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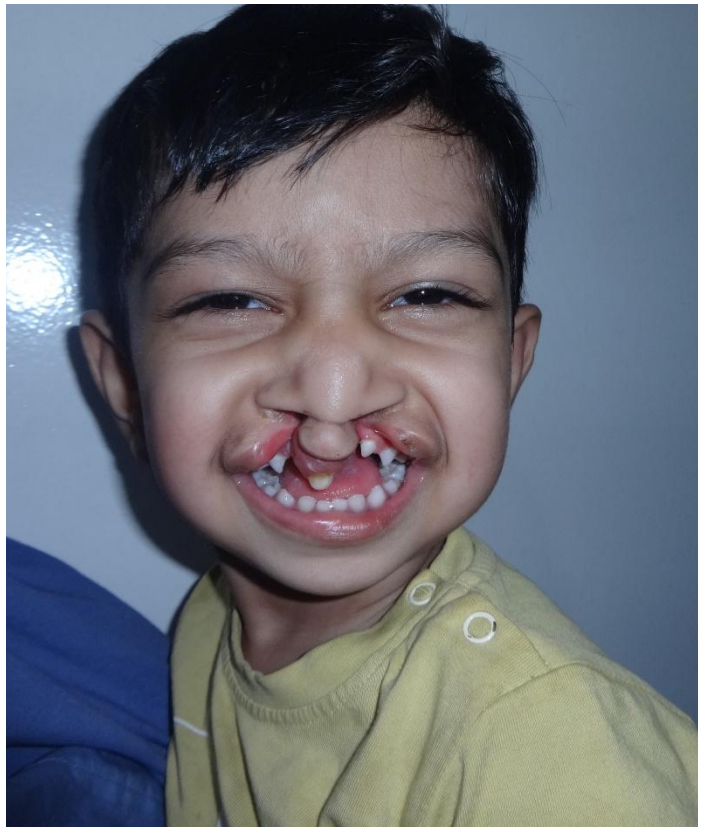
IS CLEFT LIP/PALATE A DISABILTY?

