

• cleft palate and cleft lip

*** Cleft palate and cleft lip account for half of the total number of defects. Of all cases, 25% are cleft palate alone and 75% are cleft lip with or without cleft palate.

The lip and primary palate begin to develop at **4 to 5 weeks** gestational age. The two medial nasal swellings and the maxillary swellings fuse to form the upper lip. Failure of this fusion results in cleft lip. Clefts of the lip are more frequent in **males**. Cleft lip involvement is **more frequent** on the left side than the right.

The secondary palate develops at approximately **9 weeks** developmental age. The paired palatal shelves arise from the intraoral maxillary processes. These shelves, originally in a vertical position, reorient to a horizontal position as the tongue assumes a more inferior position. The palatal shelves fuse with one another and with the primary palate anteriorly (**which was formed by the two maxillary and two medial nasal processes**). Failure of fusion results in a cleft palate. Cleft palate is more frequent in **females**.

The most severe disability imposed by cleft palate is an impaired mechanism preventing normal speech and swallowing. The child will almost always need orthodontic treatment once the palate is surgically repaired. Also, speech therapy will be needed because these patients have problems related to the **inability of the soft palate to close** the air flow into the nasopharynx. Orthognathic surgery may be needed to correct the general concave appearance of the face. This concave appearance is generally due to deficient maxillary growth.