

[\[Print Version\]](#)

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

The Angle Orthodontist: Vol. 60, No. 3, pp. 177–190.

Growth changes in the soft tissue facial profile

Ram S. Nanda, DDS, MS, PhD;^a Hanspeter Meng, Dr Med Dent; Sunil Kapila, BDS, MS; Jolande Goorhuis, Dr Med Dent

^aDepartment of Orthodontics, Division of Developmental Dentistry, University of Oklahoma, P.O. Box 26901, Oklahoma City, Oklahoma 73190

ABSTRACT

Longitudinal growth changes in the soft tissue profile of 40 Caucasians between the ages of 7 and 18 were studied. The sample consisted of 17 males and 23 females who had Class I dentitions and balanced faces at age 7 and 18 years. None of the subjects received any orthodontic treatment. Cephalometric radiographs were available, as a rule, on a yearly basis.

Soft tissue thickness, measured at the nose, upper lip, lower lip and chin, as well as the length of the upper and lower lip, all increased by varying amounts over the period of the study. Females acquired more growth as a percentage of their adult size (at age 18) than males in all variables except the angle of inclination of the skeletal chin which increased more in males. The largest increase in relative size was noted in the nose measurements. In males, the nose had not attained adult size even at age 18. Upper lip length growth, on the other hand, in both males and females was complete by the 15th year. The difference between male and female lip length growth was clinically significant; the average aggregate increase in upper and lower lips combined in males was 6.9 millimeters compared to 2.65 millimeters in females. The total gain in thickness at labrale superius was over four times as much in males as in females and continued to increase in males even at age 18. The change in thickness of the soft tissue at pogonion was not large, an average of 2.4 millimeters in males and 1.5 millimeters in females. The major contribution to the anterior growth of the chin was translatory, contributed largely by growth in the skeletal length from pogonion to pterygomaxillary plane.

This paper was presented to the Edward H. Angle Society of Orthodontists, North Atlantic Component, at its annual meeting in Ponte Vedra, Florida April 5, 1989.

R.S. Nanda is a Professor and Chairman of the Department of Orthodontics at the University of Oklahoma College of Dentistry in Oklahoma City

H. Meng is a former Visiting Assistant Professor in the Department of Orthodontics at the University of Oklahoma College of Dentistry

S. Kapila is a former graduate student in the Department of Orthodontics at the University of Oklahoma College of Dentistry

J. Goorhuis is a former graduate student in the Department of Orthodontics at the University of Oklahoma College of Dentistry

KEY WORDS: Soft tissue profile, Longitudinal growth, Nose, Lips, Chin, Pterygomaxillary vertical plane, Nasolabial angle, Mentolabial angle.

