

**Pc173** Effect of bleaching agents on demineralized dentin microhardness. **SERRA, M.C.\*; FREITAS, P.M.; TURSSI, C.P.; HARA, A.T.** Odontologia Restauradora - Universidade de São Paulo USP. E-mail: mcserra@forp.usp.br  
 This "in vitro" study evaluated the effect of 6 bleaching agents: Nite White [NW] 10 and 22% Excel/Discus Dental, Rembrandt [REM] 10 and 22%/DenMat, Opalescence [OPA] 10 and 20%/Ultradent and a placebo agent on demineralized dentin microhardness. One hundred and five human dentin fragments were embedded, planed, submitted to a cariogenic challenge and randomly divided into seven groups. For 42 days specimens were exposed to bleaching treatment, consisting of applying the agents daily for 8 hours, removing and storing the specimens in artificial saliva for 16 hours. After bleaching treatment, specimens were kept in artificial saliva for 14 days. Knoop Microhardness tests were performed on specimen surfaces before (baseline), during (8hours, 7, 14, 21, 28, 35 and 42 days) and after bleaching procedures (7 and 14 days). The ANOVA Split-plot showed significant effect on the bleaching agent x time interaction ( $\alpha=0,05$ ). The Tukey test revealed no significant differences on demineralized dentin microhardness exposed to bleaching agents until day 7. Regression Analysis showed that NW 10 and 22% and OPA 20% increased dentin microhardness and OPA10%, REM 10 and REM 22% induced mineral loss during bleaching procedures, followed by microhardness recovery in the post-treatment period. *During the bleaching treatment, depending on the agent applied, demineralized dentin may show an increase or transitory decrease in microhardness values. After bleaching, saliva presented a remineralizing effect on the bleached specimens. FAPESP (01/01029-5)*

**Pc174** Comparative evaluation of tensile bond strength of modern adhesive systems in enamel and dentin. **OLIVEIRA JÚNIOR, O. B.\*; SUSIN, A. H.; VAZ, L. G.** Odontologia Restauradora - Universidade Estadual Paulista Júlio de Mesquita Filho. E-mail: profosmir@uol.com.br  
 Comparative evaluation of resistance was accomplished to the traction of the adhesive systems, Excel & Bond 2.1(M1) - Dentsply; SINGLE BOND(M2) - 3 M; CLEARFIL IF BOND(M3) - KURARAY; and One Up Bond F(M4) - J Morita, in enamel and dentin. Initially we used 20 crowns of molars crosscut in the sense MD to obtain specimens V and L. These were inserted in cylinder of PVC and acrylic resin leaving the uterred enamel. For the test in dentin 40 molars were crosscut in the medium of the crown 1/3 in the sense VL, to expose dentin. These were also mounted in cylinder of PVC. To proceed, were divided in groups of 10 repetitions each. After new 1 raffle aleatory, each specimens received application of the respective system stickers, used according to the manufacturers' recommendations. To proceed, restorations of composed resin Z250 in a cylinder-conical way, were made and the proof bodies submitted to the mechanical test. The variance analysis and complemental statistical tests showed significant interaction system adhesive versus substratum and similar behavior between M1 and M2, in enamel and dentin, but the materials M3 and M4 showed larger values in dentin. In the comparison among adhesive systems, the self-etching were inferior in enamel, presenting larger discrepancy than the one of 4th generation. *We ended that: 1) the systems of 4th generation is more effective than the self-etching; 2) the systems of 4a generation cannot be substituted by the self-etching*

**Pc175** Evaluation of the shear bond strength to dentin when a bonding agent was contaminated with saliva. **NASCIMENTO, A. B. L.; ARNAUD, B.A.; SÁ, A.M.C.; CORREIA, I.B.; TEIXEIRA, H.M.; ALVES, J.\*** Odontologia Restauradora - Universidade de Pernambuco. E-mail: josuedoca@uol.com.br  
 This study measured the shear bond strength to dentin of Clearfil SE Bond (CSEB) (Kuraray) when it was contaminated with saliva. Sixteen freshly extracted human molars teeth were stored in physiological saline. The teeth were split in half resulting in 32 pieces (16 buccal and 16 lingual). The surfaces were ground to expose dentin with # 150, # 320 and # 600 SiC paper. An adhesive paper with a central hole of 2,34 mm diameter was applied on the surfaces. The CSEB, the saliva and the composite were applied according to the groups (n=8): Group1: control (self-etching primer (SEP)/air/adhesive/composite); Group2: (SEP/air/saliva/air/adhesive/composite); Group3: (SEP/air/saliva/water rinsed/air/adhesive/composite); Group4: (SEP/air/saliva/water rinsed/air/reapplied SEP/air/adhesive/composite). The specimens were stored in the distilled water for 24h at 37°C and then subjected to a shear force in a Kratos testing machine with a crosshead speed of 0.5mm/min until failure. Mean shear bond strength in megapascals and standard deviation were as follows: G1: 36.5± 4.39; G2: 26.34 ± 6.89; G3: 34.35±8.21; G4: 27.80± 4.76. The ANOVA test (5%) showed significant differences among the groups. The Tukey paired comparisons showed significant differences between Group 1 and groups 2 and 4. *The contamination with saliva decreased the bond strength when it was removed only by air drying, or when the SEP was reapplied.*

