8 Microbial flora of pulp of human deciduous teeth with deep caries. WANG Jun* and Z. LUI (The School of Stomatology, Shanghai Second Medical University, Shanghai, China). The aim of the study was to investigate the bacterial composition of infected pulp of human deciduous teeth with deep caries. Twelve deciduous teeth with deep caries not exposed by the pulp chamber were selected for the study. Three teeth were sensitive to cold or heat, while the other had no symptoms. The bacteria of the pulp were isolated and identified in BAPN, 10% KOH, 10% CH, and in 0.1% KOH, respectively. The results showed that the C. oris of symptoms had some species higher than the other bacteria (p < 0.05). The frequency of isolation of the bacteria and the frequency of isolation of the bacteria were much higher than the other bacteria (p < 0.05).- (y-test). An obligate anaerobes such as Peptostreptococcus, veillonella, Fusobacterium and Prevotella were isolated, but the frequency and the percent to the total enriched bacteria were very low. We inferred that the infection of pulp in deciduous teeth due to caries was mainly caused by anaerobic microorganisms bacteria. This study was supported by the Young Research Foundation from Shanghai educational committee. Microbial flora of pulp of human deciduous teeth with deep caries. Wangjun and Laiqing (The school of stomatology, Shanghai second medical university, Shanghai, China).

9 Patient centered outcome measures in oral surgery: validity and sensitivity issues. MIB COMORT*, C. McGIRATI, ECM LO Y and L Yun (Faculty of Dentistry, University of Hong Kong, Hong Kong SAR, CHINA). The purpose of this study was to evaluate the validity and sensitivity of patient centered outcome measures for oral surgery for patients undergoing oral surgery for patients undergoing oral surgery and to evaluate the relationship between the patient centered outcome measures and the outcomes reported by the patients. One hundred and three patients undergoing oral surgery were recruited in a prospective cohort study. Participants self-completed a questionnaire to generate a generic health related outcome measure. The questionnaire was administered to patients prior to surgery, daily during the immediate postoperative period and at the review appointment (7-days later). RESULTS: Ninety-six patients completed the study. History of taking time off work before surgery significantly correlated with postoperative outcomes, P < 0.05. However, no significant differences were found between patients who were taking time off work before surgery and those who were not. The results were consistent with previous findings. The findings provide evidence for the development of patient centered outcome measures that can be used to monitor the progression of oral surgery and to assess the effectiveness of treatment.

10 Patient Controlled Sedation (PCS) with Propofol in Minor Oral Surgery. C. RODRIGUEZ*, M. IRWIN (Department of Anesthesiology, University of Hong Kong, Hong Kong SAR, CHINA). The degree of sedation, necessary to tolerate surgery is best known to the patient him or herself. In order to find out the benefit of patient controlled sedation with Propofol, following instructions on how to conduct the technique, 38 healthy patients undergoing minor oral surgery under local anaesthesia were allowed to have 1mg/kg intravenously of Propofol at a lockout interval of one minute from a Graseby 3500 PCA pump, to sedate themselves to undergo the surgical procedure. The duration of surgery lasted 5 to 59 minutes. 20 were medically and 14 were deeply sedated. 8 lost consciousness. Those who lost consciousness regained consciousness within 2 minutes. Vital signs were stable in all patients, 14 were unresponsive and 10 complained of pain along the vein. Operating conditions were good in 27, fair in 10 and poor in 1. The majority, 33 patients were relaxed and were willing to undergo the same procedure again. 7 had pain, 4 had partial and 17 had no memory to the surgical events. These PCS with Propofol sedated and relaxed patients undergoing minor oral surgery. Though 4 lost consciousness they recovered within 2 minutes due to the rapid metabolism of Propofol, indicating the safety of Propofol in PCS. Talcartex covers the start with the oral surgery and pain along the vein can be eliminated by mixing Propofol with lignocaine. Anesthesia produced with Propofol was not as profound as with midazolam.

11 Expression of S-100 Protein in Rabbit TMI after Disc Displacement. Z. GU*, Y. ZHANG, J. HU, T. SISHIITA, H. FENG (Affiliated Hospital, Zhejiang University, PR CHINA). A total of 14 Japanese white rabbits were used to study S-100 protein during remodeling of a temporomandibular joint (TMJ) after disc displacement. Disc displacement of right TMJs of 21 rabbits were performed and 5 rabbits sacrificed at 1, 2, 4, 6, 11, and 12 weeks post-surgery. Eight rabbits were used as sham controls and 2 (each sacrificed at 1, 2, 4, 8 weeks post-operatively) as controls. Bovine S-100 protein was used as control. Immunohistochemical analysis with a monoclonal anti-S-100 protein antibody was used to stain for S-100 protein expression. The results were analyzed by a single blind method. The S-100 protein was detected in the synovial membrane of the TMJ. At 1 week following disc displacement, some fibroblasts widely expressed S-100 protein and at 2 weeks, some degree of immunostaining of isolated chondrocytes was observed. At 10 weeks, (of) chondrocyte metaplasia were noted where the chondrocytes and chondroblasts were located more and more near to the joint space strongly expressed S-100 protein. Still later, at 12 weeks, immunoreactive chondrocytes were noted in the synovial membrane. We conclude that the disc-like changes were found in the posterior attachment of the TMJ following disc displacement and S-100 protein might be involved in this process.

