

- profile points N-Sn (where N is **naison**, the uppermost nasal point, at the level of its root that is the projection of the hard-tissues; and Sn is **subnasale**, the transition point between the nose and the upper lip), into one line, its incline was determined in relation to the Frankfort horizontal line (which connects the points Po and Or (where Po is the **porion point**, i.e., the uppermost external acoustic meatus; and Or is the **lowest point osseous edge of orbit**), by which profiles were classified as: straight (profile orthotype) in which N-Sn line is vertical to Frankfort horizontal line (Figure 3A), posteriorly inclined (N-Sn line posteriorly divergent) (Figure 3B), and anteriorly inclined profile (N-Sn line anteriorly divergent) (Figure 3C).

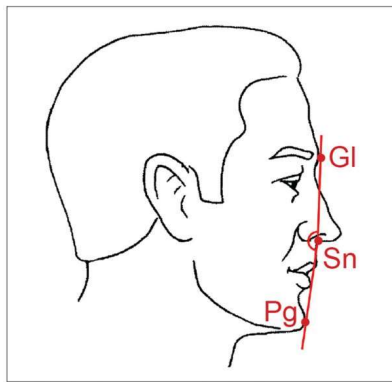
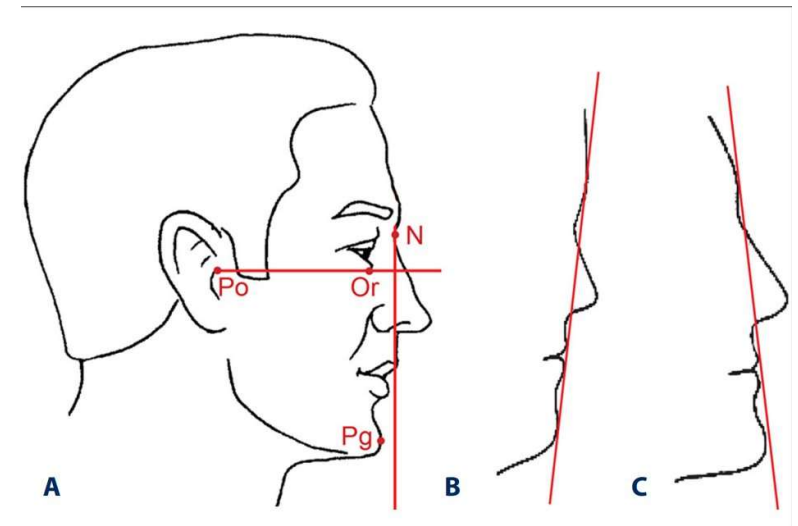
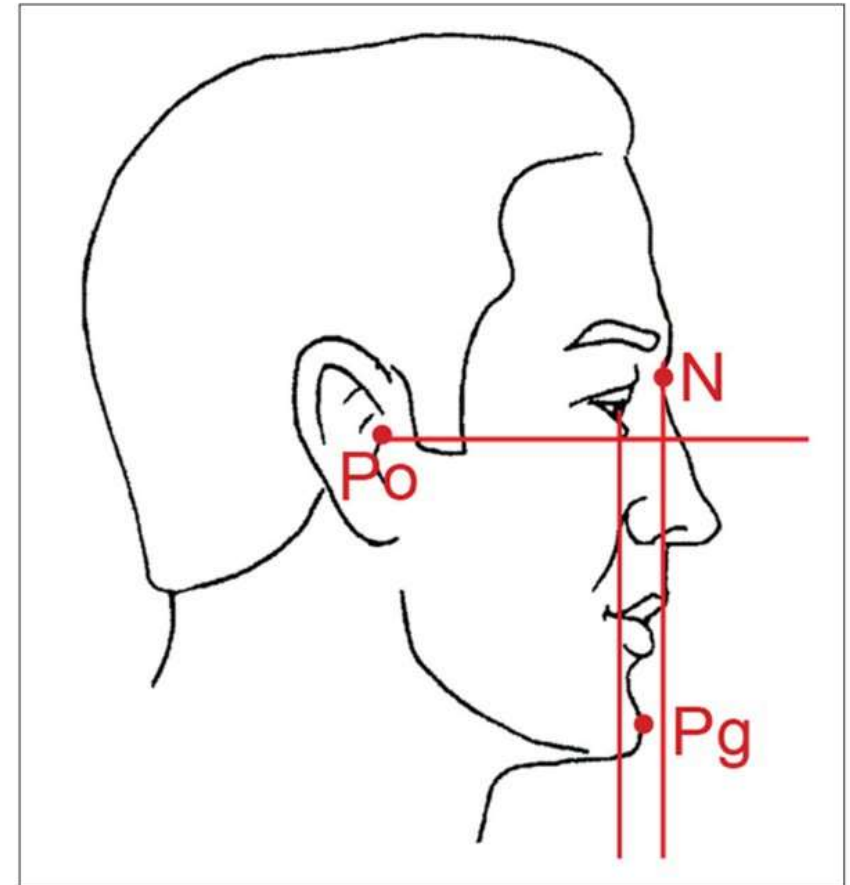


