

A space-themed background featuring a view of Earth from space, showing the curvature of the planet and the atmosphere. The Moon is visible in the upper right corner. The text is overlaid on a dark horizontal band across the center.

INCIPIENT MALOCCLUSION

Lecture By, Dr. PURVA

Definition....

An incipient malocclusion is defined as a condition which shows a tendency to develop into a deviation from the normal dentofacial or occlusal relationship

Types....

- DENTAL
- SKELETAL
- DENTO-SKELETAL

WHY DIAGNOSE WHILE INCIPIENT??

- To prevent their establishment
- To refer at appropriate time.
- To minimize corrective treatment and its duration.

DIAGNOSING INCIPIENT MALOCCLUSIONS

The modern concept is.....
.....stressing on
prevention – oriented early detection of
problems

DIAGNOSING INCIPIENT MALOCCLUSIONS

Also.....

While diagnosing.....

Parents must be made to understand that a normal occlusion may not develop always.....

AND....

How future problems could be prevented and intercepted at INCIPIENT STAGE.

ESSENTIALS OF DIAGNOSIS

1. GENERAL EVALUATION: _____

- ***Initial patient interaction***

- ***Chief complaint-***

Find out what is important for the patient, that is the major concerns.

- ***Medical history***

Very important to elicit as orthodontic problems are mostly developmental

- ***Dental History-***

May additionally help to elicit parents attitude, awareness and any hereditary component

ESSENTIALS OF DIAGNOSIS

- *Genetic history-*

any history of orthodontic treatment in siblings, close relatives or parents themselves.

- *Sociobehavioural history*

Difficult to elicit

Parents generally do not tell about child's emotional problems.

You may ask about school progress rather.

Questions related to Quality of life being affected may be put up.

ESSENTIALS OF DIAGNOSIS

It has three major areas:

- the patient's motivation for treatment,
- what he or she expects as a result of treatment, and
- how cooperative or uncooperative the patient is likely to be.

- AGE
- GENDER
- PRENATAL HISTORY

Includes drugs, any illness, type of delivery.

2. STRUCTURAL ASSESSMENT

- **EXTRAORAL:**

- a. General

- i. Physical growth status: Ht&Wt

- To know present status and future potential.