**Pc176** Hybridization in deproteinized dentin resulting from 4 adhesive systems: a sem analysis. **SILVA, E. M.\*; LOPES, P. A.; CAMPANY, R. O.; MONTE ALTO, R. V.; GUIMARÃES, J. G. A.** Dentística - Universidade Federal Fluminense. E-mail: emsilva@vm.uff.br  
 The objective of this study was to evaluate the aspect of hybridization produced by One Coat Bond (Cotiène), Optibond Solo Plus (Kerr), Single Bond (3M) and Scotchbond MP (3M), when applied to demineralized and deproteinized dentinal surfaces, using Scanning Electron Microscopy. Adhesive systems were applied in dentin discs obtained from 10 third molars. Half of each disc was etched with 37% H3PO4 / 15s, and the other half with 37% H3PO4 / 15s + 10% NaOCl / 1min. After application of adhesive systems, discs were fixed in 2.5% glutaraldehyde solution / 2.0% paraformaldehyde in 0.1M sodium phosphate buffer - pH 7.4 / 12 hours / ± 4°C, washed in 0.1M sodium cacodylate - pH 7.4 / 1 hour, with solution changes at each 20 min, and with distilled water / 1 min, dehydrated in ascending solutions of ethanol (25%, 50%, 75% / 20 min each immersion, 95% / 30 min and 100% / 60 min), immersed in Hexamethyldisilazane (HMDS) / 10 minutes and maintained in dissector / 24 hours. Thin discs were sectioned perpendicularly to adhesive surfaces, embedded in epoxy resin, polished with 600, 1200-grit sandpaper and diamond pastes (6, 3 and 1 mm), demineralized in 6N HCl for 30 seconds; and deproteinized in 1% NaOCl for 10 minutes. Specimens were sputter-coated with gold and analyzed under SEM (JEOL JSM 5800). Differences were observed among hybrid layers produced under the two experimental conditions. *It was concluded that dentin deproteinization influenced the diffusion process of the adhesive systems.*

**Pc177** Re-attachment of anterior fractured teeth: fracture strenght using different materials. **KRAUL, A.\*; REIS, A.; LOGUERCIO, A.D.; ASSIS, T. G. R.; CRIVELLI, D.D.; ODA, M.; FRANCCI, C.** dentística - usp. E-mail: gscarpati@hotmail.com  
 The purpose of this study was compare the fracture strenght of two diferent techniques and different material associations used to reattach tooth fragments (inferior central incisors). An axial force was applied to the bucal area and fractured 110 central incisors. 55 tooth were reattached without preparation (1) and the other 55 tooth a chanfer was made (2) between the teeth and the fragment. In each technic the tooth were divided in 5 diferent materials combinations. (n=10) : 1) only adhesive system (Exite-EX); 2) Exite + light cured luting cement (Variolink II-VL); 3) Exite+ dual cured luting cement (Variolink II); 4) Exite + flowable resin (Flow-it) and 5) Exite + hybrid resin (Tetric Ceram- TC). 10 tooth were prepared and filled with EX+ TC (control). After all the tooth were reattached and filled, they were again fractured applying a axial force. Fracture strength after restorative procedure was expressed as a porcentage of the original fracture strength. This results were analyzed by two-way ANOVA and Tukey (5%). The results showed that the interaction (technic x material) and the material factor were not statistically significant (P= 0.140 and P= 0.943 respectively). The chanfer group technic showed higher fracture strenght recovery (67.9%) than the bonded only group without chanfer (41.1%) (p<0.001), and both were statistically lower than the composite resin build-up (103.2%). *It was concluded that since it is used a reinforcement after bonding, the material used to reattach the fragment is not so important.*