Figure 10. Facial angle according to Arnett.



- The relationship of the upper lip, lower lip, and the tip of a chin in the biometrical field (the space between the perpendicular from the point N (nasion) and normal from the point Or (orbitale) according to Schwarz (this analysis only referred to profiles, which were straight according to the first examined criterion, the so-called orthoprofile): **a normal position of elements in the biometrical field-upper lip touches the vertical from N point, lower lip is on the joint of the front and middle third of the biometrical field, and the tip of the chin on the middle of the biometrical field (between the vertical from the N point and the vertical from the center of the pupil)**



- The position of lips in comparison to the S-line (Steiner) was defined as: the S-line goes from Pg (pogonion, which is the front-most chin point) to the middle of the nose base (the middle of subnasale-pronasale line).

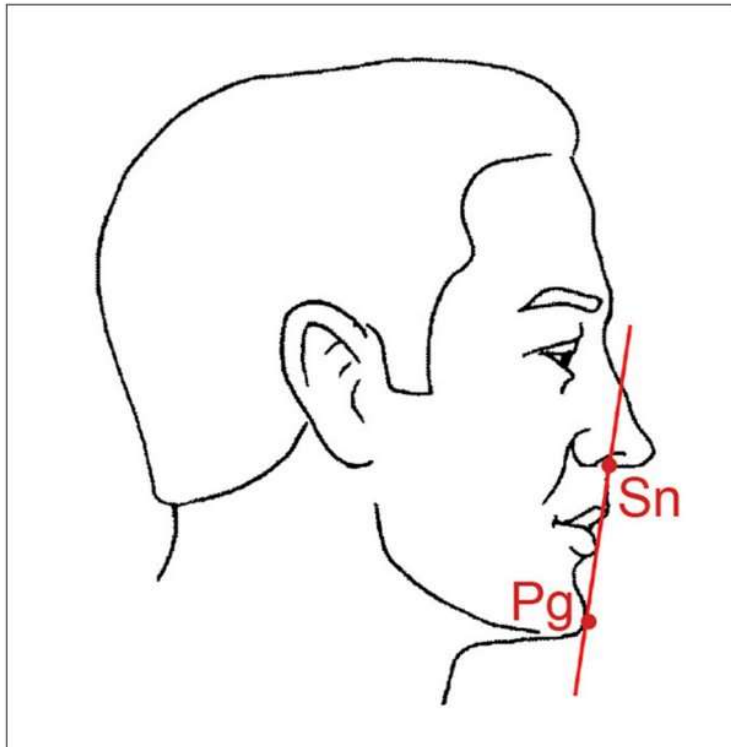


Figure 7. The normal position of lips in relation to the tangent Sn-Pg.