SCENARIO



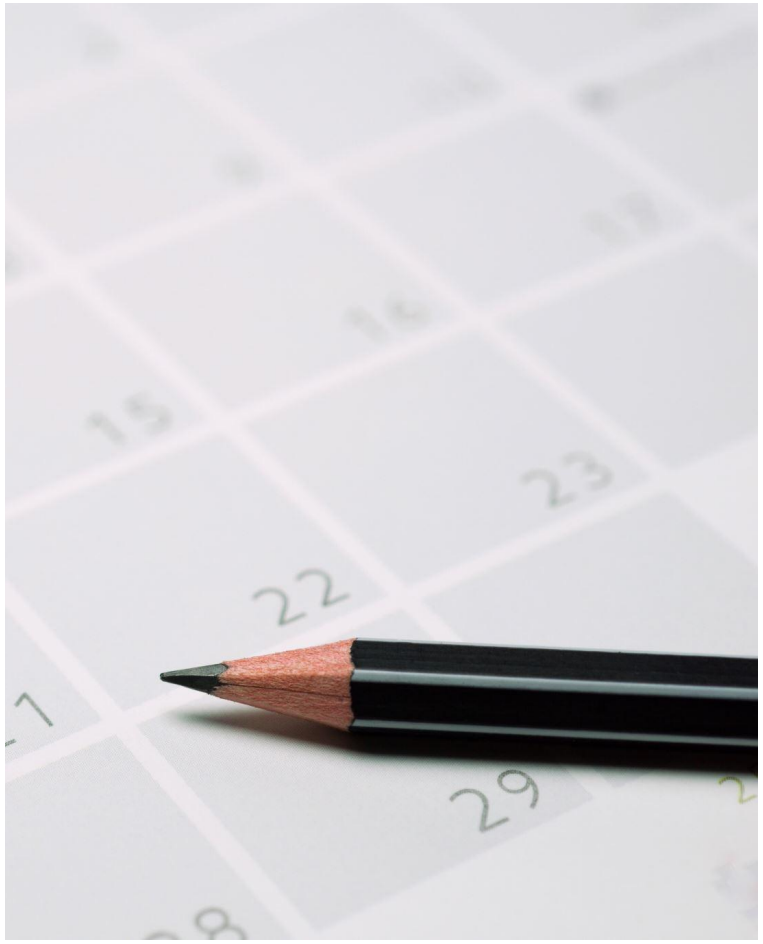
Name: Tasfin Reza
Age: 2 years

Weight: 11 KG

Gender: Male

Address: Kotwali, Dhaka

Religion: Islam

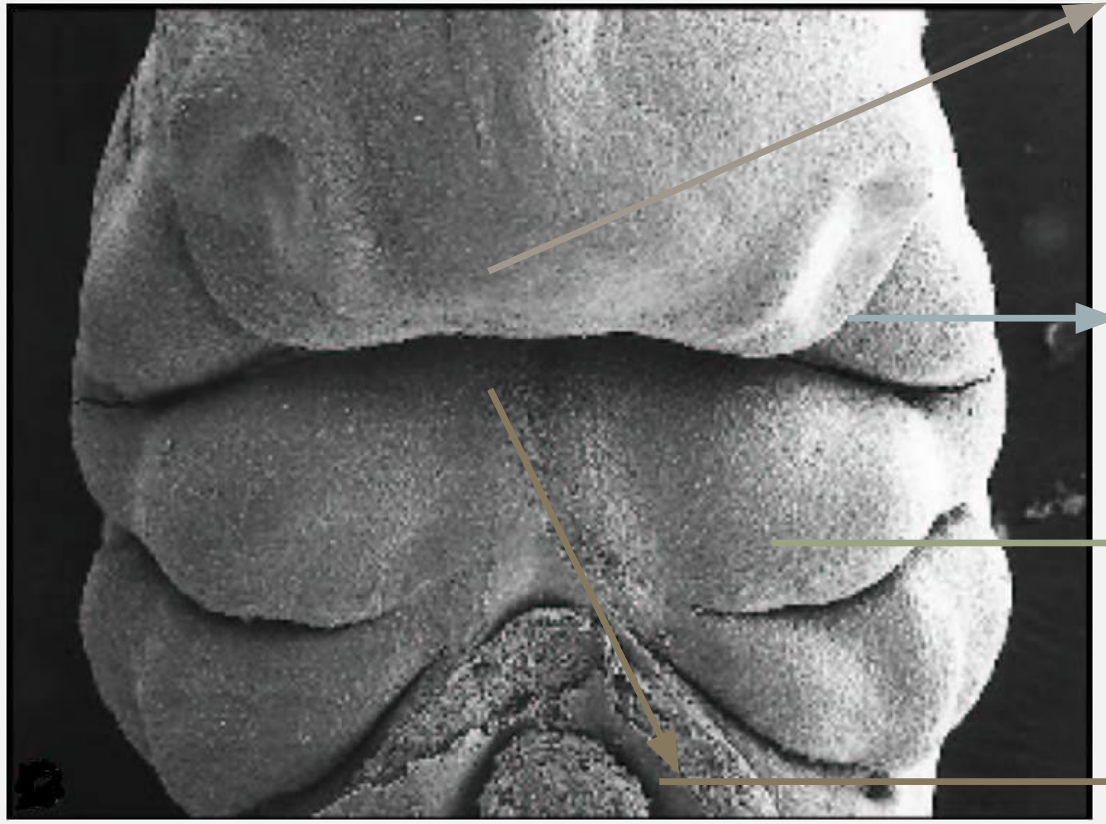


INTRODUCTION

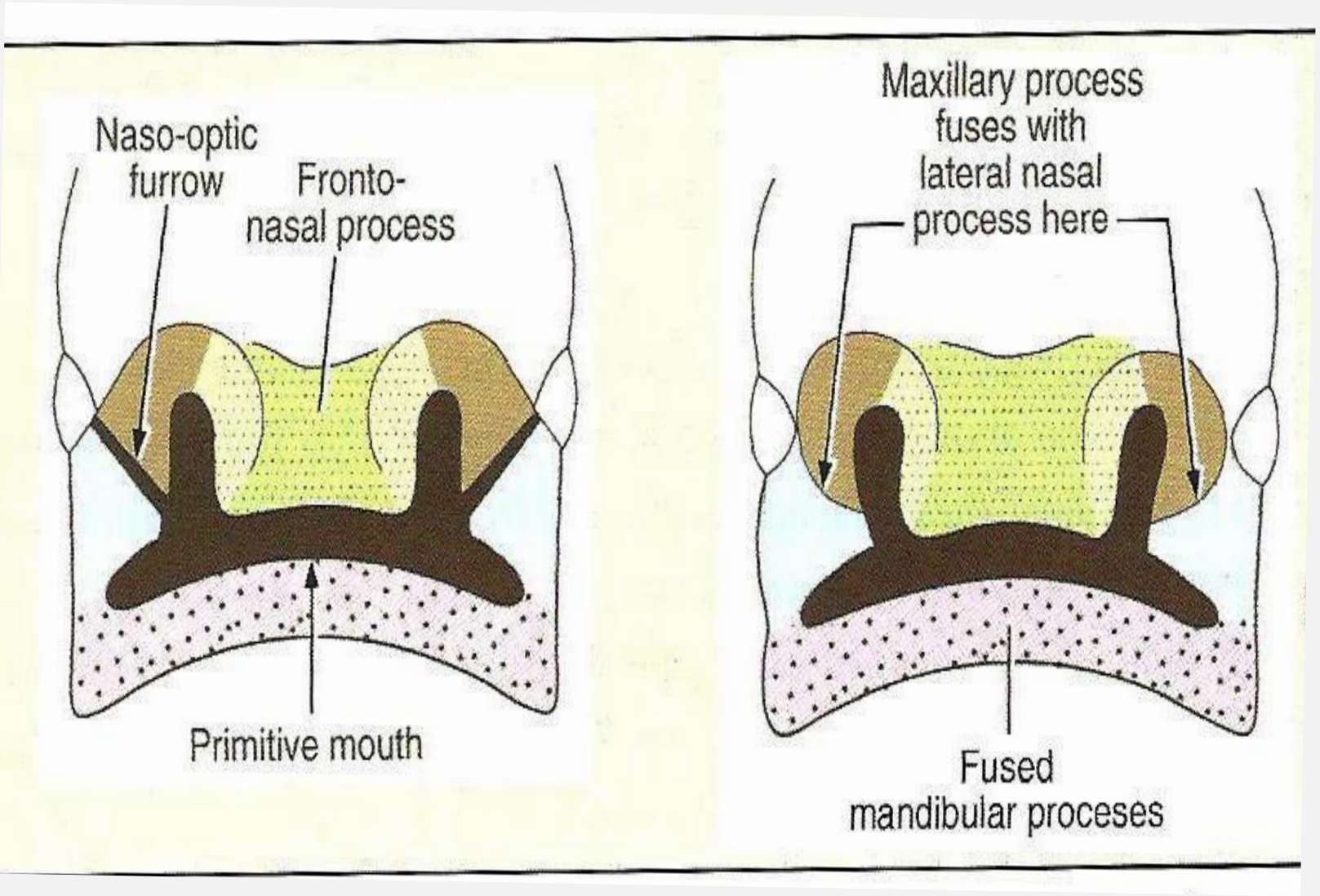
- Cleft lip and palate are most common congenital craniofacial anomalies
- Successful treatment of these children requires
  - Technical skill
  - Depth of knowledge of abnormal anatomy and
  - Multidisciplinary team approaches

