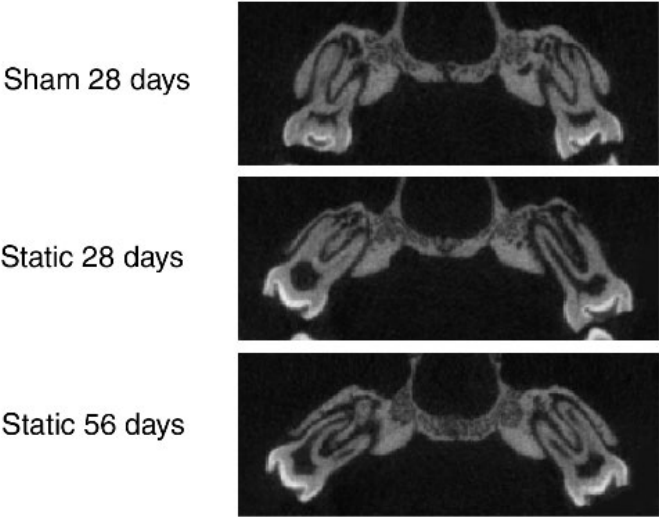
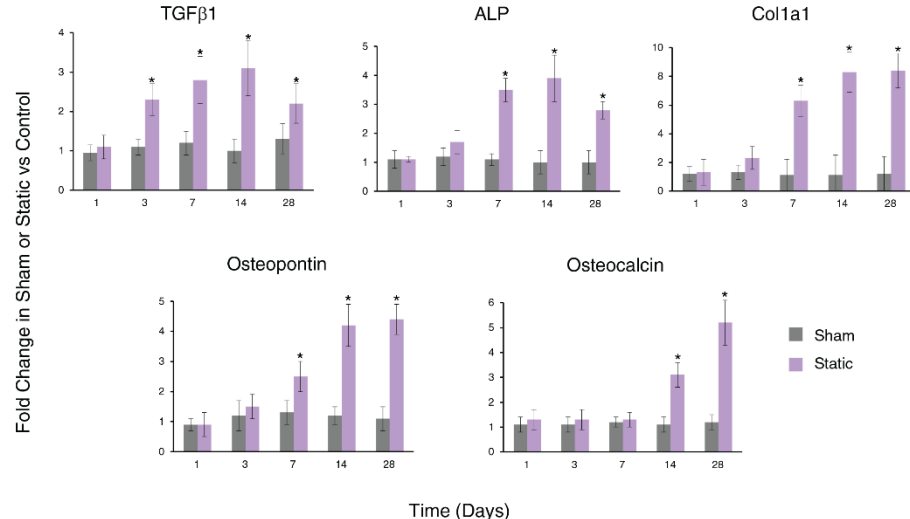


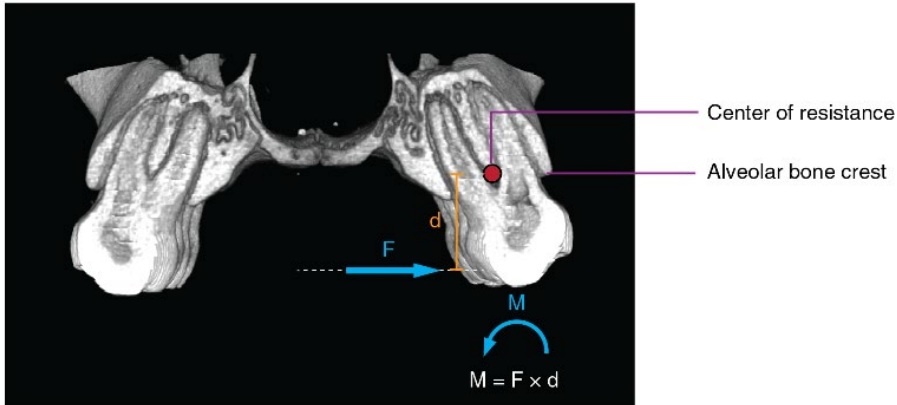
A



B



C



**Figure 6: Static forces activate osteoblasts in periosteum resulting in bone formation.** 3D micro CT reconstructed images of coronal section of maxilla at the area of second molars were compared between sham and static groups. Static group demonstrate significant decrease in bone density in area of second molars at day 28. However, after 56 days, the animals that received static force showed significant reconstruction of buccal cortical plate (A). Change in expression of osteogenic markers TGFβ1, collagen 1, ALP, Osteopontin and Osteocalcin in soft tissue covering the cortical plate of posterior teeth at different time points was measured by RT-PCR. Data are expressed as mean ± SD “fold” change in expression in comparison to control. Each value represents the average of 5 samples. \* Significantly different from control group, p<0.05 (B). Schematic showing the biomechanical analysis of the force applied to the crown of the maxillary molars (C). In response to this static force (F= force), a moment will appear in the system (M = F x d, where M = moment, and d = distance between force application and center of resistance of the tooth) that produces a high stress area in the alveolar crest of the buccal cortical plate where the higher magnitude of bone formation was observed (C).