

[\[Print Version\]](#)

[\[PubMed Citation\]](#) [\[Related Articles in PubMed\]](#)

*The Angle Orthodontist*: Vol. 60, No. 2, pp. 115–122.

## Cephalometric evaluation of pharyngeal obstructive factors in patients with sleep apneas syndrome

William H. Bacon, DDS, DSO;<sup>a</sup> Jean Christophe Turlot; Jean Krieger, MD; Jean-Louis Stierle, MD

<sup>a</sup>Faculté de Chirurgie Dentaire, 1 Place de l'Hopital, 67000 Strasbourg, France

### ABSTRACT

To determine accurately the morphological characteristics specific to patients with sleep apneas syndrome (SAS), a group of 43 adult males with SAS was compared in a cephalometric evaluation with a homologous control group. In SAS patients, the soft palate was elongated; the sagittal dimensions of upper face and anterior cranial base were reduced and correlated with reduced bony pharynx opening; and the increased lower face height was associated with a retruded position of the chin and tongue, thus contributing to lower pharynx crowding. With the four variables entering the discriminant function analysis, 93 percent of the whole population was correctly classified. If anatomical rehabilitation of the pharynx is to be envisaged, the leading factors to consider should be: soft palate length, maxillary position, chin and tongue position, in that order.

W.H. Bacon is professor of orthodontics at the University Hospital in Strasbourg, France

J.C. Turlot is a statistician engineer at the Louis Pasteur University in Strasbourg, France

J. Krieger directs the Sleep Laboratory at the University Hospital in Strasbourg, France

J.L. Stierle is a professor of otolaryngology at the University Hospital in Strasbourg

**KEY WORDS:** Obstructive sleep apneas syndrome, Cephalometry.