

## OP9 DENTOFACIAL ALTERATIONS IN CHILDREN WITH OBSTRUCTIVE SLEEP APNOEA

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**AIMS:** To compare dentofacial features in obstructive sleep apnoea (OSA) children with matched control children, and to compare the development of these variables prospectively 1 year after adeno-tonsillectomy (AT).

**SUBJECTS AND METHOD:** One hundred and three subjects aged 3 to 10 years diagnosed with OSA. The treatment for the OSA was AT. The control group comprised 62 age and gender matched children without breathing problems. Lateral cephalograms (for measuring ANB angle and the mandibular plane) and model casts (for measuring intercanine and intermolar width) were taken of the OSA children at baseline (T0) and then 1 year post-treatment (T1). The control records also comprised registrations at baseline and after 1 year. For comparison between the experimental and control groups at T0 and between T0 and T1, a *t*-test for quantitative variables were used ( $P < 0.05$ ).

**RESULTS:** At T0 the OSA children, in comparison with the controls, exhibited significant dentofacial abnormalities such as a long face ( $P < 0.020$ ), more Class II ( $P < 0.037$ ), and a narrow maxilla ( $P < 0.0000$ ) and mandible ( $P < 0.00001$ ). At T1 there were no statistically significant differences between the OSA and control group regarding the mandibular plane, ANB angle and intercanine and intermolar mandibular width. However, there still remained a significant difference between both groups regarding intercanine ( $P < 0.00034$ ) and intermolar maxillary width ( $P < 0.0026$ ).

**CONCLUSION:** OSA in young children has an unfavourable effect on the development of dental and facial components. AT treatment helps to normalize dentofacial morphology in OSA patients. However, a certain amount of maxillary constriction is still present in OSA children after AT so orthopaedic treatment would be necessary. If OSA is diagnosed and treated at an early age, either with AT and/or orthopaedically an improvement of dentofacial morphology may be achieved.