDa, The analysis of the protein sequence gave us possible phosphorylations in amino acids Ser, Thr, Tyr. Our RT-PCR results of the cDNAs from human periodontal cells line were positive in cementum, periodontal ligament and gingival fibroblasts cells line. *In situ* hybridization has let us know the expression of this novel gene in human adult tooth slice. Strong signal of the mRNA was visualized in cellular cementum, periodontal ligament, vascular blood vessel and odontoblasts of the pulp. **Conclusions:** All this results show evidence of the possible role of the 3AS gene in tooth mineralization.

0040

Description of a Method for the Objective Evaluation of Masticatory Performance

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The relationship between chewing and the general well-being of individuals has led to the development of several methods to assess chewing function. One of these methods consists in the evaluation of chewing performance. The objective evaluation of masticatory performance with synthetic food provides more reliability than other methods. **Objectives:** To describe a method that evaluates masticatory performance objectively using condensation silicone impression material. In order to justify the selection of this material and the sieving method to determine particle size produced during chewing. **Methods:** The chewing material is prepared using Optosil®, following a standardized protocol to obtain tablets with uniform physical characteristics (weight, size and hardness). The patient is asked to chew 2g of this material naturally for a total of 20 cycles and then is instructed to expectorate the sample into a paper filter and carefully rinse with water to remove all the particles from the mouth. This procedure is repeated 5 times. The material is then dried for one hour in an oven at 80°C. The sample is separated using seven sieves with different mesh sizes stacked over a dental vibrator for two minutes. The content on each sieve is weighed on a precision scale. Median particle size and broadness of the distribution is estimated for each individual using the Rosin-Rammler equation. **Conclusions:** Because this method is simple, relatively economical and standardized it can be used to evaluate differences in masticatory performance among patients with diverse dental status.

0041

Impacted Canines Prevalence in Pediatric Patients who Attended "Águilas Clinic, UNAM".

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An impacted tooth is found in ectopic position, having left its eruption time or not, due to a physical barrier such as supernumerary teeth, odontogenic cysts, odontomas, etc. Canine tooth is the second cause in the impactation frequency with a 34% for upper and 4% for lower ones. There is a women's predilection 7:3, and there are multiple complications such as: rizo-olysis, displacement and necrosis of adjacent teeth, follicular cysts, neuralgias, etc. **Objective:** To know impacted canines prevalence in paediatric patients who attended "Las Águilas Clinic" from October 2005 to March 2006". **Method:** A clinical examination was carried out in each one of the patients in order to find space loss, eruption delay and/or palatine swellings and/or in buccal side. Dentoalveolar radiographs were taken so as to confirm the impacted canine diagnosis and later, data such as age, sex and impactation place were registered. A descriptive statistical analysis was carried out. **Results:** From October 2005 to March 2006, 337 patients attended the children's clinic, 171 (50.74%) were boys; seven patients showed impacted canines; 5 girls and 2 boys. There were 12 impacted canines, 58.33% from which were upper and 41.66% were lower canines. Seven were right and 5 were left canines. Age between 8 and 12 years old, the average was 9.4 years old, with a mode of 8 and a median of 9. **Conclusions:** The purpose of this investigation was to emphasize the clinical importance of impacted canines in the population. The greatest frequency was found in right upper canines, with predilection for girls 5:2. Total prevalence of impacted canines was 2.077%.

0042

Comparative Study of the Bond Strengths of Resin Cement and Fluid ResinUtrera L M N¹ * Fernandez P J A². Guerrero I J³.¹*Student of the Specialty Prosthetic Bucal and Implantology.*²*Department Prosthetic Bucal and Implantology.*³*Department of Dental Materials. Division of Studies of Posgrado and Investigation. National Autonomy University of Mexico.*

The advances obtained from the technique described on adhesion in 1955 by Bounocore and introduction Bis-GMA the resin by Bowen have contributed to the development of the adhesive system. **Objective:** To determine the bond strengths when cementing ceramics with resin cement and fluid resin. **Method:** 20 human teeth: 10 incisors and 10 premolars, and 20 samples of IPS EMPRESS 2, were used in this study. Cement Variolink II, adhesive system Excite DSC, 37% phosphoric acid, and 5% hydrofluoric acid to etch ceramics were used for the incisors. Fluid resin Revolution, adhesive system ObtiBond Solo Plus, 37.5% phosphoric acid were used for the 10 premolars. They were LED light cured. After 24 hours of cementation they were placed in the machine of tests INSTRON under tractional load at a speed of 1 mm/min. **Results:** The obtained values were analyzed with t of student test, result variolink II with 8,06 MPa and revolution with 7,191 MPa with a reliability of 95%. **Conclusion:** It can be concluded from the results of this study that there are no significant differences comparing the bond strengths, and making a procedure of cementation with fluid resin or a resin cement, the resistance results are satisfactory.

