



## CFAO GRADUATE STUDENT POSTERBOARD ABSTRACTS

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### Altered Craniofacial Morphology in Children with OSAS: A Clinical Photographic Study

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**Introduction:** Altered craniofacial morphology such as backwardly positioned jaws, small upper jaw/lower jaw ratios, and long narrow faces, has long been associated with pediatric obstructive sleep apnea syndrome (OSAS). Standardized craniofacial photography has been used in adult populations as screening tool for OSA but has yet to be utilized in a pediatric population.

**Methods:** A standardized orthodontic exam, including calibrated frontal and lateral photographs, were performed on children of consenting families who were attended BCCH for overnight sleep evaluation.

**Results:** 65 participants (29 female, 36 male, mean age  $8.9 \pm 3.1$  years) were compared based on their AHI. 27 children had an AHI  $< 2/h$  (deemed not to have sleep apnea), 21 had mild OSAS (AHI 2 to 5/h), and 17 children were found to have severe OSAS (AHI  $> 5/h$ ). 19/65 participants (29.2%) were obese and were excluded from final analysis due to craniofacial differences. Of the remaining children, no significant differences were found for any clinical measurements between children with and without OSAS. Analysis of the standardized photographs revealed children with OSAS had a more obtuse cervicomental angle ( $7^\circ$  increase), and an increased lateral facial height (6 mm increase). Increasing cervicomental angle, intercanthal distance, mandibular width, and cricomental distance were all correlated with the severity of OSAS.

**Conclusion:** Aside from an increased cervicomental angle, altered craniofacial morphology was not significantly associated with pediatric OSAS. Standardized craniofacial photography, in particular the measure of cervicomental angle, shows promise as a potential screening tool for OSAS, but requires further research.