DEVELOPMENTAL BACKGROUND

- Frontal
- Nasal
- Maxillary
- Mandibular



FORMATION OF UPPER LIP



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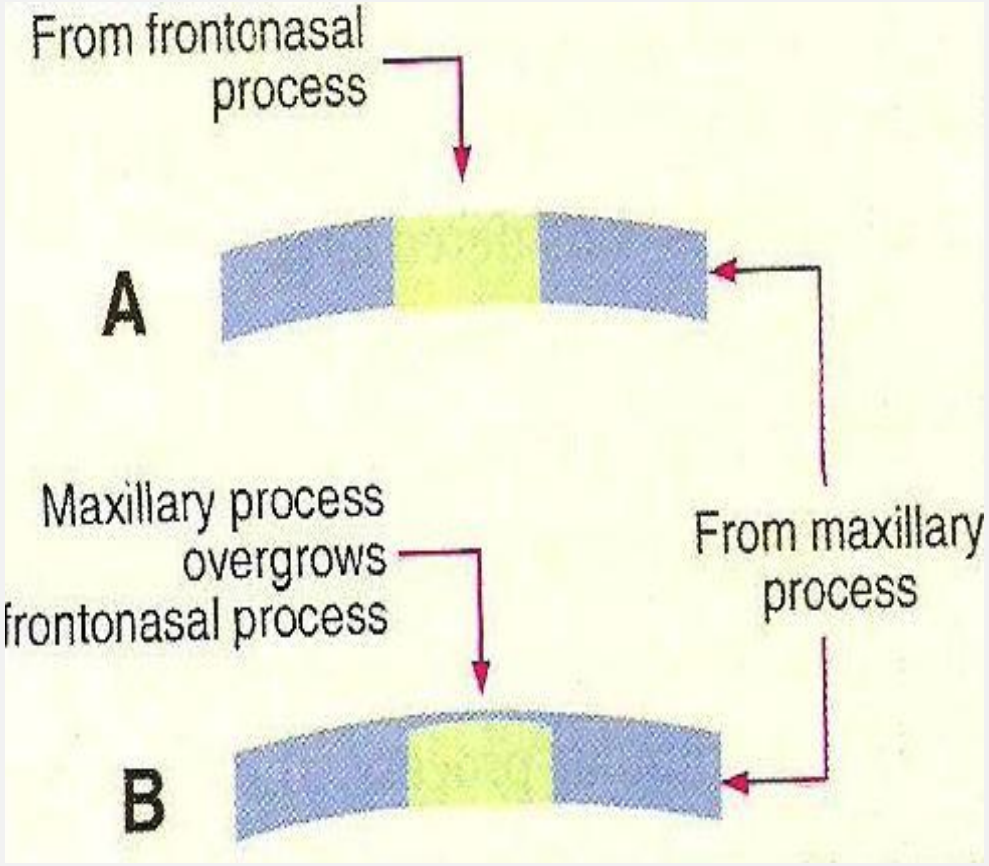
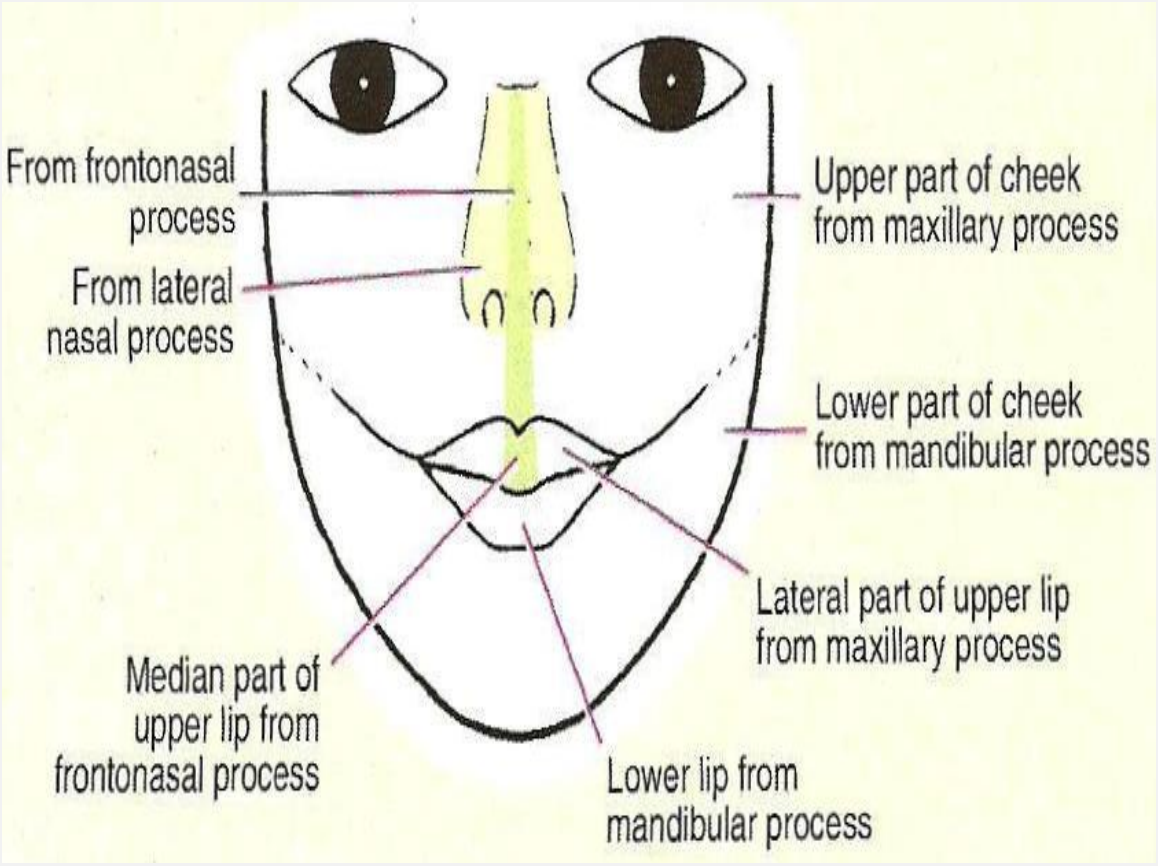
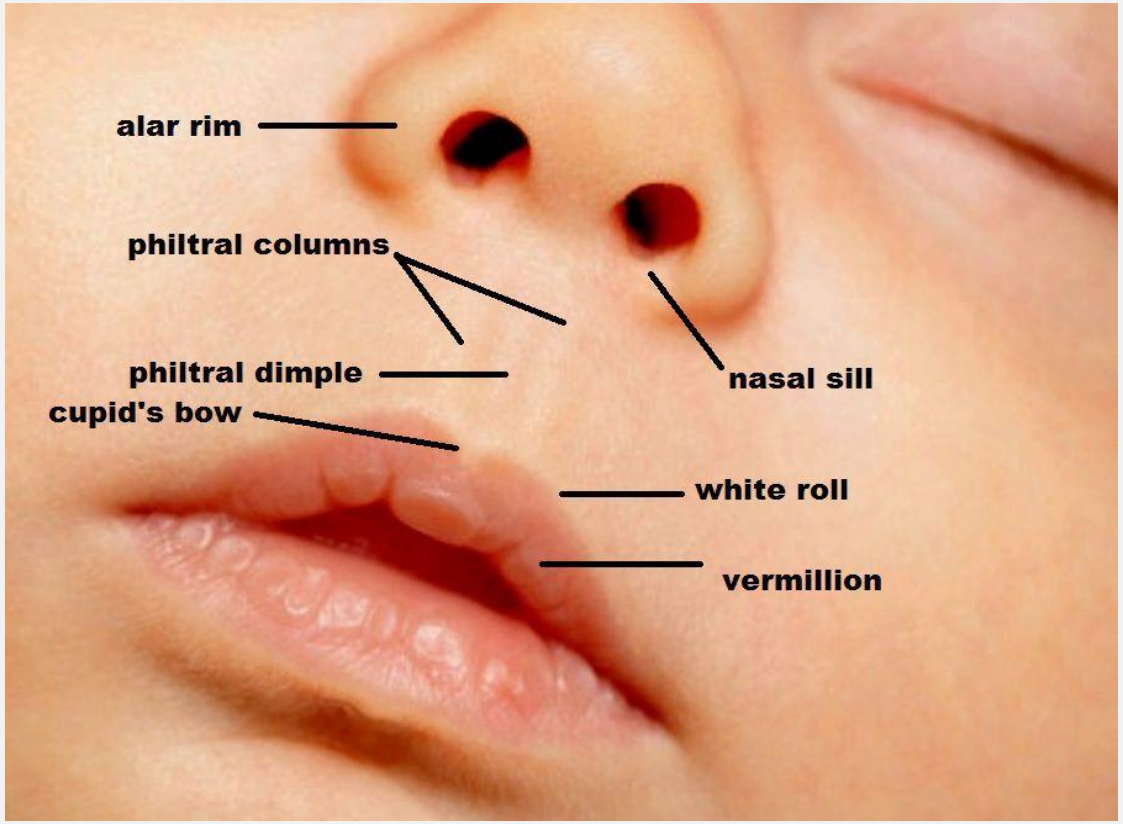
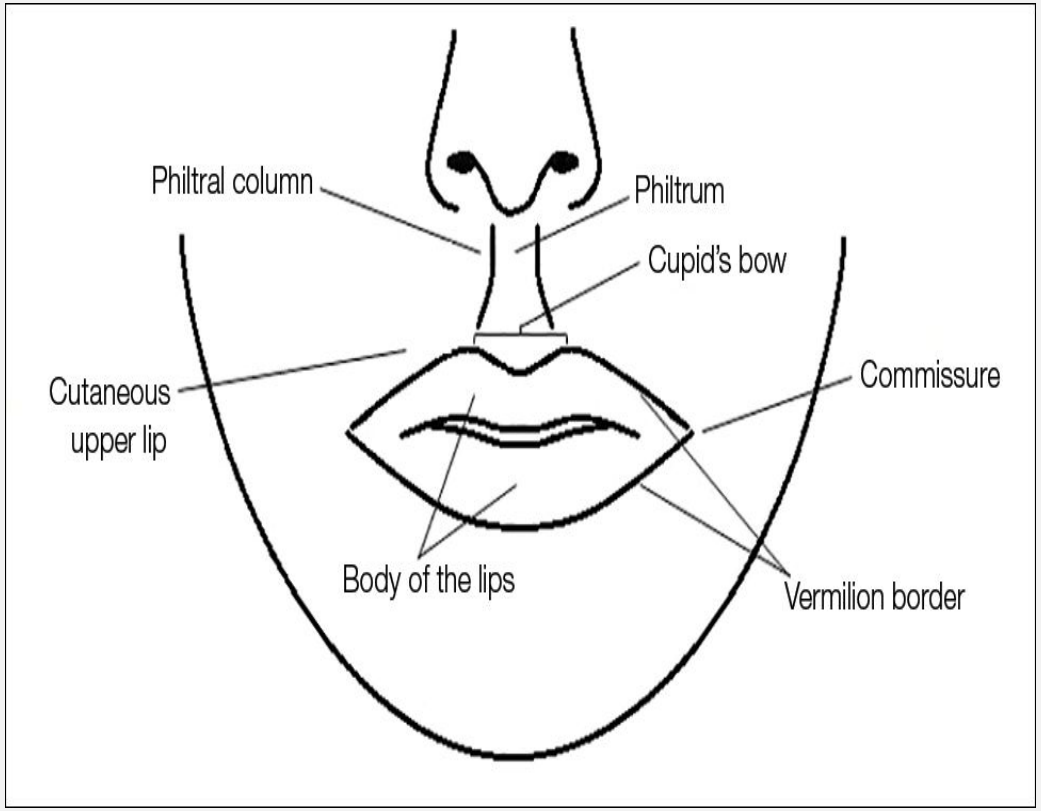




