

Cleft palate

Cleft palate

Embryologically, the primary palate consists of all anatomical structures anterior to the incisive foramen, namely the alveolus and upper lip. The secondary palate is defined as the remainder of the palate behind the incisive foramen, divided into the hard palate and, more posteriorly, the soft palate. Cleft palate results in failure of fusion of the two palatine shelves. This failure may be confined to the soft palate alone or involve both hard and soft palate. When the cleft of the hard palate remains attached to the nasal septum and vomer, the cleft is termed incomplete. When the nasal septum and vomer are completely separated from the palatine processes, the cleft palate is termed complete.

Soft palate In the non-cleft soft palate, closure of the velopharynx, which is essential for normal speech development, is achieved by elevation of the soft palate. Although this is achieved by coordinated muscular activity, it is the levator veli palatini that is the key muscle in achieving this. In general, the muscle fibres of the soft palate are orientated transversely with no significant attachment to the hard palate. In a cleft palate the muscle fibres are orientated in an anteroposterior direction, inserting into the posterior edge of the hard palate.

Hard palate The hard palate can be divided into three anatomical and physiological zones (Figure 50.5). The central palatal fibromucosa is very thin and lies directly below the floor of nose. The maxillary fibromucosa is thick and contains the greater palatine neurovascular bundle. The gingival fibromucosa lies more lateral and adjacent to the teeth. In performing surgical closure of a cleft palate, the changes associated with the cleft must be understood to obtain an anatomical and functional repair. In complete cleft palate the median part of the palatal vault is absent and the palatal fibromucosa is reduced in size. The maxillary and gingival fibromucosa are not modified in thickness, width or position.

1 2 3 Figure 50.5 The three mucosal zones of the hard palate. 1, palatal fibromucosa; 2, maxillary fibromucosa; 3, gingival fibromucosa.

Revision #1

Created 2025-12-31 15:18:51 UTC by Omar Ayman

Updated 2025-12-31 15:18:51 UTC by Omar Ayman