- ii. Body type

- b. Facial features

- i. Facial type

- ii. Shape of Head

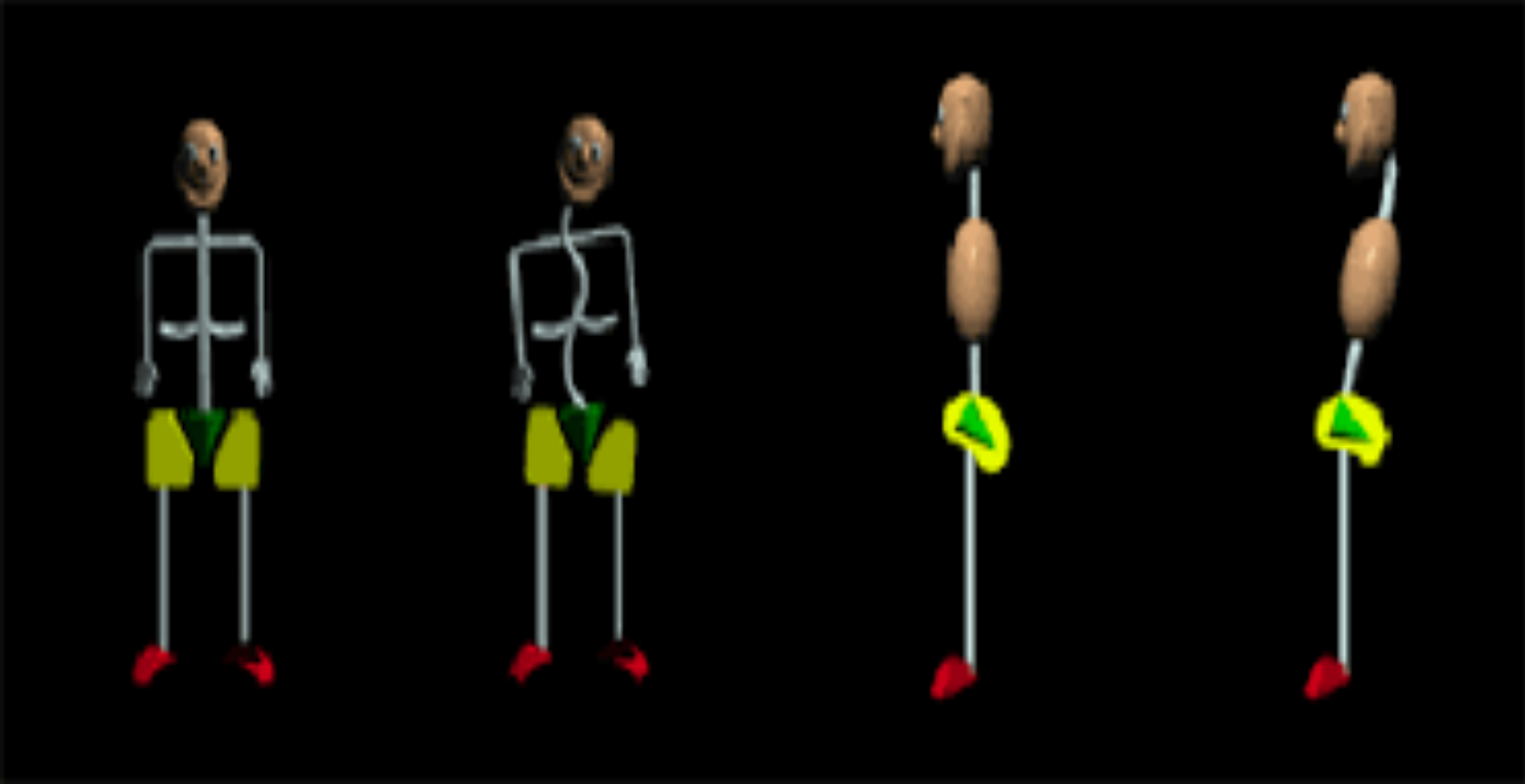
- iii. Facial Profile

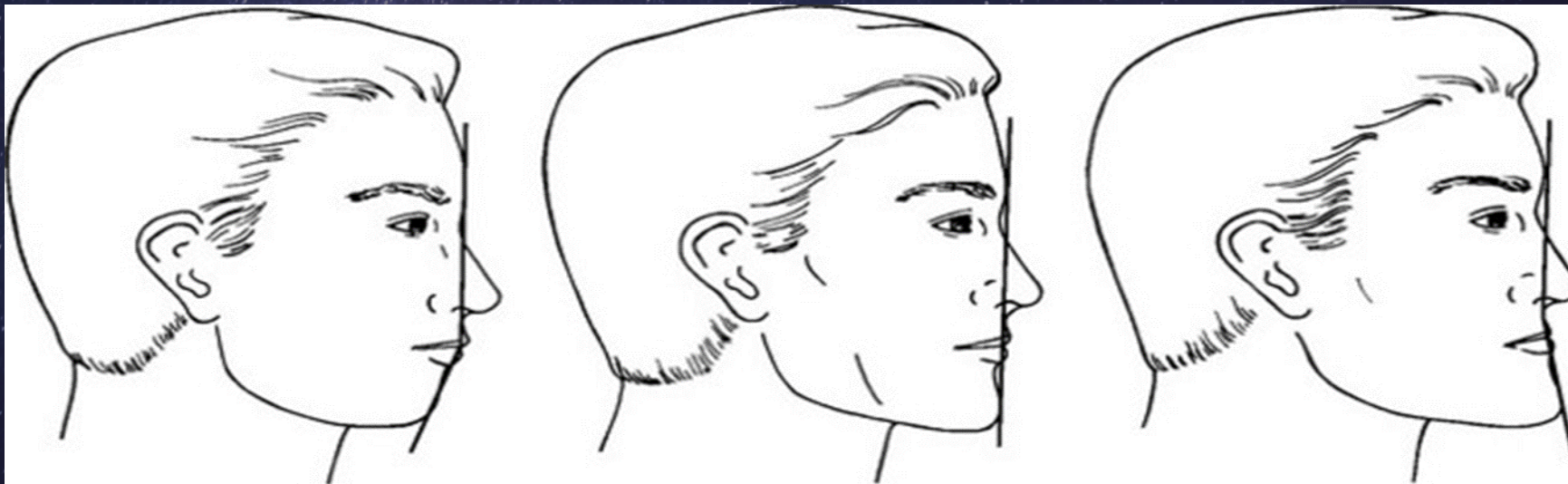
- iv. Lip posture

- v. Relative symmetry of facial structures.

