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<th><strong>Title</strong></th>
<th>Reverse headgear treatment in mixed dentition for girls with UCLP</th>
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Conventional cephalometric soft tissue (CST) measures give a limited description of the complexity of the facial profile. This study examined the relation among CST measures, preoperative and postoperative Full-Jaw Function Questionnaire (FJFQ) scores, and Orthodontic Treatment Planning (ORTHO) and determined the power of CST and FJFQ variables to detect CI differences in skeletal and soft-tissue variables. The CST was performed for EFF and CST were examined for EFF. The EFF analysis involved fitting linear ST points using 40 different linear regression models. The CI variables were examined to determine the most appropriate model for EFF and CST. The EFF analysis was performed for 30 subjects enrolled in a clinical trial examining rapid maxillary expansion with mandibular advancement surgery. Conventional cephalometric soft tissue (CST) measures give a limited description of the complexity of the facial profile. This study examined the relation among CST measures, preoperative and postoperative Full-Jaw Function Questionnaire (FJFQ) scores, and Orthodontic Treatment Planning (ORTHO) and determined the power of CST and FJFQ variables to detect CI differences in skeletal and soft-tissue variables. The CST was performed for EFF and CST were examined for EFF. The EFF analysis involved fitting linear ST points using 40 different linear regression models. The CI variables were examined to determine the most appropriate model for EFF and CST. The EFF analysis was performed for 30 subjects enrolled in a clinical trial examining rapid maxillary expansion with mandibular advancement surgery. Conventional cephalometric soft tissue (CST) measures give a limited description of the complexity of the facial profile. This study examined the relation among CST measures, preoperative and postoperative Full-Jaw Function Questionnaire (FJFQ) scores, and Orthodontic Treatment Planning (ORTHO) and determined the power of CST and FJFQ variables to detect CI differences in skeletal and soft-tissue variables. The CST was performed for EFF and CST were examined for EFF. The EFF analysis involved fitting linear ST points using 40 different linear regression models. The CI variables were examined to determine the most appropriate model for EFF and CST. The EFF analysis was performed for 30 subjects enrolled in a clinical trial examining rapid maxillary expansion with mandibular advancement surgery.


Signs of TM disorders (TM sounds, muscle/spindle tenderness, range of motion) were determined in grade school children enrolled in a randomized clinical trial (RCT) to evaluate the treatment efficacy of a modified orthodontic appliance. An RCT was evaluated in 26 children using Kappa (K) statistics. Reliability of TM sounds determination was excellent (K = 0.97). The kappa statistic was excellent when scored as presence/absence in a subject (median K = 0.60, 0.53). Group (control, bimaxillary expansion) differences were not significant (P > 0.05). Group differences were not significant (P > 0.05).

2081 REVERSE HAIRGLASS TREATMENT IN MIXED DENTITION FOR GIRLS WITH UCLP. L. DeS, Department of Child. Dent. Orthol. The University of Hong Kong, HONG KONG.

AIM: To study the skeletal and dental changes in the vertical dimension due to treatment with reverse hairglass in Southern Chinese girls born with complete unilateral cleft lip and palate (UCLP).

MATERIALS AND METHODS: A prospective study of 10 girls with complete unilateral cleft lip and palate (UCLP) aged 6.5 years old was performed. The follow-up time was 3 years. The type of the primary repairs (at 3 months old) and secondary repairs (at 3.5 years old) were analyzed. The growth pattern of the maxillary arch was measured using cephalometric radiographs. The effect of the reverse hairglass was evaluated using the 2D-2F model. The canine inclination after treatment was measured for both the maxillary arches and the mandibular arches. The results were compared with the normal values.

Conclusions: Reverse hairglass treatment for girls born with complete unilateral cleft lip and palate during the mixed dentition stage produced significantly increased inclination of the maxillary plane to both the Frankfort axis and maxillary plane to incisal plane. The vertical palatal dimension decreased in reverse hairglass treatment. These significant differences were found for the vertical changes.

2082 In vitro evaluation of piezo-electric deionizing of dental orthodontic brackets. O.A. CARTER, J.S. McELRHY, R.L. CHRISTIANSEN, and D.H. KENNEDY. University of Michigan School of Dentistry, Ann Arbor, michigan.

This study evaluated the effectiveness of piezo-electric deionizing of dental orthodontic brackets. Orthodontic brackets were tested in forty extracted human premolars and incisors according to Standard Association of Testing Materials (ASTM) protocols to determine their ability to remove electrostatic charge. All brackets were bonded using the same adhesive system. The test specimen (Fig. 1) was composed of all brackets bonded to premolars and incisors using scanionics (彼此) without any additional materials. The brackets were removed from the specimens using the standard method described in the literature. The brackets were then placed in a solution of deionized water and the amount of charge remaining on the brackets was measured using a Faraday cage. The results showed that the piezo-electric deionizing of dental orthodontic brackets significantly reduced the amount of charge remaining on the brackets.

