

AAO Foundation Award Final Report

Principal Investigator	Dr. Padma Mukherjee
Co-Investigator	Dr. Ravindra Nanda
Secondary Investigators	Dr. Charles Burstone
Award Type	Faculty Development Award
Project Title	3D Evaluation of the Effects of Maxillary Incisor Retraction on Palatal Bone and Root Resorption
Project Year	2010-2011
Institution	New Jersey Dental School, University of Medicine and Dentistry of New Jersey.
Summary/Abstract (250 word maximum)	<p>The position of the maxillary incisors has been considered to be a crucial aspect of many orthodontists' treatment plans. The incisors are frequently retracted both to effectively reduce the overjet in a Class II malocclusion and to treat many cases with dentoalveolar protrusion. However, the effects of incisor repositioning on both palatal bone and root resorption remain unclear.</p> <p>The results of current literature suggest that if the roots of retracted maxillary incisors are brought into contact with the palatal alveolar cortex, it will remodel to a limited extent, but further movement will lead to eventual penetration of the cortical plate, followed by bone loss, root resorption, and subsequent relapse. Although current literature provides important observations of both the palatal bone surrounding orthodontically retracted maxillary incisors and subsequent root resorption, the use of two-dimensional (2D) radiographs in most of the studies precludes the accurate assessment of the hard tissue changes. With Cone Beam Computed Tomography (CBCT) making inroads to many universities and practices, the use of three-dimensional (3D) scans to examine the effect of orthodontically repositioning the maxillary incisors on the palatal bone and the risk of root resorption is clinically relevant, impacting the treatment plans of many orthodontists.</p> <p>The purpose of this study is to use CBCT images to quantitatively evaluate the effect of orthodontically retracting maxillary incisors on the palatal bone and the incidence of incisor root resorption</p>

Were the original, specific aims of the proposal realized?	Yes
Were the results published? If not, are there plans to publish? If not, why not?	Abstract has been published at the AAO 2012 Conference. The manuscript is in the process of being submitted for publication.
Have the results of this proposal been presented? If so, when and where? If not, are there plans to do so? If not, why not?	Yes. AAO Hawaii Annual Meeting 2012
To what extent have you used, or how do you intend to use, AAOF funding to further your career?	Results from this study will be submitted for publication to the AJODO and will also be used as a foundation to apply for another grant.