

Cleft lip and or palate embryology and pathogenesis

Cleft lip and/or palate: embryology and pathogenesis

Embryologically, the lip and palate are derived from facial prominences/processes. 1 The lip/nose complex is derived from a mixture of the median nasal process and the maxillary processes. 2 The primary palate is derived from the median nasal process and consists of all anatomical structures anterior to the incisive foramen, namely the alveolus and philtral portion of the upper lip. The remainder of the lip is derived from the maxillary processes. 3 The secondary palate is derived from the maxillary processes and is defined as the remainder of the palate behind the incisive foramen, which is divided into the hard palate and, more posteriorly, the soft palate. Cleft palate results in failure of fusion or descent of the two palatal shelves. This failure to descend, fuse or remain fused can result in a cleft affecting any part of the palate. Pierre Robin, 1867–1950, Professor, The French School of Dentistry, Paris, France, described this syndrome in 1929. - - Clinical anatomy The muscle chains of the face are shown in Figure 50.3. Their disruption in unilateral cleft lip is shown in Figure 50.4. Summary box 50.3 Embryology and pathogenesis of cleft lip and/or palate /uni25CF /uni25CF /uni25CF

1 A 2 3 4 B 5 6 7 8 C 9 Figure 50.3

The muscle chains of the face:
frontal view. The nasal cartilages
are represented in blue. A,
nasolabial (muscles 1–3); B,
/uni00A0 bila

bial (muscles 4–6); C, labiomental
(muscles 7–9); 1, transverse
nasalis; 2, levator labii superioris
alaeque nasi; 3, levator labii
superioris; 4, /uni00A0 orbicularis
oris (oblique head) – upper lip; 5,
orbicularis oris (hori

zontal head) – upper lip; 6, orbicularis oris – lower lip; 7, depressor anguli oris; 8, depressor labii
inferioris; 9, mentalis. Clefts occur at the points of fusion of facial processes Normal anatomical
structures are displaced and disrupted Abnormal muscle insertion results in aesthetic and
functional sequelae

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