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<th>Title</th>
<th>Cephalometric comparisons of Chinese and Caucasian surgical class III patients</th>
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1217 Kinematics of the Herbst Appliance. J.B. COPEP.F.B. BUSCHANG, S. RICHARDSON. (Baylor College of Dentistry, Dallas, Texas)

This study evaluates the 3-D functional movements of the maxillary condyle and incisor teeth with and without the Herbst appliance. For each of ten young adult volunteers fitted with a removable Herbst appliance, maximum range of motion and movement while chewing gum were evaluated: 1) without an appliance (WOAP); 2) with the Herbst appliance (HA); and 3) with an activated appliance (AA). Movements (100 Hz) were recorded using the Optotrac system; simultaneous EOG activity (300 Hz) was recorded for the maseter and anterior temporalis muscles. The results show that the temporalis muscle during chewing was increased for both the Herbst and activated appliance. A decrease of the anterior and posterior movement of the condyles (2 mm). Maximum jaw protrusion (5-5 mm) and retrusion (1-5 mm) were also increased. Maximum jaw protrusion and retrusion of the anterior movement (measured at the incisors) were reduced by -6.7mm; anterior condylar movement increased by 3.8mm, and an increase in the range of the motion of the incisors was found with the UA and AA groups. Mandibular movements while chewing gum were significantly more variable for the UA and AA groups, with the HA group showing a decrease in the upper and lower jaw movement. These results were increased with UA and AA; the range of lateral movements increased with UA but decreased with AA. We conclude that the Herbst appliance restricts movements, 1) differentially affects the anterior and posterior movement of the condyles, 2) produces symmetric movements of the condyles, and 4) increases variability in chewing patterns. Supported by the Baylor Center for Craniofacial Research and Diagnosis.

1218 Cephalometric Analysis of Anterior Facial Height and Maxillary Anterior Development. M. GANNON, L. BUCKSTAFF, D.J. PERGAMON. (University of Kentucky, School of Dentistry, Lexington, KY)

Clinicians have long accepted the importance of controlling posterior alveolar vertical growth to achieve an optimum facial profile. This study measured the effect of anterior and posterior facial height and maxillary anterior development on the anterior and posterior facial heights as well as the posterior alveolar heights of boys and girls at different ages. The results indicate that the extraction of maxillary permanent first molars has little effect on anterior and posterior facial heights. Post-treatment experimental variables vary significantly for the matched, untreated control group with high mandibular plane angles and paired t-testing of post-treatment changes did not result in significant changes in the post-treatment occlusion. The extraction of maxillary permanent molars. Point testing of the extraction of maxillary permanent first molars. Post-treatment experimental variables vary significantly for the matched, untreated control group with high mandibular plane angles. The extraction of maxillary permanent molars has little effect on anterior and posterior facial heights as well as the posterior alveolar heights of boys and girls at different ages.

1219 Cephalometric Comparisons of Chinese and Caucasian Surgical Class III Patients. P. WANG, U. BACO, C. TUD, D. WHITNOX. R.Y. WEI (West Virginia Univ. and Univ. of Hong Kong)

The purpose of this study was to compare the cephalometric morphology of Chinese and Caucasian Class III patients who were treated, planned for orthognathic surgery. Cephalometric analyses were performed on 30 Chinese and 30 Caucasian patients were included in the study. The analysis was performed on the Frankfort horizontal plane and the angle of Class III patients showing a significant difference in the mean cleft deformity between the two groups. The results show that the cranial base length was greater in the Chinese sample (47.9 ± 5.5 mm) compared to the Caucasian sample (49.3 ± 2.6 mm). The horizontal ramus angle was larger in the Chinese sample (81.7° ± 5.1°) compared to the Caucasian sample (81.7° ± 5.0°), indicating a more vertical ramus position in the Chinese sample. The results suggest that there are morphological differences between these two ethnic groups that should be considered in treatment planning for orthognathic surgery.

This study was supported by The University of Hong Kong.

1220 Three Year Clinical Study of a Self-Curing Aesthetic Resin for Teeth whitening. J.W. ROBBINS, E.B. DUKE, R.S. SCHWARTZ, and J.B. JOHNSON (University of Texas Health Science Center, San Antonio, Texas)

The clinical behavior of Prisma Universal Bond 3 was evaluated with the light-cure composite resin Prisma AP.H when used to restore cervical abrasions. Ninety-five patients were included in the study, with a mean age of 25 years and a mean duration of 3.5 years. The study was conducted in a clinical research setting. The results indicate that the Prisma Universal Bond 3 and Prisma AP.H systems are effective in whitening cervical abrasions. The study also shows that the Prisma Universal Bond 3 system is a viable alternative to conventional whitening systems.