- c. TMJ

- d. Speech difficulties if any.





A

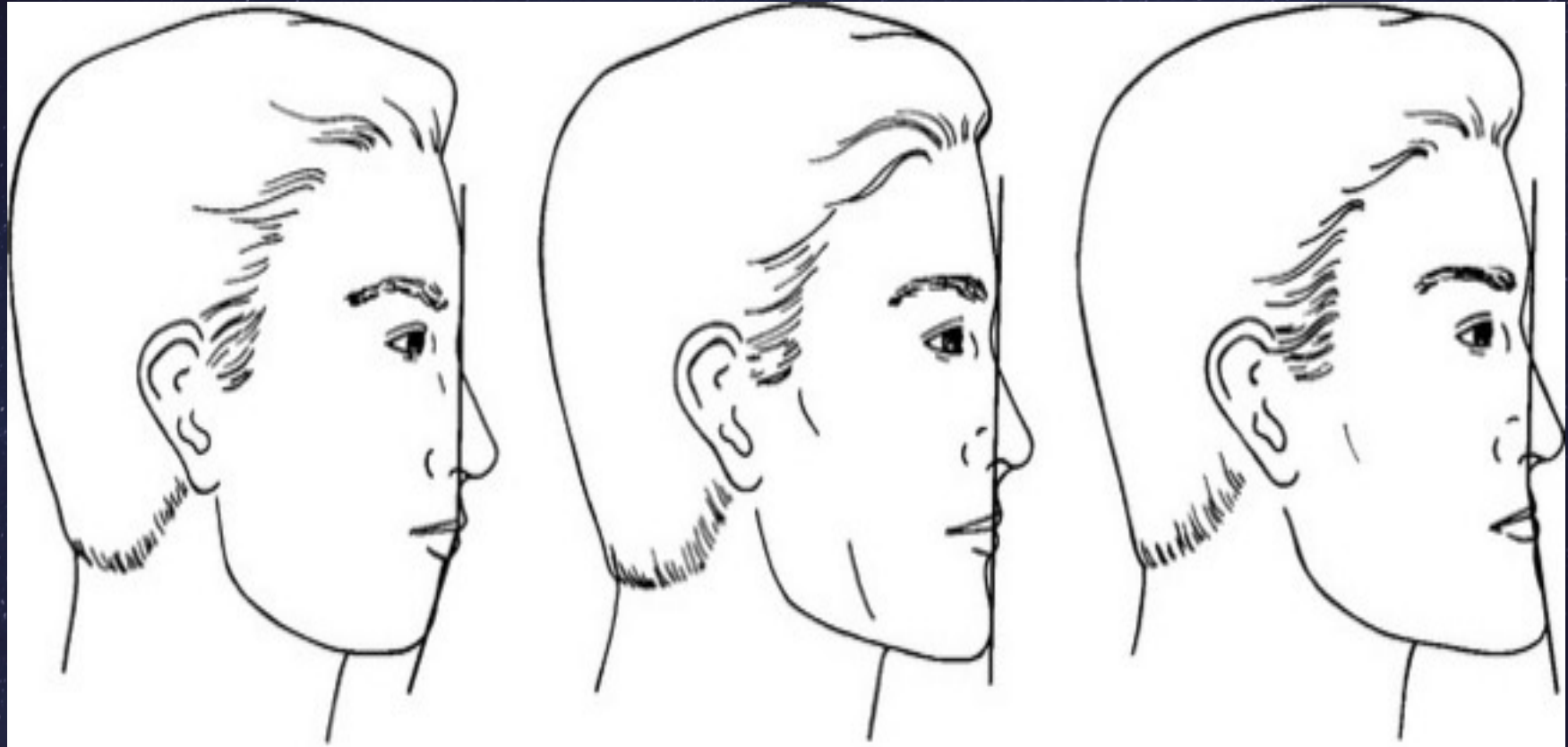
Convex

B

Straight

C

Concave



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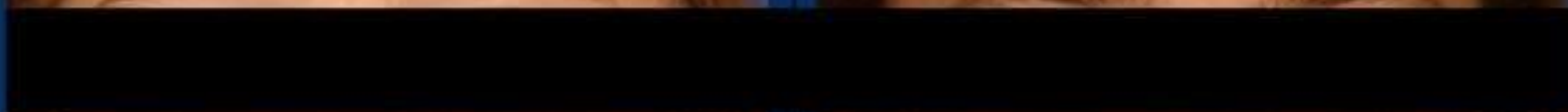
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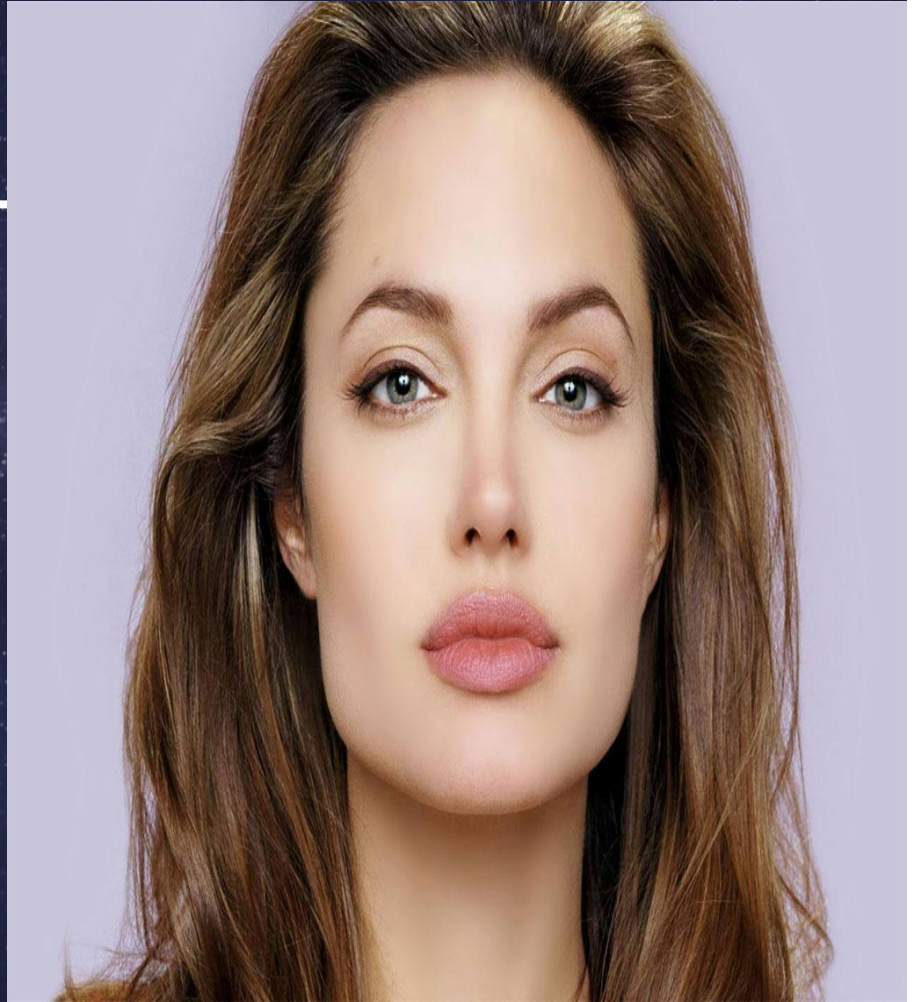
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Concave



HONOR  FRANKLIN
MYOFUNCTIONAL & SPEECH CLINIC





- ***INTRAORAL EXAMINATIONS:***

- a. Jaw relationship(ant-post, vertical,lateral)
- b. Open mouth examination:
 - no. of teeth, any abnormality of size and shape, restorations, oral hygiene, molar relation, overjet, overbite, midline.
- c. Soft tissues:
 - Gingiva, frenums,tongue, palate, tonsils, oral mucosa in general,lips.

3. FUNCTIONAL ASSESSMENT

■ RESPIRATION

Tests for checking respiration mode are:

- a. Observation without informing the patient
- b. Observation while asking the patient to breathe.
- c. Mirror test
- d. Cotton/Butterfly test
- e. Water test

■ OCCLUSAL INTERFERENCE

Such interferences may lead to deviated paths of closure, and hence imbalance of musculature. May affect TMJ.