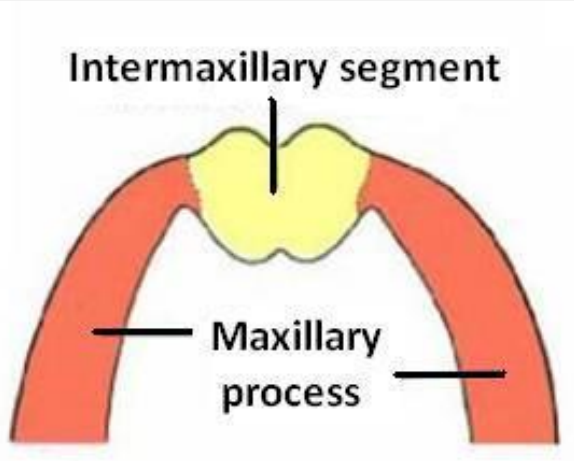
SURGICAL ANATOMY OF THE LIP





DEVELOPMENT OF PALATE

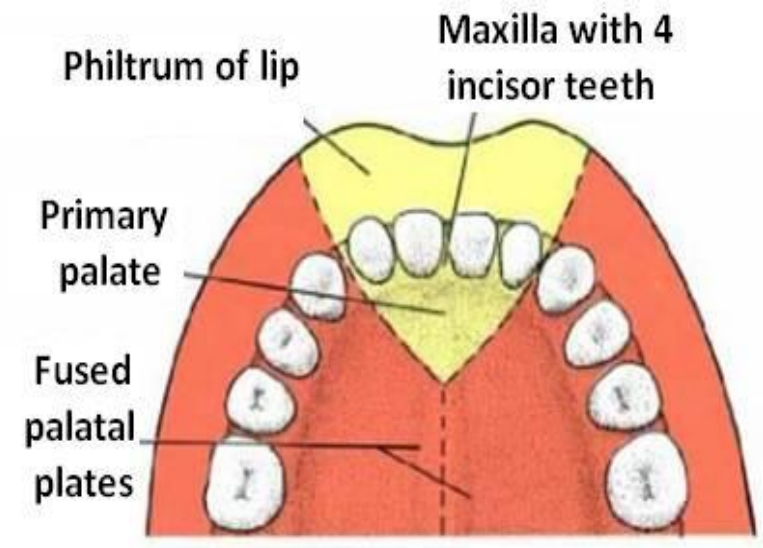
- Intermaxillary Segment
  - Philtrum of the lip
  - Premaxillary part of the maxilla
  - Primary palate