1221 1-Year Clinical Study of Cephalometric Variables of Posterior Resin Bonding. M.C. VON LINTHORST, T.M. ROBERTSON, C. HEYMEYER, A.D. WILDER, J.R. JUNGHEINRIETH, H. ROBERTSON (University of North Carolina, Chapel Hill, NC, 27599-7450 USA)

Dentin sclerosis isoparticles bonded Class V restorations (Jeymann et al. J. Am. Dent Assoc 1991; 122:41-47). This study evaluated the clinical outcome of postoperative pain, bleeding, and complications associated with posterior resin bonding. A total of 25 patients were evaluated at 6 months and 1 year. Eighteen of the patients had complete bonding of the molar teeth, and 7 had complete bonding of the molar and premolar teeth. The results show that the clinical outcome of posterior resin bonding is excellent. There was no significant difference in the clinical outcomes between the two groups. The results also show that the clinical outcome of posterior resin bonding is similar to other methods of posterior restoration. The results of this study suggest that posterior resin bonding is a viable treatment option for posterior teeth.

1222 Clinical Evaluation of Anterior Restorations of Composite Resin. N. SOUZA; R. DIAS; H. MAREDES and N. ROSSO (Dental School, UNIRio, Rio de Janeiro, Brazil)

The purpose of this study was to evaluate the clinical conduct of extensive restorations of amalgam and composite resin of twenty teeth that had endodontic treatment. All teeth were exposed for clinical evaluation, and the results were compared using the Kruskal-Wallis test. The results show that the clinical outcome of the extensive restorations of amalgam and composite resin is excellent. The results also show that the clinical outcome of the extensive restorations of amalgam is similar to the clinical outcome of the extensive restorations of composite resin.


Longitudinal studies, based on clinical and laboratory studies performed at universities, suggest that the half-life for posterior composite restorations is 14-18 years (by 1991), almost as long as that of amalgams. This study was conducted to determine if the success of posterior composites placed in general practice was equivalent to the findings of clinical studies. A random sampling of restorations requiring endodontic treatment was collected from four endodontists. Restoration inclusion criteria were as follows: 1) O, DO, or MOD amalgam, composite or crown; 2) intact, i.e., no detectable fractures in the tooth or restoration; and 3) no previous treatment, i.e., no tooth preparation. The restorations were analyzed according to the type of restoration and the type of teeth treated. The results show that the clinical outcome of posterior composite restorations is excellent. There was no significant difference in the clinical outcomes between the two groups. The results also show that the clinical outcome of posterior composite restorations is similar to other methods of posterior restoration.

This study was funded by Baylor College of Dentistry Research Grants.

1224 Two Year Evaluation of a Hybrid Composite for Posterior Restorations. D.J. CURRIE, C. BAIN, E. MCDONAGH, M. CHAMFORD, M. ROY (University of Kentucky, School of Dentistry, Lexington, KY)

This study evaluates the clinical suitability of a quartz filled composite (Pentacore) for restoration of posterior teeth. Five Class I and forty-six Class II restorations in thirty-nine patients were restored. Restorations included 43 molars and 7 premolars. Cavity preparations were made according to the guidelines of the manufacturer. Examination was scored for 30 seconds with 37% HF PO4. The PO4 was conditioned with Universal Bond and unfilled composite resin placed on the surface. The composite was then incrementally restored. Restorations were finished using diamond burrs and polishing paste. Evaluation was at 6 months, 1 year, and 2 years using the USPHS system and M-L indirect scale. At 6 months, the mean score was 9.4 (S.D. 0.7) and 2 years, the mean score was 9.2 (S.D. 0.6). The results showed that the clinical outcome of the hybrid composite (Pentacore) is excellent. The clinical outcomes were evaluated using the Kruskal-Wallis test. The results show that the clinical outcomes of the hybrid composite (Pentacore) are similar to other methods of posterior restoration.

1225 Clinical Evaluation of Intraoral Films in维nted Dental Materials. Crank, J. Dent Res 74 (AADR Abstracts) 131