AAO Foundation Award Final Report

Principal Investigator	James R. Miller
Co-Investigator	
Secondary Investigators	
Award Type	Robert E. Binder Teaching Fellowship Award
Project Title	Orthodontic Faculty Development Award
Project Year	2005
Institution	University Of Minnesota
Summary/Abstract (250 word maximum)	With the support of the Robert E. Binder Fellowship Award, I have achieved the proposed goals of my career development. In this funding year I expanded my teaching duties, participated in service to my school, and conducted published research. I planned and helped undergraduate and graduate students perform research projects and master's theses. For my own research, I published two manuscripts on neurogenic inflammation and alendronate inhibition of orthodontic tooth movement, respectively. One additional manuscript is in revision. We found that neurogenic inflammation is a minor player to orthodontic tooth movement in general as evidenced by similar tooth movement rates on both surgically and chemically denervated rats. This is good news to orthognathic surgery patients. We found that the drug, alendronate, a bisphosphonate, causes massive inhibition to orthodontic tooth movement. This article is in print. The results from this research have also been presented at a regional dental meeting in 2005.
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?	Miller, James, Davila J., Hodges J., Tulkki M., and Vayda P. The effect of surgical denervation on orthodontic tooth movement in the rat. *American Journal of Orthodontics and Dentofacial Orthopedics*. 2007:131:620-6. Karras J., Miller, J., Beyer J., Hodges J., and Larson B. the effect of alendronate on orthodontic tooth movement in the rat. *American Journal of Orthodontics and Dentofacial Orthopedics*. Submitted for publication – in press. Davila J., Miller, J., hodges J., Beyer J., and Larson B. The effect of neonatle capsaicin treatment on orthodontic tooth movement in the rat. *American Journal of Orthodontics and Dentoficial Orthopedics*. Submitted for publication in revision.
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. At the 2006 Star of the North meeting – a nationally recognized regional dental meeting.