0043

Evaluation of Radiographic Images Using Different Films and Revealing Solutions

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A problem that appears in the radiographic interpretation is the quality of the image represented by the clearness, density and contrasts; which depends on the selection of the radiographic film, factors and times of exhibition, positioning of the film, direction of the central ray, in addition to the suitable revealed procedure of. **Objective:** To know the importance of using good quality radiographic films as well as the compatibility with the revealing solutions. **Methods:** 20 dentoalveolar #2 x-rays were taken from Kodak (Insight FAITH) and AGFA (Dentus), placing a natural tooth in the center of each film with the aid of an instrument XCP (RIN Dentsply) in an x-rays equipment Corix (70 kV, 20 mA). For all the x-rays the same position of the tooth was considered, distances of the central ray, factors of exhibition and revealed time of. Revealing solutions Kodak Rapid Access and Agfa prepared Dentus D-125 were used according to instructions of the manufacturer. 4 groups were formed (n=5): Group 1 Kodak films-Kodak-solution; Group 2 Kodak films-AGFA-solution; Group 3 Kodak films-AGFA solution and Group 4 AGFA films-AGFA solution. They were identified and mounted in plastic supports to value the quality of the images. Five observers qualified them in bad, regular and good, resulting in 25 observations by group. **Results:** Group 1; presented 22 observations with good qualification, 3 regular and zero bad ones. Group 2; with 2 good qualification, 14 regular and 9 bad ones. Group 3; with 12 good qualification, 11 regular and 2 bad ones. Group 4; with 6 good qualification, 16 regular and 3 bad ones. **Conclusions:** The quality of the image is directly proportional to the quality of the film and the compatibility with the revealing solutions as the results of group 1 and 4 indicate.

0044

Variation of Curing Light and Polymerization Shrinkage in Resins using two LED-curing Lamps (prototype and commercial).

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Nowadays, the light activated resin systems are cured using LED technology. Since their introduction, the LED lamps have offered a promising option. **Objective:** To determine the correlation between intensity of LED lamps (prototype and commercial), depth of cure and polymerization shrinkage of two resins. **Methods:** Two LED-curing lights (LED Prototype, 400 mW/cm², School of Dentistry and Freelight2, 800 mW/cm², 3M-ESPE) and two resins (Prime-Dent, Prime Dent, USA and Degufill Mineral, DEGUSSA) were evaluated. Fifteen samples per each lamp and resin were prepared for cure depth and twelve samples per each lamp and resin were prepared for polymerization shrinkage. Depth of cure was measured according to the ADA 27 and polymerization shrinkage was measured using Watts Method. **Results:** Depth of curing: Prototype-Degufill (4.7±0.2 mm); Freelight2-Degufill (5.2±0.3 mm). For Degufill, cure depth increased as intensity increased. Polymerization shrinkage: Prototype-Degufill (2.8±0.1 mm); Prototype-Prime (2.5±0.1 mm); Freelight2-Degufill (3.0±0.1 mm); Freelight2-Prime (2.5±0.1 mm). Both lamps for Degufill, polymerization shrinkage decreased as intensity decreased; no influence was observed in Prime-Dent. **Conclusions:** Resin composition and light intensity influence in some properties. UNAM-PAPIIT IN117603 supported this study

0045

Educational Program about the Maintaining of Removable Dentures of Elders in Mexico City

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Objective: The aim of the study was to design and evaluate an educational program focused to modify knowledge, attitudes and practices about utilization and maintaining of removable dentures of older people in México City during 2005. **Methods:** A cross-sectional study and a community trial were performed. 175 persons, 60 years old and over from four groups from the National Institute for Elderly People (INAPAM) participated in the study. A questionnaire about knowledge, attitudes and practices regarding the use of removable dentures, as well as, a clinical examination were performed. The educational program was organized in five sessions that emphasized the relevance of hygiene and oral self-examination. The program was evaluated three months after its completion. **Results:** 175 persons were interviewed (93.1% female). Mean age was 71.5 ± 7.5 years. An increase of practices about frequency of hygiene of dentures (81.1% to 90.4%) was observed after the intervention ($X^2=4.920$, $p=.027$), and an increase in knowledge about correct denture hygiene methods (10.2% to 28.8%) in the experimental group ($X^2=17.039$ $p=.004$) was observed. **Conclusions:** Knowledge and practices regarding cleaning methods of dentures were modified after the implementation of the program between the experimental and the control group. It is necessary to keep working on educational programs focused to oral health of the elderly.

0046

Effects of Controlling the Position of Food on Chewing Cycle Kinematics

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During chewing, food is not processed at the same position on the tooth row during all cycles within a sequence. Chewing on different teeth might be expected to influence chewing cycle kinematics. **Objective:** To analyze the systematic and random differences in chewing cycle kinematics between chewing gum freely on the right side or only on the right side molars. **Methods:** Chin movements of 35 adults (20-39 years of age) were recorded (Optotrak® Northern Digital) while chewing a standard piece of gum. A 40 cycle sequence was recorded while chewing gum on the right side followed by another 40 cycle sequence where subjects had been instructed to chew only on the right molars. Multilevel modelling procedures were used to evaluate differences between chewing on the right side or only on the right side molars. **Results:** When restricted to the right side molars total cycle duration significantly ($p<0.05$) increased while maximum excursions and velocities decreased. Within-subject variability significantly ($p>0.05$) increased for cycle duration and maximum 3D and inferior excursion, and it significantly ($p<0.05$) decreased for maximum vertical velocity. **Conclusions:** Chewing only on the right side molars which is an unnatural condition, affects the systematic and random kinematic characteristics of the chewing cycle.