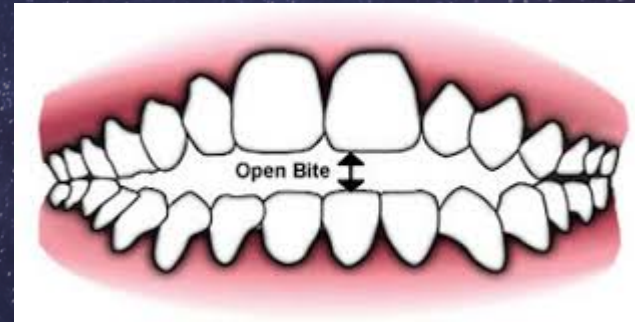


SPEECH DIFFICULTY INDICATING DENTAL PROBLEM

S, Z

Sibilant sound

Lisp related to large problem between incisors or missing incisors, open bite



D

Linguo

Irregular incisors

(especially lingual
position of max incisor or
supernumerary teeth)



- T, V
- Linguo dental
- Distortion related to protruding of mandible
 - TH, CH, SH..
 - Linguodental sound (voiced or voiceless)
 - Distortion related to severe open bite

|
Linguoalveolar

—————
Distortion related to tongue tie



POTENTIAL PROBLEMS OF INCIPIENT MALOCCLUSION

I. PREDENTATE PERIOD

a. *Type of delivery:*

- Crossbite incidence is high in children born with forceps delivery.
- Also, abnormal arch dimensions, increased height of maxilla and increased length of mandible is seen
- Narrow arches are more common.

b. *Preterm birth:*

- Gestational age less than 37 weeks
- Such children are under variety of metabolic stresses.

-
- Following problems in preterm infants may be index for developing probable malocclusion problems:
 - i. Palatal grooves and cleft formation
 - ii. Primary incisor defects.
 - iii. Delayed eruption of primary teeth
 - Fadavi (1992) noticed delayed eruption in premature infants

c. Neonatal jaw relationship:

- No precise relationship exists.
- Anterior openbite seen in gumpads is very common...and is usually transient.
- Oral habits may influence duration of anterior openbite.

d. Retained Infantile swallowing:

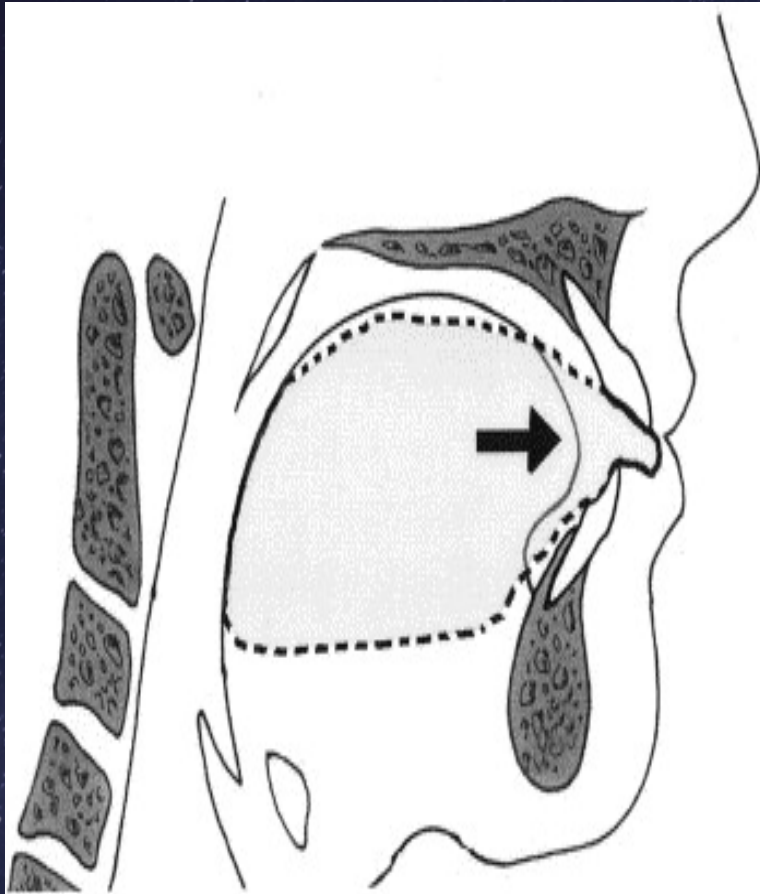
In the infantile swallowing reflex tongue lies between gumpads and, mandible is stabilised by an obvious contraction of facial muscles. The buccinator is especially very strong

Infantile swallow disappears with eruption of primary incisors normally.

