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Soft tissue growth of the oropharynx

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ABSTRACT

The purpose of this study was to describe the pattern of bony and soft tissue growth of the oropharynx in a sample of healthy, orthodontically untreated children. The sample consisted of 16 males and 16 females with lateral cephalograms at 6, 9, 12, 15, and 18 years of age, for a total of 160 lateral cephalometric radiographs. All subjects were enrolled in the Broadbent Bolton Study[1] and their radiographs were used to produce the Bolton Standard Templates.[2] Each radiograph was traced by hand and the tracings were paired and averaged to create a standard template for pharyngeal tissues at each age. In addition, all 160 tracings were digitized and means and standard deviations were calculated for 29 hard and 7 soft tissue measurements. Four linear (Ar-H,S-H,Go-H, Gn-H) and three angular (N-S-H, SN-ArH,GoGn-H) measurements demonstrated that the hyoid bone descends and moves slightly anteriorly up to age 18. The soft palate (PNS-P) increased 1 mm in length and 0.5 mm in thickness every 3 years after age 9. The distance between the anterior border of the atlas (ATA) and PNS did not change after age 12, while two soft tissue.measurements (PNS-pharyngeal wall [PhW2] and posterior soft palate to pharyngeal wall [psp-PhWS]) increased. In general, two periods of accelerated change (6–9 years and 12–15 years) and two periods of quiescence (9–12 years and 15–18 years) were identified for the pharyngeal soft tissues. Further studies are needed to determine if soft tissues in the oropharynx continue to change after age 18.

KEY WORDS: Soft tissue, Cephalometrics, Growth, Oropharynx.

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