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## Influence of non-orthodontic intervention on digit sucking and consequent anterior open bite: A preliminary study

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**Objectives:** This study aimed to assess behavioral and occlusal outcomes of non-orthodontic intervention (NOI) in a sample of children aged 4 to 12 years in Australia, in order to establish clinical relevance.

**Materials & Methods:** Data from 91 patient records of 4 to 12 year old children reporting a habit of digit sucking from two clinics in north-eastern Australia were de-identified and used. Each patient was previously examined with standard clinical procedures in two visits separated by an interval of 4 months.

**Results:** Of the 77 children that were involved with 4 month NOI, sixty-nine (89.6%) ceased the digit sucking habit by the end of the NOI period ( $\chi^2=67.0$ ,  $df=1$ ,  $p<0.001$ ). Of the 72 subjects that had front teeth, the number of anterior open bite cases decreased from thirty-seven (51.4%) to 12 (16.7%) upon completion of NOI ( $\chi^2=21.3$ ,  $df=1$ ,  $p<0.001$ ). Among the 32 patients with a measureable overjet, the mean overjet reduced from  $4.2\pm 2.4$  mm to  $3.1\pm 1.9$  mm after implementation of NOI ( $t=5.8$ ,  $df=31$ ,  $p<0.001$ ). Children that were involved with NOI were more likely to quit the digit sucking habit in the 4 month period ( $p<0.001$ ,  $OR=51.8$ , 95% CI: 9.8-273.9). Those children who were involved with NOI were more likely to appear without anterior open bite at a 4-month recall ( $p<0.001$ ,  $OR=30.0$ , 95% CI: 5.9-151.6).

**Conclusions:** This study demonstrated clinical relevance of NOI on the cessation of a digit sucking habit, closure of anterior open bite and reduction of overjet. Further investigations are indicated.

### Biography

Carla graduated from the University of Queensland, Brisbane, with a Bachelor of Applied Health Science (Oral Health) in 2000. Carla has worked for the majority of her career in a neuromuscular dental practice, and has trained extensively in the United States and Australia in this field of dentistry. Carla lectured for 7 years for Smile Dental's "Develop the Hygienist, Develop the Practice" workshop. She currently teaches Orofacial Myology practice to dental and speech professionals from all over Australia with The Australian Orofacial Myology Lecture Series. Carla trained with Sandra Coulson, COM, from The Coulson Institute in 2010 and furthered her orofacial myology knowledge in 2011 with The Academy of Orofacial Myology, California. Carla also trained with The Buteyko Clinic of Ireland in 2010 in California and is a qualified Breathing Educator. Carla has been in private Orofacial Myology practice since 2011 and is director of The Smiley Face Clinic, a private practice where she teaches correct breathing and oral and facial muscle habits to children and adults. She is also the founder and director of the well known Thumbsucking Clinic and is sought after by parents from all over Australia for her work with children in this area. Carla works closely with dentists, orthodontists, speech pathologists and occupational therapists to achieve the best results for her patients. Carla is in demand as a speaker locally and internationally regarding her work in child facial development and has featured in various newspapers, magazines as well as on ABC radio. She is also a regular contributor to various online and print publications.

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