❑ Palate develops from 2 primordia

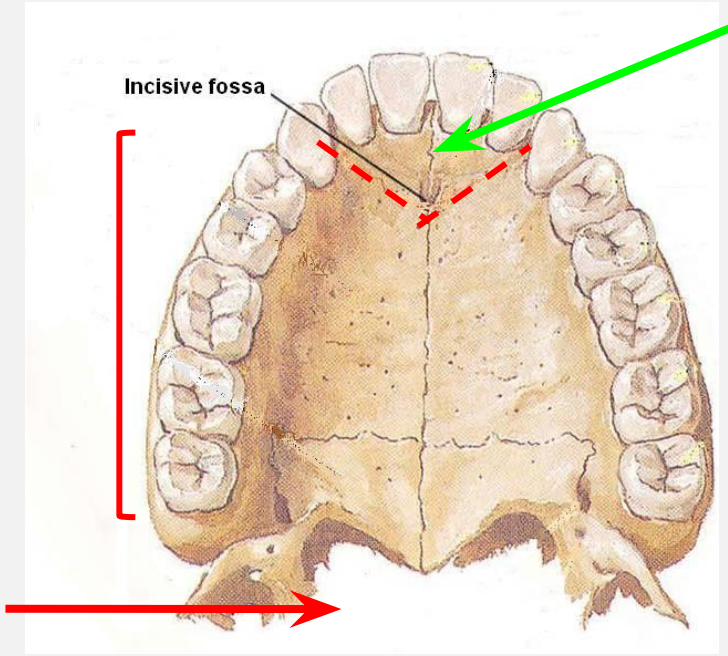
✔ Primary palate

✔ Secondary palate



THE PRIMARY PALATE REPRESENTS ONLY A SMALL PART LYING ANTERIOR TO THE INCISIVE FOSSA, OF THE ADULT HARD PALATE

Primary palate

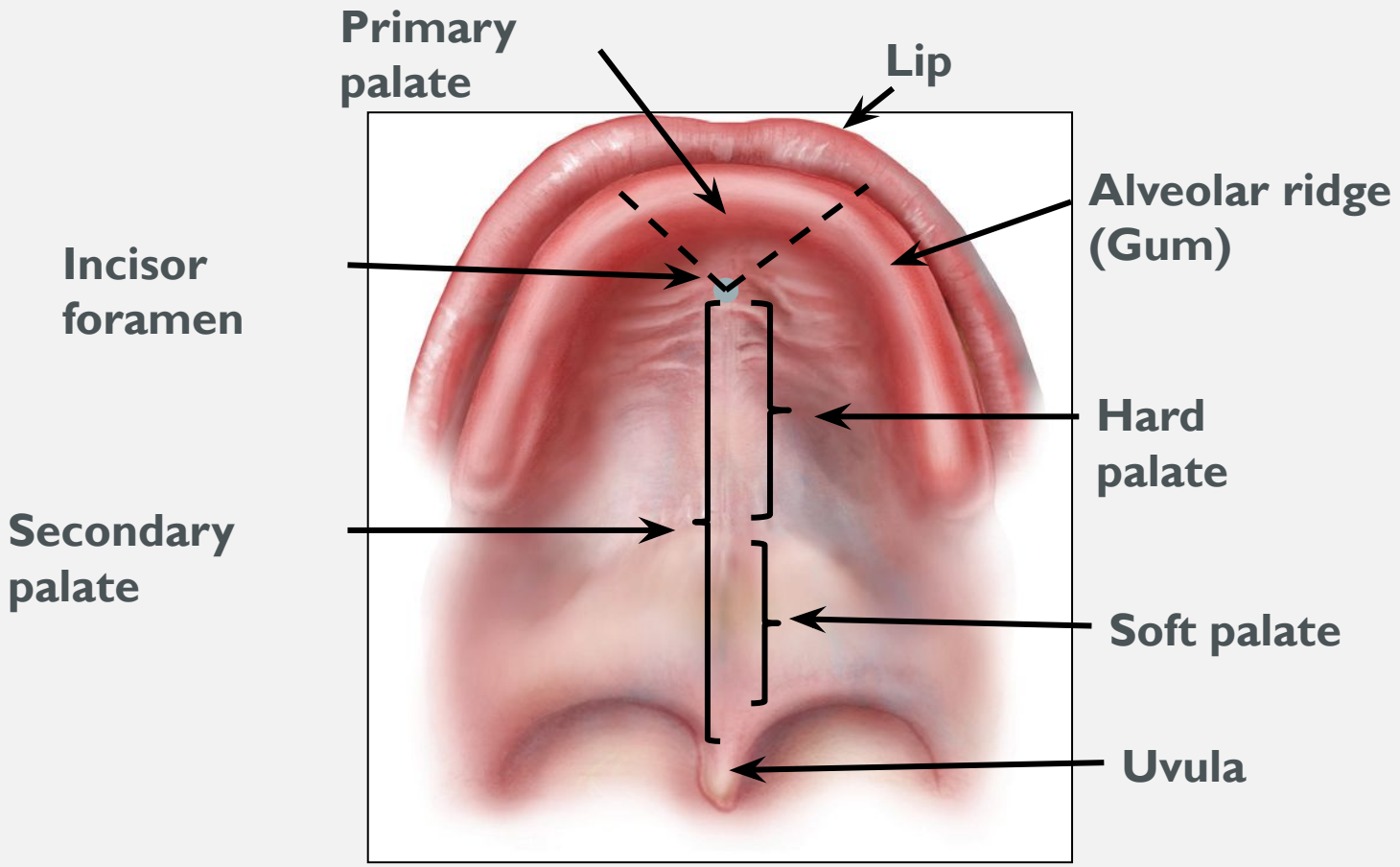


Hard palate

Soft palate

Secondary palate

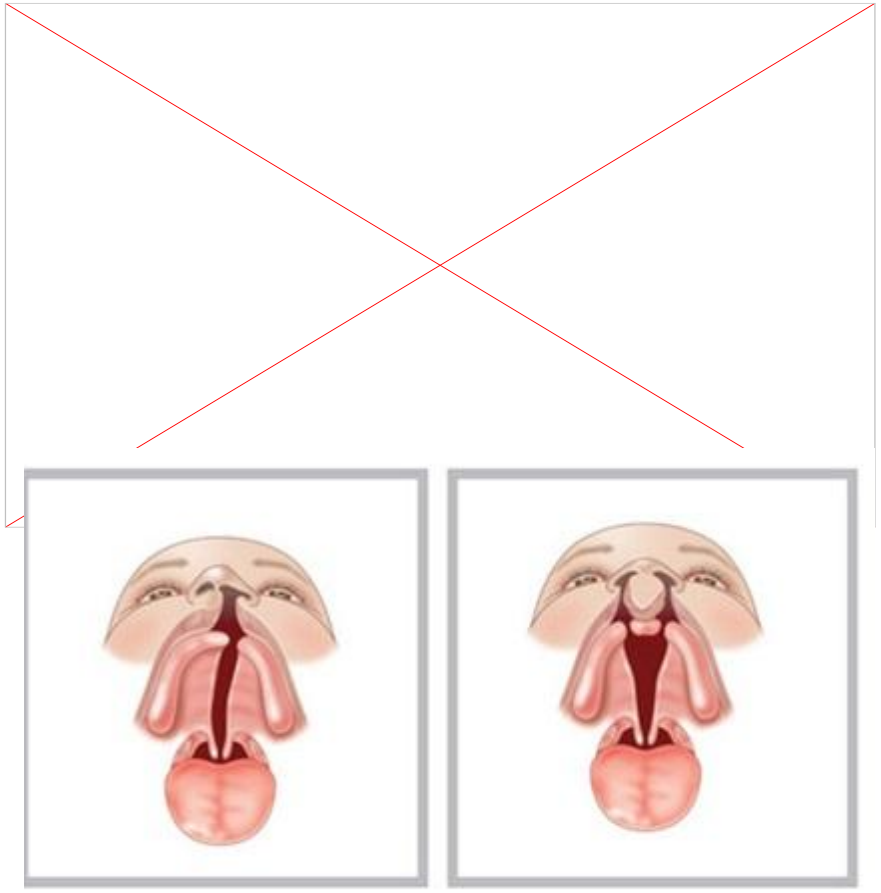
Surgical Anatomy of the Palates



DEFINITION

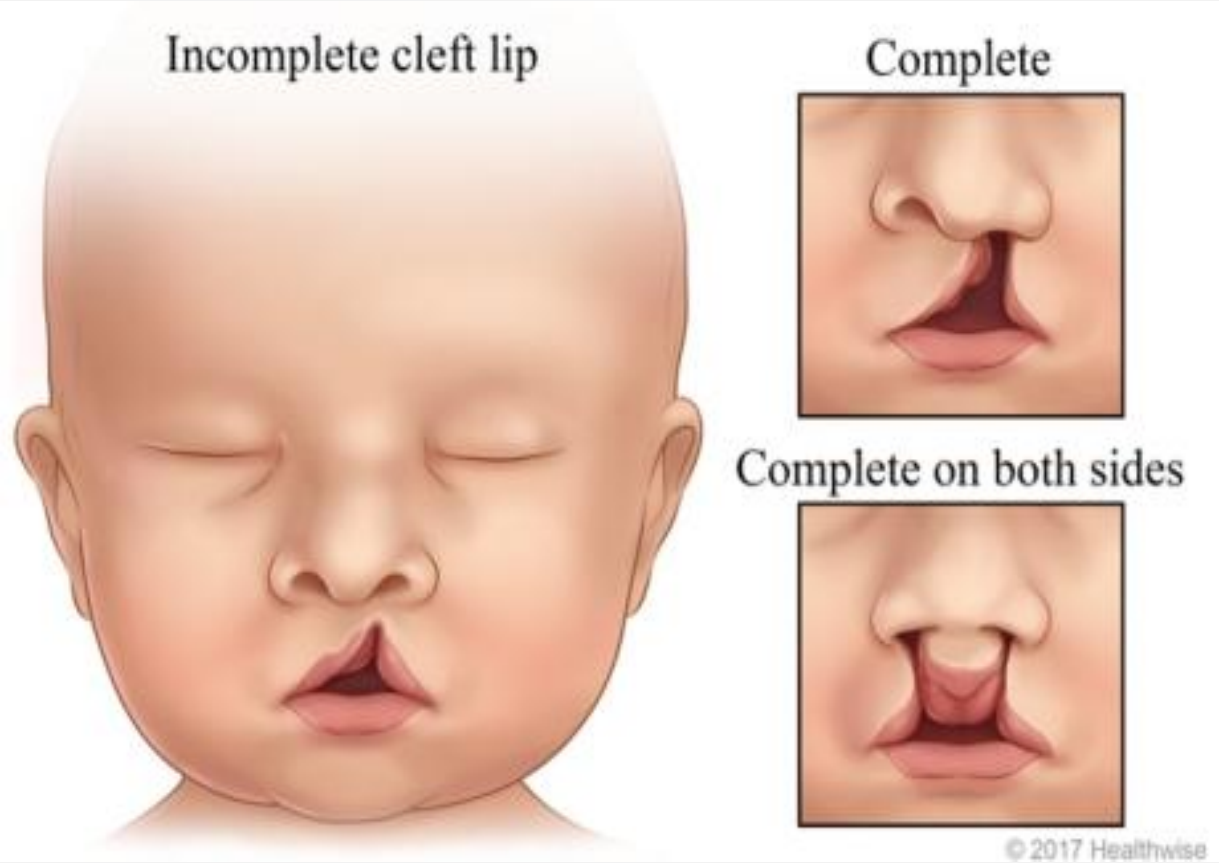
- **Cleft lip**: Failure of fusion of medial nasal process with maxillary process.

- **Cleft palate**: Failure of fusion of 2 palatine shelves of maxillary process.