**Pc178** A pilot study on pulpal temperature increase due to laser bleaching. **GUIMARÃES, J. G. A.\*; POSKUS, L. T.; SILVA, E. M.; EDUARDO, C. P.; ZECELL, D. M.** Dentística - UFF / USP / IPEN-CNEN. E-mail: jgag@ig.com.br  
 Laser bleaching technique for vital teeth may reduce clinical sessions to a single visit. However, depending on the employed intensity, the resulting temperature increase may lead to irreversible damages to the pulp (above 5.5°C - Zach&Cohen,1967). This study aimed at evaluating this increase in temperature when argon [488nm/AccuCure 3000/LaserMed(LA)] and diode [810nm/Opus 10/OpusDent(LD)] lasers are used. Eighteen human upper central incisors were selected and artificially darkened in a staining solution, specially developed for this purpose (storage for 7days/37°C). After prophylaxis, coronary chambers were opened on palatine surfaces. A thermocouple K type was adapted to the buccal surface of the chamber, and temperature was registered during laser application. Whiteness HP bleaching gel (FGM) was applied to the buccal surface and specimens were irradiated. Six groups (n=3) were then formed: A= LA 150mW (I= 0.76 W/cm2); B= LA 200mW (I= 1.02 W/cm2); C= LA 250mW (I= 1.27 W/cm2); D= LD 2W (I= 28.2 W/cm2); E= LD 2.6W (I= 36.6 W/cm2) and F=LD 2.8W (I= 39.4 W/cm2). Three irradiations were performed on each tooth for 30s, with intervals of 1.5min. Results were submitted to ANOVA (linked factor) and Tukey's test (5%). Groups E and F led to statistically significant temperature increases (p<0.001), when compared to all other groups. *Hence it can be concluded that groups E and F provoked temperature increases higher than 5.5°C, which might be harmful for the pulp. Supported by CAPES.*

**Pc179** Incidence of bruxismo in military policemen and your association with stress. **ALMEIDA CARVALHO, A. L.\*; DEL BEL CURY, A. A.; AMBROSANO, G. M.B.; RODRIGUES GARCIA, R. C. M.** Prótese e Periodontia - UNICAMP. E-mail: andrea.alac@ig.com.br  
 Bruxism is defined as a movement disorder characterized by grinding or clenching of the teeth during sleep, involving psychological, muscular and dental factors. The objective of this study was to verify the bruxism incidence in Military Policemen and to determine its association with stress, in this specific population. 269 male policemen belonging to the Inland Police Station - 2 from the city of Campinas, SP, aged between 21 and 52 years were examined. Stress diagnosis was determined through the Inventário de Sintomas do Stress Para Adulto de Lip (ISSL) and bruxism diagnosis through the anamnesis and clinical exam, verifying the presence of wear facets in the anterior and posterior teeth, and being observed the alignment of these facets with the respective antagonistic teeth. The results were submitted a non parametric (chi-square) statistical test. It was found significant association (P=0,0005) between bruxism and stress, and the stress observed in 53,84% of the policemen who presented bruxism and in 32,0% of the policemen that did not show bruxism. *It can be concluded that the bruxism incidence in Military Policemen is high and that the stress an important etiological factor for this parafunctional habit in this particular population.*

**Pc180** Condylar shifting between cr and mic, with and without use of bite-splint, in symptom-free patients. **FANTINI, S. M.; ABRÃO, J.\*** ORTODONTIA - São Paulo. E-mail: jabrao@usp.br  
 The present investigation has studied condylar shifting in patients with Class II malocclusion with no apparent clinical signs or symptoms of TMD. The sample consisted of two groups. The experimental one used bite-splints prior to the making of records and consisted of 22 individuals, presenting an average age of 14years and 8 months. The control consisted of 23 individuals with an average age of 16 years and 8 months, and they did not use bite-splints. The condylar shiftings of both groups were measured in the three directions of space. Casts were mounted on the articulator. Both articulator and condylar position Indicator were from Panadent. In the vertical direction, the control group showed average condylar shiftings of 1.31mm in the right side, and 1.86mm in the left side; horizontal shifting was -0.13mm in the right side, and -0.11mm in the left side. Transverse shifting was -0.03mm. In the vertical direction, the average condylar shifting for the experimental group was 2,74mm in the right side, and 2,44mm in the left side; in the horizontal direction were 0.72mm in the right side, and -0,51mm in the left side. In the transverse direction, average shifting was 0.03mm. Statistically significant differences between experimental and control groups were found only when right and left condyle shifting data in the vertical direction were compared, the experimental group presenting significantly greater figures. *In the present study, it was confirmed that vertical condylar shiftings are more markedly observed with the use of bite-splints, even in asymptomatic patients.*

13089

Usuário: ( ) Interno (FOUSP) (X) Externo

Título da Revista: J. Dent Res.

Volume: 82 Fascículo: SL Páginas: CXL Mês: 01 Ano: 2003