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Effects of nasal obstruction on facial development.

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The relationship between nasal obstruction and facial growth is controversial. Much of the controversy relates to the lack of sophistication in quantifying nasal versus oral respiration and the lack of longitudinal data. Nevertheless, a number of studies in laboratory animals, nonhuman primates, and humans have shown a relationship between nasal airway obstruction and aberrant facial growth. In monkeys, occlusion of the nares with silicon plugs triggered deviant muscle function and altered morphogenesis. In general, the nasally obstructed animals had longer faces and unusual dental malocclusions. In human studies allergic, mouth-breathing children have longer, narrower faces and retrognathic jaws, compared with control subjects. Medical intervention has not been shown to influence the pattern of facial growth in children with allergies. Surgical therapy to relieve nasal airway obstruction in children (whether adenoidectomy or turbinectomy) has not been shown to predictably affect ultimate facial form. Therefore, although an increasing body of literature demonstrates a relationship between nasal airway obstruction and facial growth, the clinician should be cautious in prescribing aggressive therapy or in promising dramatic results.

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