

AAO Foundation Award Final Report

Principal Investigator	Snehlata Oberoi DDS,MDS
Co-Investigator	
Secondary Investigators	
Award Type	Albert P. Westfall Memorial Teaching Fellowship Award
Project Title	Assessment of the outcome of secondary alveolar bone grafting of alveolar defects in individuals with unilateral and bilateral cleft lip and palate
Project Year	2006
Institution	University of California San Francisco
Summary/Abstract (250 word maximum)	<p>Aim: To assess the radiographic outcome of secondary bone grafting of alveolar defects in terms of quantity (bone fill) in non-syndromic unilateral and bilateral cleft lip and palate individuals using 3D CBCT and the volume rendering software Amira 3.1.1.</p> <p>Methods: A one year prospective study on 17 non-syndromic unilateral cleft lip and palate (UCLP) and 4 bilateral (BCLP) consecutive cases that had secondary alveolar bone grafting using CBCT and Amira 3.1.1 software.</p> <p>Results: After the alveolar cleft was grafted, the average percentage bone fill in the UCLP group was 84.1% ranging between 61.9% to 96.5%. The average percentage bone fill in the BCLP group was 84.8% ranging from 48.9 to 97.4%. We assessed outcome in relation to width of the cleft, type of cleft, root development stage of the canine, presence or absence of a lateral incisor and surgical specialty of the surgeon and found no significant influence the outcome of alveolar bone grafting.</p> <p>Conclusions: Based on our results we conclude that, volume rendering using CBCT and Amira is a reproducible and practical method to assess volume of a cleft defect and to measure amount of bone fill after bone grafting. We conclude that the width of the cleft, type of cleft, root development stage of the canine, presence or absence of a lateral incisor and surgical specialty of the surgeon do not significantly influence the outcome of the procedure.</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?	The manuscript has been 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?	The results have been presented at: American Cleft Palate-Craniofacial Association 63 rd Annual Meeting, Vancouver; 2006 American Cleft Palate-Craniofacial Association 64 th Annual Meeting, Broomfield, 2007 American Association of Orthodontists 108th Annual Session, Denver, 2008 (Rising star presentation)