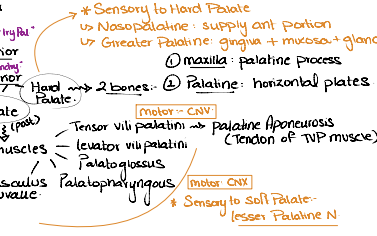
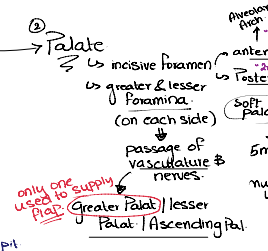


CLEFT UP & PALATE

DR. MARZOUG

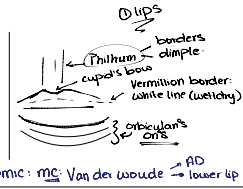
Anatomy



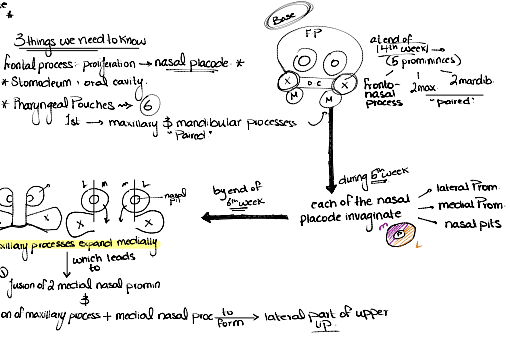
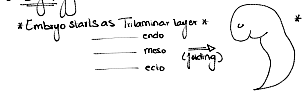
* mc congenital malformation: clubfoot and mc orofacial clefting (6 types)

* incidence - (common)

- 1st. cleft lip (± palate)
- ↑ in Americans / Asian
- ↑ ethnic variability
- ↑ males
- 1st. cleft palate alone - no ethnic variables
- ↑ females
- [majority non syndromic] if Syndromic: mc: Van der woude → AD → lower lip pit

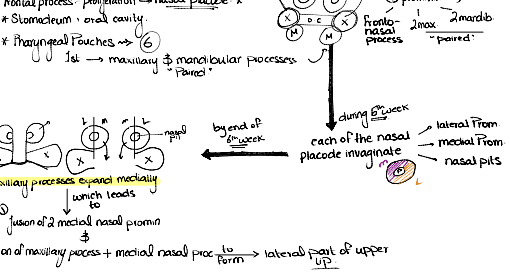
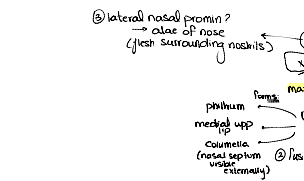


* development of lip & palate - 4th w → 12th w



* Sensory to Hard Palate

- ↳ Nosophthalmic: supply ant portion
- ↳ Greater Palatine: gingiva + muscosa + glands
- ① maxilla: palatine process
- ② Palatine: horizontal plates

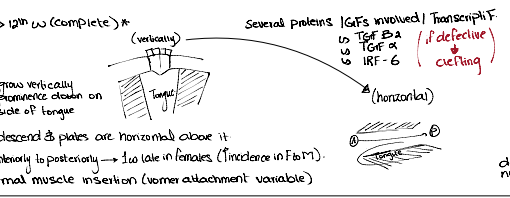


* **Hemifacial cleft** form?

- cleft lip**
- defect anterior to the lip
- defect posterior to the lip
- fusion of medial nasal & maxillary
- fusion of palatal plates
- fusion of mesodermal cells in midline

* **Palate development** - begins at end of 6th week → 12th w (complete)

- ↳ formed from: primary palate & secondary palate
- fusion of medial nasal prominences internally
- philtrum
- medial up
- cupule
- nasal septum (nasal septum visible externally)



classification: cleft lip

complete vs incomplete	unilateral vs bilateral
incomplete: orbicularis oris insertion is normal but hypoplastic	± alveolus
complete: muscle abnormally inserted into columella, medial & laterally	displaced lateral inferior, posterior
+ nasal lip	
displaced to normal side	

Treatment - multidisciplinary

Medical

- ① **Airway** → coexisting Structural Problem
- micrognathia** → small man chible & tongue fall back → glossoptosis
- ② **Feeding Problems** → inability to suck due to common cavity (nasal & oral connect)
- ↳ poor nutrient & impaired weight gain
- ③ **Otological Disease** → highly associated w cleft palate (abnormal TMP insertion)
- ↳ Persistent otitis media w effusion
- ④ **Speech & language** → hypernasality & articulation errors due to VPI
- ↳ Speech therapist
- Pharyngoplasty & Pharyngeal flaps & dental prosthesis

Surgical

- Cleft lip repair** - 3 months (except if lip adhesion done → 5-6 months)
 - why? ① to allow time for molding & redistribution
 - ② better healing less tension
 - ③ larger muscles & tissue- how? orthopedic appliance
- lip adhesion
- lip surgery convert is Orthodontic through teeth
- ① complete cleft
- ② incomplete cleft
- ③ 1-1.5 yrs
- ↳ retract alveolar ridges; mooring
- ↳ arch inside mouth (disadvant. Scar tissue)
- unilat: ② med & lat
- bilat: ③ rt bit - lat & premax

Cleft Palate Repair - 9-12 months to preserve speech

- ① **Bandach 2 Flap palatoplasty**
- ↳ close cleft & reconstruct muscles
- ↳ flap from hard palate mucosa + perosteum
- * mucoperiosteal flaps
- use: wide cleft palate or chisdi: Frank of VPI
- Speech problems affect maxillary growth
- ② **Furlow double opposing Z-plasty**
- ↳ Functional not just closure (2 points)
- * use? narrow clefts & Repair of VPI
- ③ **The Z-shaped incisions**
- ↳ allow muscles to move posteriorly → lengthen the soft palate
- ↳ better contact with post-pharyngeal wall & Velopharyngeal valve

Surgical

- Cleft lip Repair** - 3 months (except if lip adhesion done → 5-6 months)
- cheiloplasty
- ↳ 10w old, 10lbs, Hbq = 10
- * **midward rotation - advancement technique**
- ↳ GOLD STANDARD FOR UNILATERAL CLEFT
- ↳ medial lip → rotate downward; lateral lip → pulled in to medial after incision
- why? normal shape & function
- flexible & tension
- correct the attachment of Tensor veli palatini → forms the functional levator sling
- ↳ elevate the Soft Palate to allow closure against posterior Pharyngeal wall during speech
- ↳ VPI