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Craniofacial Morphology in Obstructive Sleep Apnea: A Review

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Abstract

Obstructive sleep apnea (OSA) is a common disorder characterized by snoring, repetitive upper airway collapse during sleep, oxygen desaturation, and sleep fragmentation. The occurrence of OSA is the result of anatomic and functional abnormalities of the upper airway. Craniofacial bony restriction, enlargement of upper airway soft tissue structures, and central obesity are known anatomic risk factors for OSA. Although obesity is generally considered the major risk factor for OSA, craniofacial morphology is increasingly recognized as a key interacting factor in OSA pathogenesis. The use of cephalometry and other novel craniofacial and upper airway imaging modalities have provided us with insights into the significance of craniofacial morphology in OSA. Mandibular, maxillary, cranial base, hyoid and head position characteristics, in addition to the size of the upper airway and surrounding soft tissues, have been described extensively in the OSA literature. The influences of growth, gender, and ethnicity on craniofacial morphology are also gaining recognition. It is becoming clear that these craniofacial characteristics are not only important in the etiology of OSA, but they also have potentially important implications for the current and future approaches to the treatment and prevention of this condition.

PO Box M77, Missenden Road
NSW 2050 Australia
www.cirus.org.au

T + 61 2 9114 0435
F + 61 2 9114 0014
E cirus@sydney.edu.au