
Relapse after Tooth Movement of Maxillary First Molars in Mice. MACEDO, B.* UMDNJ - New Jersey Dental School - Department of Pediatric Dentistry. Newark, NJ.

Relapse of orthodontic tooth movement in the mouse would provide a useful tool to gain greater understanding of post tooth movement stability. Objective: To study the relapse of orthodontic tooth movement in mice. Method: A group of fourteen (14) C57BL/6 mice were utilized for this study. After anesthesia, each mouse was placed in a holder under a dissecting microscope for examination, impression, insertion of appliance, and digital intraoral photography. A transpalatal spring was used to move the molars medially. Each mouse served as its own control by wearing an inactive appliance for 3 weeks prior to its activation. Ten (~) grams of force was applied weekly for 3 weeks. The inactivated appliance was left for 2 more weeks before removal. After 4 weeks with no appliance, the amount of relapse was measured. Mice were weighted bi-weekly. Each week, impressions were made of the maxilla. Methyl metacrylated casts were used to measure the medial or lateral tooth movements. Additionally, direct digital intraoral photographs were taken to determine the degree of tooth movement. The measurements were taken using the NIH Image on standardized digital images. Results: The inter-molar distances from buccal to buccal were respectively, 4.6 ± 0.3 mm before activation, 4.0 ± 0.2 mm after 4 weeks of activation, and 4.4 ± 0.2 mm at 4 weeks post appliance removal. Conclusions: Great care must be taken to prevent oral tissue injury and weight gain must be followed during the experiment. **Relapse of the molar teeth occurred significantly smaller than the initial tooth movement achieved with active appliance.** Supported by NJDS Dean's Incentive Fund