- The position of lips was defined in relation to the E-line (Ricketts) which connects **Prn (pronasale-peak of nose)** – Pg with the following possibilities. In younger persons, from the early phase of permanent dentition, both lips stand behind the E-line, lower 2 mm and the upper 3 mm (Figure 9).

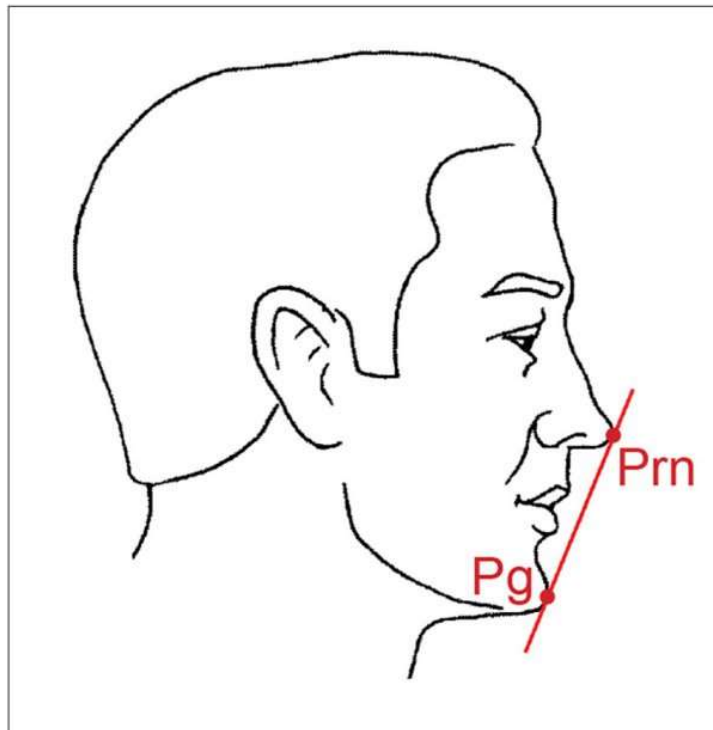


Figure 9. The normal position of lips in relation to the E-line (Ricketts).

日本人の場合は下唇がイーライン
上、上唇がイーラインの2mm後方
にあるとされています。

- Facial angle was defined according to Arnett. The angle which connects points Gl (glabella) – Sn (subnasale) – Pg (pogonion).
- Profiles with normal values of the angle $169 \pm 3^\circ$, convex profiles $<169 \pm 3^\circ$, concave profiles $>169 \pm 3^\circ$