12 Noise Level and Validation of a Digital Subtraction Radiography System Using Digora Images. KY ZEE*, MS WOO (Faculty of Dentistry, University of HK). The aim of this study was to determine the noise level and to validate a digital subtraction radiography system for usage in oral surgery. The system was validated by means of computer assisted dosimeter image analysis (CADIAK) and Vita. Noise levels were determined using 10 standardized periapical radiographs of the same lower molar region in a human dry skull. For validation of the system, radiographs were taken before and after bone particulate doses with increments of 2mg starting from 2mg to 20mg, were added into each socket of 3 dry skulls. Radiographs were taken using Digora imaging plates with a piece of 1-cm thick perspex placed in the path of the X-ray beam adjacent to the skull to simulate with tissue effects. Digora for Windows version 1.5 was used to process the image plates for the scoring, and it was done according to the manufacturer’s instructions. The images were then exposed to an 8-bit BMP file for image processing and subjected to alignment, normalization and subtraction. Appropriate regions of interest (ROIs) were selected and then CADIAK values were calculated for the determination of noise levels, and correlations between the CADIAK values and the actual bone mass were performed. When the threshold value was 27, the percentage of pixels deviating from the set threshold value was small (0.01% - 9.1%). There were statistically significant correlations between the actual bone mass and the CADIAK value for the sockets (r= 0.011, p= 0.06). An acceptable noise level and a high and statistically significant correlation between the actual bone mass and CADIAK value in Digora images was obtained by using the present DSS system. This suggests that the system could be suitable for the detection of alveolar bone changes using Digora radiographic images. (This study was supported by HKU URC Grant No. 1020196).

13 Effect of resin hydrophilicity on tracer penetration. CY KU, FR TAY, BH PASHELEY, NM KING, BS SHU, JI TITHAGIRI (Univ of Hong Kong, China; Medical College of Georgia, USA; Hirose, Inc., USA). This transmission electron microscopy (TEM) study examined the extent of silver nitrate penetration into four polymethyl methacrylate resins with increasing degree of hydrophilicity after a period of 24 h. The four resin bimethacrylates were polymerized in an experimental composite inlay processing chamber under pressurized nitrogen maintained at 55.16 KPa and light-cured for one complete cycle at 125°C for 10 min. The resin blocks were sectioned and routinely stained with uranyl acetate and lead citrate and then examined in a scanning electron microscope. The results showed that the degree of hydrophilicity of the resin bimethacrylates increased the amount of silver nitrate penetration. The intensity of silver uptake increased with hydrophilicity of the resin bimethacrylates. TEM examination revealed two types of silver deposits: line spot-type silver grains and islands of interconnected electron-dense clusters of silver grains (water trees). The former represented regions of increased hydrophilicity within the composite. The latter represented water-filled channels that were initiated by surface microcracks. It is concluded that silver uptake occurred in areas containing hydrophilic and ion tie resin monomers such as those utilized in composites or resin adhesives are liable to water sorption, expedite the degradation of the polymeric matrix through leaching of these resin components.

14 Technique sensitivity in bonding to vital acid-etched dentin, A. TITHAGIRI, M. FERRARI and FR TAY (University of Hong Kong, China, Università di Siena, Italy). Despite numerous in vitro studies on the efficacy of the most bonding technique, the necessity to avoid collapse of the collagen matrix after acid-etching of clinically relevant, vital human dentin has not been substantiated in vivo. The objective of this study was to examine, with the use of transmission electron microscopy (TEM), the ultrastructure and extent of tracer penetration in resin-dentin interfaces created in deep, vital-acid-etched dentin. All bond strength values were determined at 2 weeks. Tough preparation was performed on the labial surface of anterior teeth isolated by cements and embedded in the cemenogenesis junction. Cavities were etched with 37% phosphoric acid gel for 20 sec. Bonding was performed with 3M ESPE Dyrad (Vivadent). Four groups, 4 teeth/group, were elected to represent different conditions of the acid-etched dentin prior to adhesive application: In vitro control group (moist bonding), In vivo control group (moist bonding), In vitro excessively dry group and In vitro excessively wet group. Each buccal cavity was restored with Vivadent Vivadent Quick (Vivadent). A servomotor fatigue machine with in vitro or in vivo. No hybrid layer was observed in vivo after excessive drying. Excessive wetting in vitro resulted in more extensive nanoleakage and water tree formation along resin-dentin interfaces. It is concluded that technique sensitivity previously reported in vivo with the use of a noncontacting technique on acid-etched dentin is applicable in vivo when bonding to vital dentin.

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