. Left unilateral cleft lip and palate 6. Bilateral cleft lip and palate

CLASSIFICATION



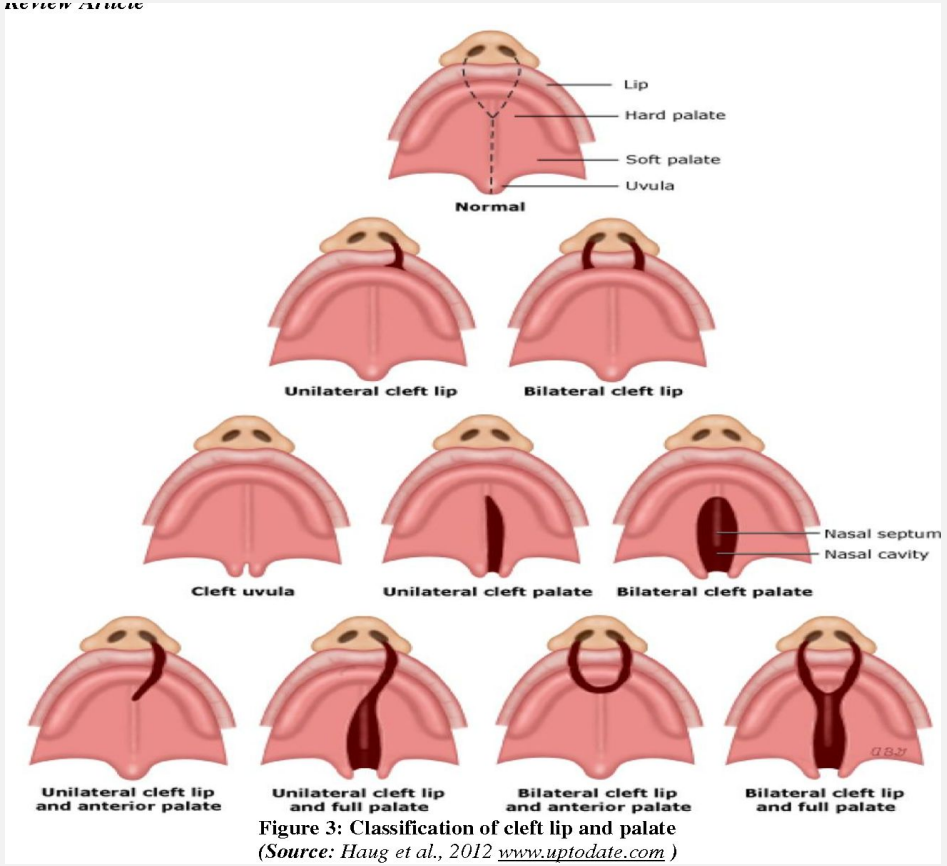
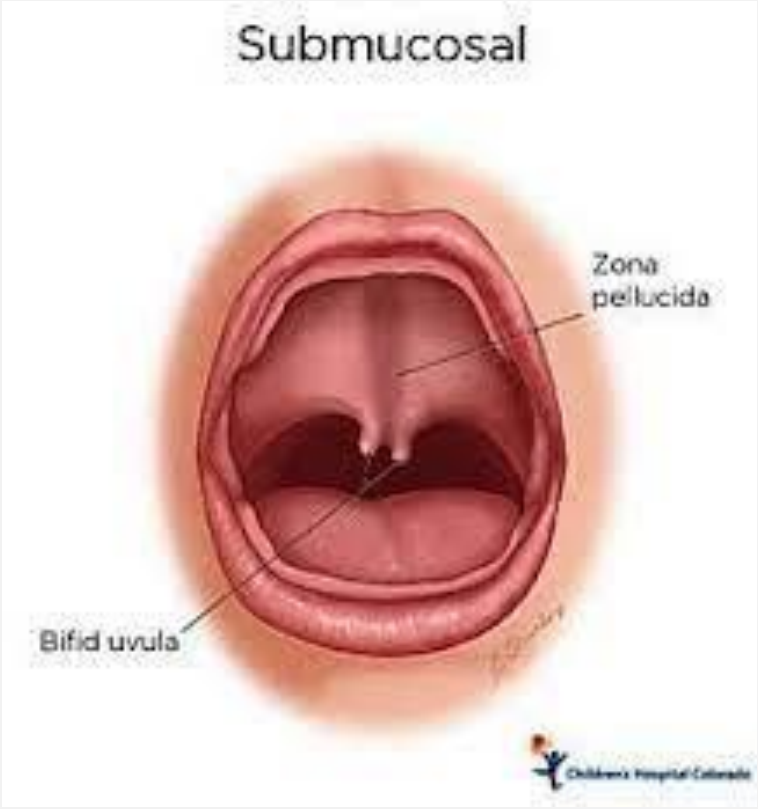


Figure 3: Classification of cleft lip and palate
***(Source:** Haug et al., 2012 www.uptodate.com)*

SUBMUCOSAL CLEFT



EPIDEMIOLOGY

- Worldwide prevalence of cleft lip and palate is 1 per 700 live birth
- Isolated cleft lip makes up approximately 21% of all
- Unilateral clefts → 9 times more prevalent than bilateral
- Males are more affected t
- A child with a cleft lip with or without cleft palate has an approximately 30% chance of having an associated syndrome;
- A child with an isolated cleft palate has a 50% incidence of an associated syndrome

ETIOLOGICAL FACTOR

- Genetic
- Environmental
  - Smoking
  - Alocohole
  - Obesity
  - Vitamin deficiency
  - Anti epileptic drugs

PRENATAL DIAGNOSIS

- Ultrasonography in the second trimester
- Three dimensional image has been introduced to prenatal diagnosis of cleft anomalies

ADVANTAGES OF PRENATAL DIAGNOSIS

- Time for parental education
- Time for parental psychological preparation
- Opportunity to investigate other associated anomalies
- Gives parents the choice of continuing the pregnancy
- Opportunity for fetal surgery

CLINICAL PRESENTATION

Cleft Lip

- Extends up to the nostril
- Deformed cupid bow
- Discontinuous vermillion border
- Absent philtral ridges
- Flat ala of the nose
- Scar

Cleft Palate

- Gap involving the uvula, soft palate & whole of the hard palate on either side
- Nasal regurgitation
- Nasal intonation
- Defective dentition

