

The relationship between nasal airway size and nasal-oral breathing.

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Most clinicians agree that impaired nasal breathing results in obligatory mouth breathing. Some believe that mouth breathing influences dentofacial growth; others disagree. The term mouth breathing is confusing because total mouth breathing rarely occurs. A combination of nasal and oral breathing is more usual. The purpose of the present study involving 116 adult subjects was to (1) assess the relationship between nasal impairment and nasal-oral breathing, (2) determine the switching range from nasal to nasal-oral breathing, and (3) quantify the term mouth breathing. The pressure-flow technique was used to estimate nasal airway size; inductive plethysmography was used to assess nasal-oral breathing in normal and impaired breathers. Analysis of the data showed a Pearson rank correlation of 0.545 (P less than 0.001) between nasal area and nasal-oral respiration. Ninety-seven percent of subjects with a nasal size less than 0.4 cm² were mouth breathers to some extent. About 12% of subjects with an adequate airway were assumed to be habitual mouth breathers. The findings indicate that the switching range from nasal to nasal-oral breathing is very narrow (0.4-0.45 cm²). These results also confirm our contention that in adults an airway less than 0.4 cm² is impaired.

PMID: 3162637 [PubMed - indexed for MEDLINE]