

[Swed Dent J Suppl. 1982;15:131-46.](#)[Links](#)

Some craniofacial variables related to small or diminishing lower anterior face height.

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This study will report on some of the conditions necessary for the presence of short or diminishing lower anterior face height and test the relationship between it and selected facial and occlusal variables. The sample consisted of 120 males with complete longitudinal orthodontic records at the ages of 6, 9, 12, 14, 16, 18 and 20 years obtained from the serial experimental sample of the Burlington Growth Centre, Toronto, Canada. In addition, a sample of 162 Swedish children between the ages of 6 and 12 years with a mean age of 8 years was used to calculate correlations between airflow through the nose, mode of breathing and selected skeletal variables. The following results were observed: 1. The prevalence of small or diminishing lower anterior face height compared to the upper anterior face height was 26% in the total sample of 120 males. This represents an estimate of the prevalence of overclosure in a population of Canadian males. 2. The association between respiratory pattern and small lower anterior face height relative to upper anterior face height showed that the percentage of individuals with a clear nasal airway was 90% while 100% of the sample showed an unobstructed pharyngeal airway. Thus a clear airway may be a necessary prerequisite for the establishment of overclosure. 3. Correlation analyses showed significant negative correlations between the lower anterior face height, the overbite and the airflow through the nose. 4. Three case reports may illustrate the interrelations between mandibular growth direction expressed at the chin and environmental factors such as oral respiration. 5. The association between small or diminishing lower anterior face height and selected facial variables showed the midface normally positioned in the majority of individuals. 6. The mandibular growth direction expressed at the chin was more horizontal in overclosed cases. 7. The gonial angle was more acute in overclosed individuals in relation to population standards.

PMID: 6963767 [PubMed - indexed for MEDLINE]