SCHEDULED OF TREATMENT FOR CLEFT

- **Birth to 1 month**

  Initial assessment

  Presurgical conervative

- **3 month**

  Primary lip repair

- **6 month**

  Primary Palate repair

- **2 years**

  Speech assessment

- **3-5 years**

  Lip revision surgery

SCHEDULED OF TREATMENT FOR CLEFT

- **8-9 years**

  Initial orthodontic intervention for alveolar bone

  Continuing speech therapy
- **10 years**

  Alveolar bone grafts
- **12-14 years**

  Definitive orthodontics
- **16 years**

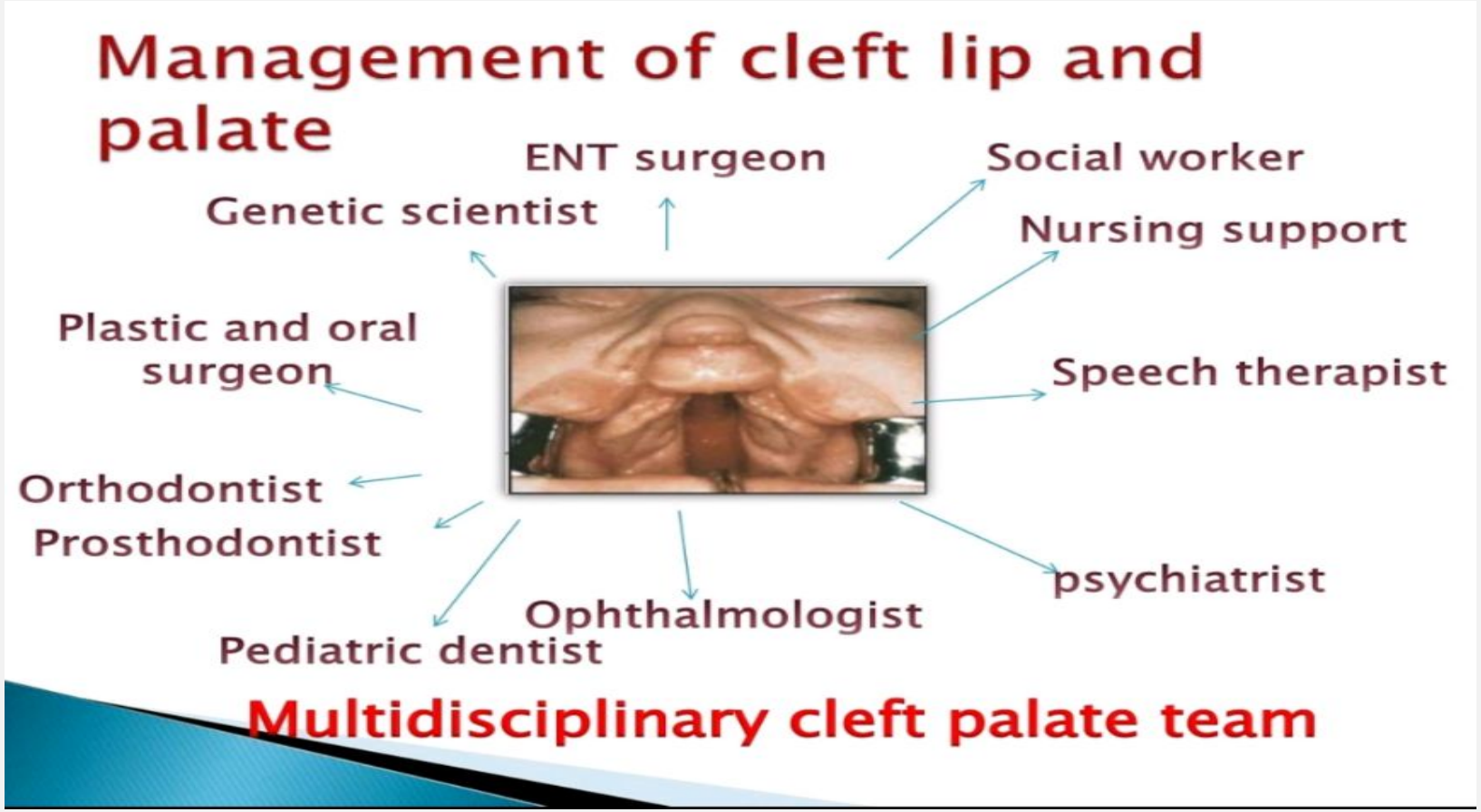
  Nasal revisionary surgery
- **17-20 years**

  Advanced conservative treatment

TIMING OF PRIMARY LEFT LIP AND PALATE PROCEDURE

Cleft lip alone		
Unilateral (one side)	One operation	at 5-6 months
Bilateral (both side)	One operation	at 4-5 months
Cleft palate alone		
Soft palate only	One operation	after 6 months
Soft and hard palate	One/Two operations	Within 18 months
Cleft lip and palate		
Unilateral	Two operations	Cheiloplasty: at 5-6months
		Palatoplasty: within 18 months
Bilateral	Two operations	Cheiloplasty: at 5-6months
		Palatoplasty: within 18 months

MANAGEMENT


Management of cleft lip and palate
ENT surgeon
Social worker
Genetic scientist
Nursing support
Plastic and oral surgeon
Speech therapist
Orthodontist
Prosthodontist
psychiatrist
Ophthalmologist
Pediatric dentist
Multidisciplinary cleft palate team

MANAGEMENT

- Non surgical management
- Surgical management

Non Surgical Management

CARE FOR CLEFT PATIENT

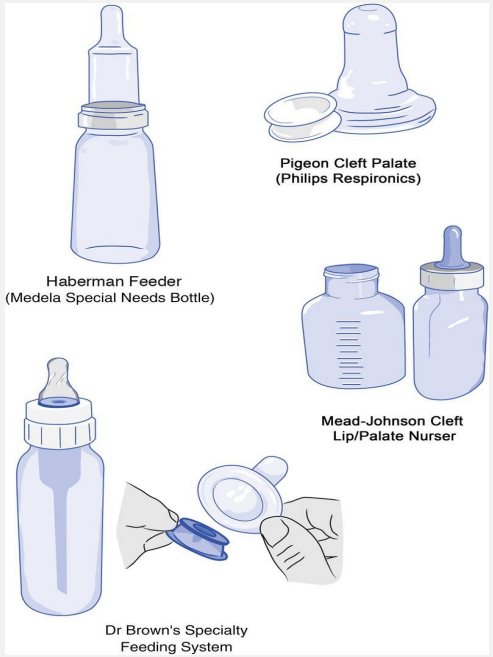
- The following specialists are required to evaluate
  - Neonatologist
  - Pediatrician
  - Feeding specialists nurses
  - Geneticist to assess syndrome associations
  - Clinical psychologist
  - Pediatric Surgeon

CARE FOR CLEFT PATIENT

Immediately after birth

- Feeding and psychological problems the are the biggest issue
- A cleft lip or palate makes feeding of baby more difficult
- The major problems with feeding a baby with clefts are problems with sucking and with formula coming through the nose

FEEDING DEVICE



OBTURATOR

gure 1: Procedural steps for making innovative feeding appliance

CARE FOR CLEFT PATIENT

- **Maintain adequate nutrition**
- **Feeding in proper position**
- **Provide appropriate feeding tools**

CARE FOR CLEFT PATIENT

- Newborn children with clefts presents the risk of aspiration and always obstruction which may lead to acute asphyxia in children with small mandibles like in Pierre Robinson syndrome

- Such case may requires **tracheostomy** at birth

CARE FOR CLEFT PATIENT

Presurgical orthopaedics

1. It facilitate the creation of good functioning palate.
2. Normalize tongue position.
3. Help in speech development.
4. Improve symmetry of nose and cleft of maxilla.
5. Psychologically boost patient and parents as the patient get continued supervision.