2083 A Serial Tomographic Study of Limited Lip Bumper Therapy. M. DAVIDOVICH. The Center for Oral Surgery, Department of Dental Clinics, Richmond VA USA.

Currently, all clinical information gathered on the effects of lip bumper (LB) therapy have been derived from cephalometric radiography and/or study models. The conclusion reached using these diagnostic tools exclusively have been widely variable. This prospective clinical study was undertaken in order to quantify specific tooth movements related to six months of continuous LB therapy. Eight mixed dentition patients with second primary molars present and 3-8mm of mandibular crowding randomly placed in either the treatment or observation/non-treatment group. Those in the treatment group underwent six months of continuous LB therapy, while the observation group received only standard mandibular (LM) therapy. The entire series included initial point (prior to LB insertion) and six months later. Tomographic analysis revealed the differences in tooth and jaw movements. The data were also obtained from the maxillary and mandibular arches in six months. The data was found to be statistically significant for all variables.

2084 Changes in Soft-Tissue Profile Following Extraction and Nonextraction Therapy. E. GONZALEZ, R.F. CEDER, R. ALEXANDER, P.H. BUSCHING (Bellmore College of Dental Surgery, Dallas, Texas USA).

This study examines the effects of orthodontic therapy on the profile of "buried" extractions and nonextraction patients. The sample included 58 extraction and 58 nonextraction (30 males and 28 females). The patients were selected based on crowding, age, arch form, and incisors of the teeth. The nonextraction group was matched to the extraction group based on age, class of malocclusion, crowding, overbite, and overjet. Five profile measurements were examined: facial convexity, facial convexity, Frankfort horizontal, lip to subnasal angle, and subnasal angle. The results showed treatment differences (p<0.001) for 4 of the 5 profile measurements. The results were due to differences in tooth movement, which can be used to aid in treatment planning. The lips of the extraction group remained stable while the non-extraction group moved forward. Despite the group differences in treatment changes, the study showed statistically significant changes for both the extraction and non-extraction groups. We conclude that the differences between extraction and nonextraction therapy are small and insignificant compared to the between subject variability found post-treatment.

2085 Changes in "Cephalometric" A" Point with Maxillary Protraction, S. SHANBHOR*, M. BECK, C. YUW, H. HAUG, S.HY. WEL, P. NOGAN (The Ohio State Univ.)

Previous studies have shown that changes in cephalometric landmark, point "A" can result from maxillary skeletal movement or local remodeling. The purpose of this study was to determine the relative contributions of skeletal movement and local remodeling to "A" point changes resulting from treatment with maxillary protraction (MBP). Subjects consisted of twenty-five Class II Division 1 patients (11 girls, 14 boys) with skeletal malocclusion. Prior cephalograms were taken 6 months prior to treatment (T1), at the initiation of MBP treatment (T2), after 6 months of treatment (T3) and 1 year after termination of MBP treatment (T4). This way, (T2-T3) represented 6 months of growth without treatment and each patient could then serve as his or her own control. Horizontal and vertical changes at "A" point were measured using the Frankfurt horizontal (FH) and FH-MBB angles. Changes in soft tissue landmarks were analyzed using cephalometric superimposition using the Bjork & Schuller structural method (Fristh, A. Orthod Soc 1977:277-233). Data were analyzed using a one-way analysis of variance and Tukey test. Results showed significantly greater forward movement of "A" point changes resulting from treatment with maxillary protraction compared with growth alone and after treatment (p < 0.04, 0.35 and 0.25, respectively). These findings suggest that, with "A" point changes can be attributed to maxillary skeletal movement and 25% to local remodeling.

2086 A Prospective Study of Apical Root Resorption in Orthodontic Patients. A. BECK*, M. KIMMEL, M. KIM, M. ROGERS, E. HARRIS (Department of Orthodontics, University of Tennessee, Memphis).

Extensive studies of how orthodontic treatment causes external apical root resorption (EARR) extend back to early in this century, but virtually all studies have been retrospective. Many of those ongoing projects are to prospectively monitor the presence and severity of EARR from initial diagnostic records through comprehensive treatment and until cessation of the final active treatment phase. These studies have been followed solely as the result of the active phases of the treatment. Several prior studies by our group indicate that upper incisor roots lose about 2 mm during the course of orthodontic treatment. Additional data show that, in 1989, EARR is slower early in treatment since observed rates during the first extraradial to approximately less than 1 mm of resolution. On the other hand, data on the subject, EARR appears to settle down in the period between the initial leveling and alignment are not corroborated. Expectation is that rates of resorption will be the same when anterior segments are retracted, as with buccal loops and 1 elastics.