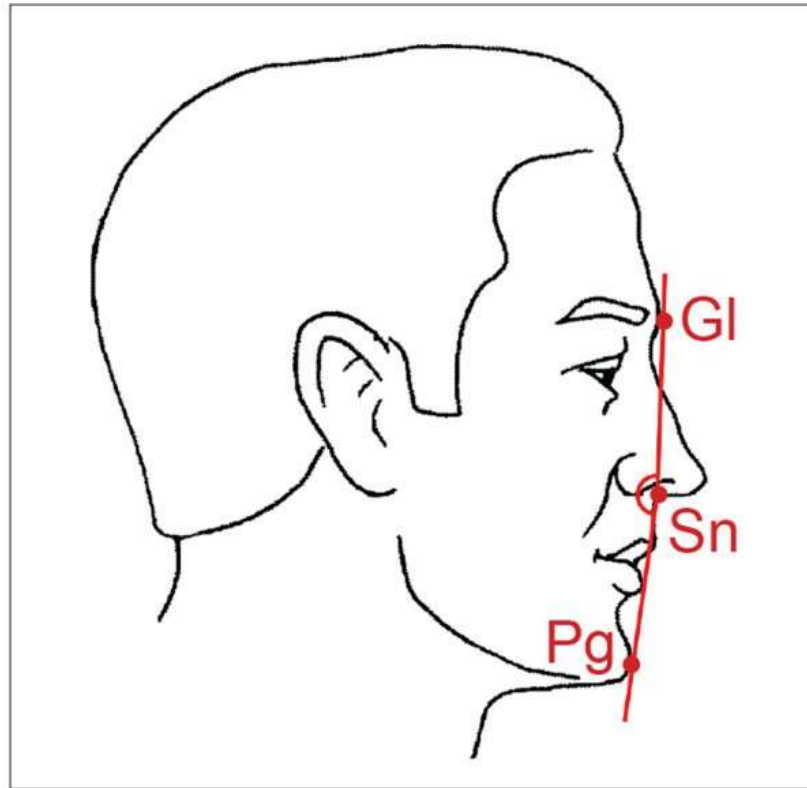
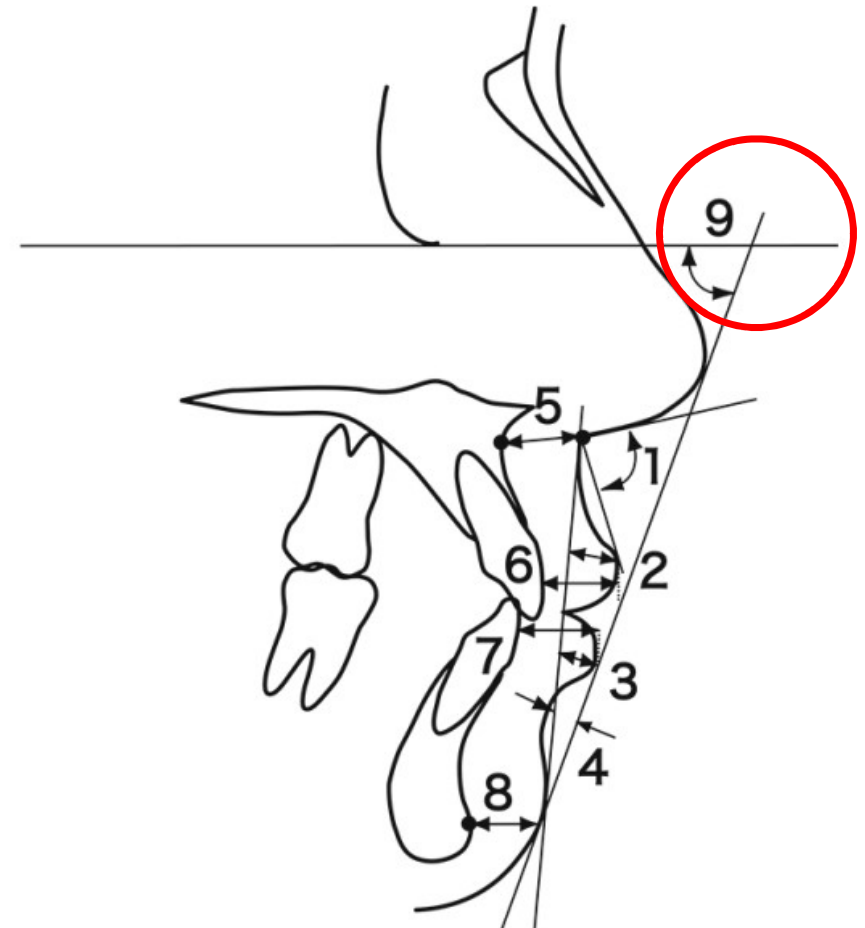


Figure 10. Facial angle according to Arnett.

Frankfort Horizontal Plane (FHP) of the patient parallel to the floor and the teeth in the maximum inter-cuspal position with relaxed lips in order to maintain standardization of radiographs.



(9) (Z angle) – The angle formed by the intersection of FHP and a line connecting soft tissue pogonion and the most protrusive lip point

Table 3: Mean and standard deviation of the cephalometric variables for the Bangladeshi males and comparison with the Japanese and Caucasian groups

Variables	Bangladeshi		Japanese males		Caucasian	
	Mean	SD	Mean	SD	Mean	SD
Z angle	73.6	7.7	69.5	NS	75.5	NS