Surgical Management

RULE OF TEN

- Child age at least 10 weeks
- Child weight at least 10 pound
- Child has a hemoglobin at least 10 gm/dl

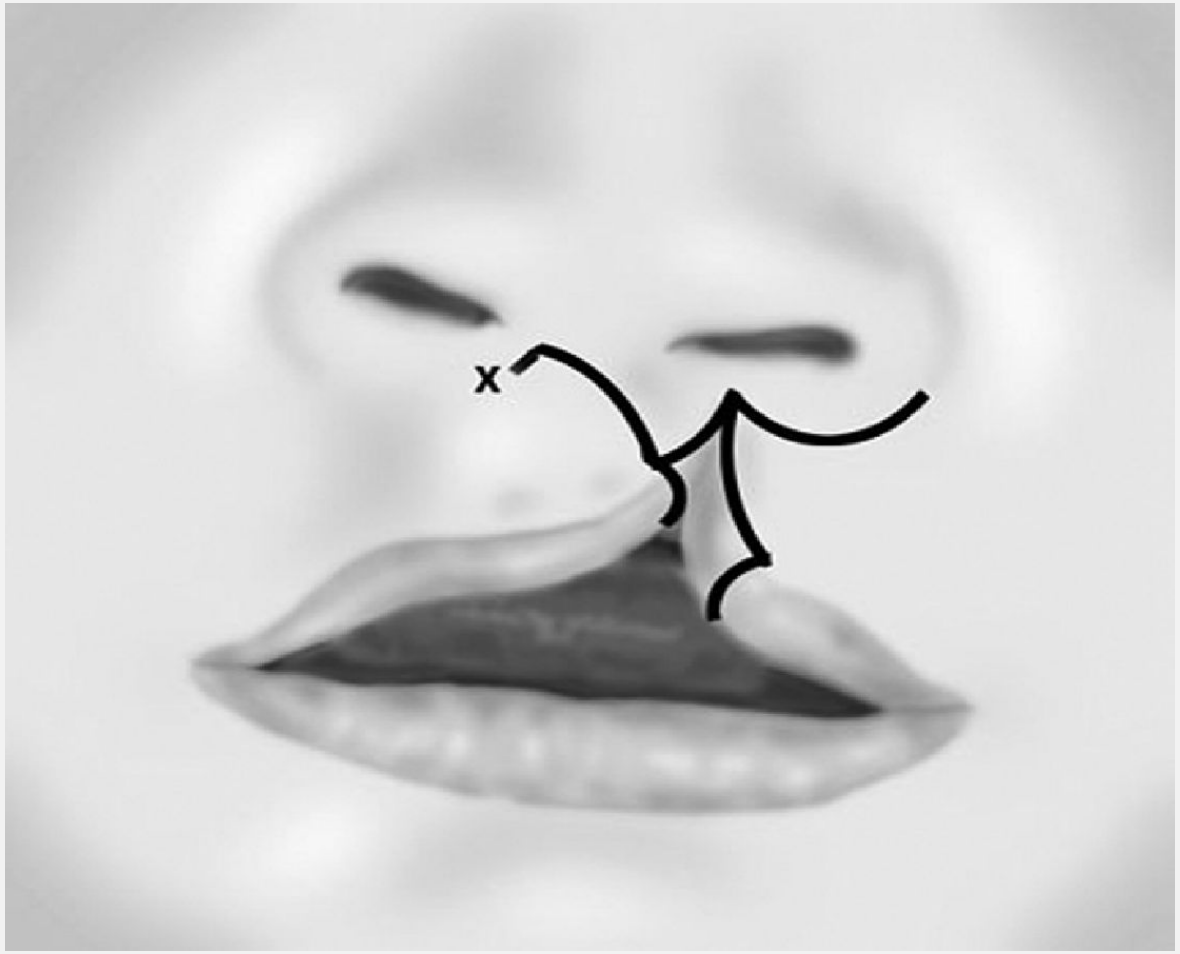
CLEFT LIP SURGERY

- Unilateral

There are multiple surgical techniques for cleft lip repair

1. The Millard rotation-advancement technique
2. The Millard rotation-advancement technique with modifications
3. Triangular flap techniques

MILLARD LIP REPAIR

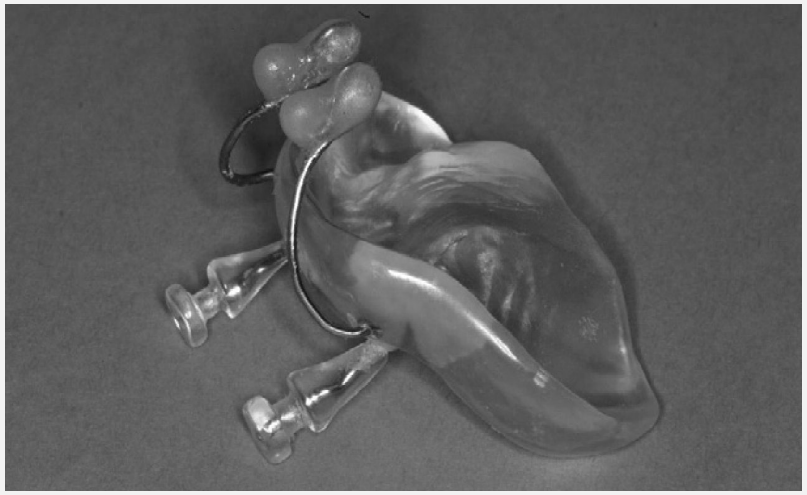


CLEFT LIP SURGERY

- Bilateral

Techniques introduced by Millard and by Mulliken

Many surgeons use presurgical orthopedics to decrease premaxillary protrusion



Presugical orthopedics

CLEFT PALATE SURGERY

Generally performed between 9 to 12 months of age

- The choice of techniques for palate repair depends on the type of cleft
  1. The Bardach two-flap palatoplasty
  2. The Furlow palatoplasty
  3. The Veau-Ward-Kilner (VWK)
  4. The von Langenbeck

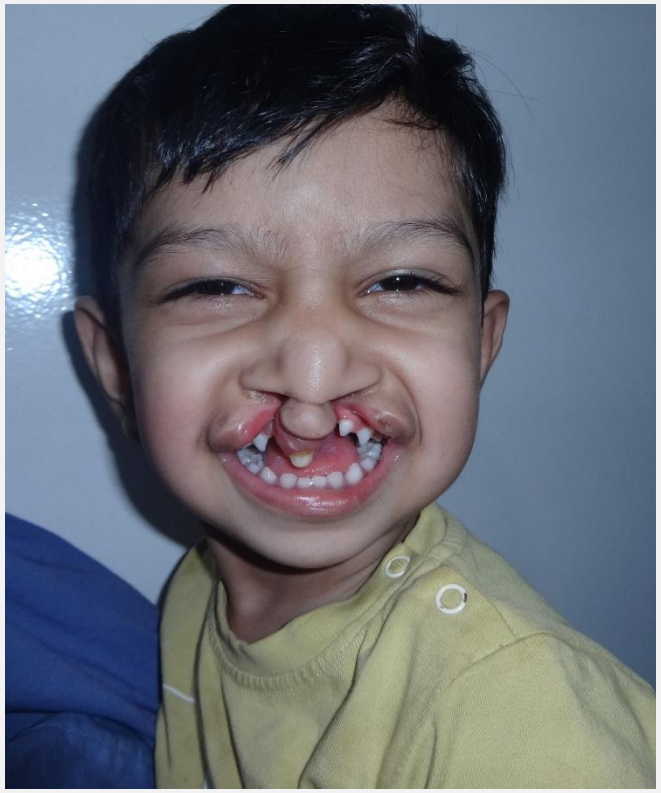
SECONDARY MANAGEMENT

- Hearing
- Speech
- Dental development
- Facial growth

SECONDARY SURGERY FOR CLEFT LIP AND CLEFT PALATE

- Cleft Lip revision
- Alveolar bone graft
- Simultaneous lip revision and alveolar bone graft
- Secondary palate procedures
- Dentoalveolar procedures
- Orthognathic surgery
- Rhinoplasty

BEFORE



AFTER

FAMOUS PERSON WITH CLEFT DISORDER

CARMIT BACHAR

JOAQUIN PHOENIX

JESSE JACKSON

TAKE HOME MESSAGE

- Cleft disorders are neither a curse nor a disability,
- Proper education can provide the benefit of physical & psychological development.
- Acceptable cosmesis can be ensured.
- Awareness regarding prenatal diagnosis and proper timing of reconstruction is mandatory to enable the child to adjust socially with an appropriate identity,


Thank You

One of the Risk Factors of developing a cleft lip/palate is?

Which of the following is the best position for an infant with cleft during feeding?