

2011 AAO Foundation Award Final Report

Principal Investigator	Jose A. Bosio
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Award Type	Orthodontic Faculty Development Fellowship Award - 2011 T.M. Graber Teaching Fellowship Award
Project Title	Soft tissue changes in response to orthodontic treatment
Project Year	2011
Institution	Marquette University School of Dentistry (MUSoD) – Department of Developmental Sciences / Orthodontics
Summary/Abstract (250 word maximum)	<p>Hunter (1771) indicated that the esthetic appearance of the mouth was the primary reason for orthodontic treatment. Currently, it is safe to state that orthodontists, in general, tend to focus their diagnosis and treatment plan on teeth and their malocclusions, believing that an ideal occlusion will lead to well balanced mouth and faces. Innumerable researchers have investigated the relationships between orthodontic treatment, growth and profile changes, mainly using lateral cephalometric X-ray analysis. However, X-rays may become a potential threat to patients. Hence, new facial analysis, without using X-rays, might become the standard of care. Soft tissue transverse changes cannot be seen from lateral cephalometric X-rays and have not being significantly studied. Questions such as, “<i>can orthodontic treatment change the shape of the mouth, or the length of lips, or yet influence and/or elongate short upper lips?</i>”; or “<i>does correction of Angle classification of malocclusion influence the shape (width and height) of the mouth, and length of upper and lower lips?</i>”, or “<i>does the base of the nose width increases with palatal expansion?</i>”, have not been clearly answered. Standardization for soft tissue facial measurement has been established by Farkas. But these measurements were never taken within a large orthodontic sample.</p> <p>To answer these and other questions, digital caliper measurements directly taken from the face of 1000 plus patients, before and after orthodontic treatment, are being acquired. To date, more than 150 patient measurements have been recorded. This repository information will provide substantial clinical information to help answering the questions above.</p>
Were the original, specific aims of the proposal realized?	This project is ongoing. Soft tissue measurements have been taken from 150 plus patients, and continue to be acquired from new incoming MUSoD orthodontic patients. Our target is to collect before and after orthodontic treatment measurements of 1000 plus patients.
Were the results published? If not, are there plans to publish? If not, why not?	Preliminary reliability results, from a different sample population, based on the master Thesis of Dr. Mollov, have being submitted for publication. The result from Dr. Mollov’ study is also being presented at the 2012 AAO in Hawaii with an e-poster format. This reliability project is the basis for future before and after orthodontic treatment facial soft tissue measurement projects.
Have the results of this proposal been presented? If so, when and where? If not, are	Preliminary cross-sectional results from “Soft tissue changes in response to orthodontic treatment” will be possibly presented at the 2013 IADR/AADR meeting and at the 2013 AAO meeting, as well as, attempt to publish these results in some high impact factor orthodontic journal.

there plans to do so? If not, why not?	
To what extent have you used, or how do you intend to use, AAOF funding to further your career?	The majority of AAOF funds have been used to support my faculty salary, as well as to pay for some travel expenses related to my work at MUSoD, when these expenses are not reimbursed by my institution. The tenure track in the academic setting is demanding, and it prevents us from investing time to create new money income. These funds are fundamental to support my family of 4 daughters. Without AAOF support it would be extremely difficult to maintain myself exclusively in academics.