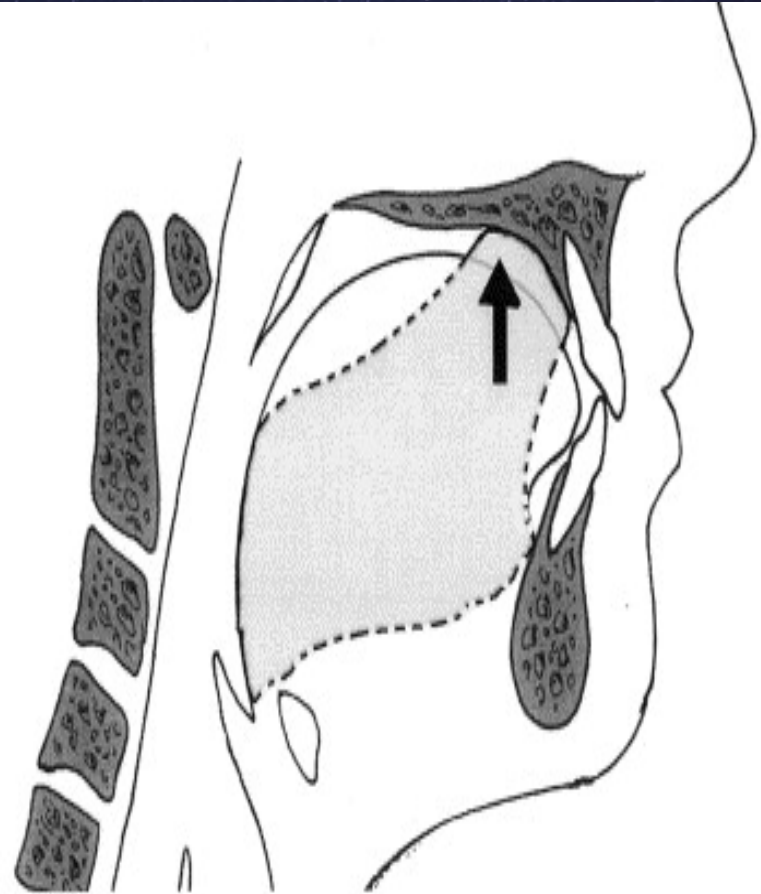
Sometimes, a transitional state between an infantile and mature swallowing can be seen with an open bite.

When infantile swallow persists even after eruption of permanent incisors, it leads to:

- Very strong contraction of lips, inexpressive face
- And Facial muscles, particularly noticeable are buccinator contractions.



A



B

e. *Inadequate breast feeding OR early weaning:*

- Lead to low impact muscle activity
- Problems in normal development of alveolar ridges, palate.
- And, hence crossbites are frequent in primary dentition.
- Early introduction of bottle may also lead to such consequences.

II. DECIDUOUS DENTITION:

A. DENTAL ARCHES:

What to look for:

- Spacing
- Crowding
- Isolated teeth crowding
- Relationship of crowding with any oral habit

B. *TRANSVERSE RELATIONSHIP*:

What to look for: _____

- **Midline discrepancies**

- large midline shifts are usually rare in primary dentition
- if present... Mandibular shift should be suspected. It usually manifests as unilateral crossbite
- True cause should be looked for - Whether developmental size discrepancy of jaws is present

- **Crossbite**

- Should be treated immediately

- **Overjet**

C. *Vertical Dimension:*

What to look for:

- Openbite
- Deepbite

D. *Eruption problems*

What to look for:

- Delayed eruption
- Missing tooth

E. *Habits:*

What to look for: _____

- **Associated features**

F. *Primary dentition terminus*

What to look for:

- **Second primary molar relationship in non spaced dentition**

○ **Second primary molar relationship in non spaced mandibular and spaced maxillary dentition.**

If present with a distal step

Leads to development of disto-occlusion immediately after eruption of permanent first molars

If present with a flush terminal relationship

Leads to development of disto-occlusion if maxillary first permanent molar erupts before mandibular

G. *Impacted primary teeth:*

- **Very rare—usually due to trauma...mostly re-erupt**
- **Can cause delay in eruption of permanent teeth**

H. *Congenital absence of primary teeth*

What to look for:

- **Agensis of permanent successors**

I. Infected primary teeth:

- These may cause Ankylosis or Enamel defects in permanent successors.
- Infected teeth also may lead to single side chewing and hence, hygiene and malocclusion problems.

J. Retained primary teeth

What to look for:

- Lead to crossbites, ectopic eruption, malocclusion.

K. Ankylosis of primary teeth:

- **Very common in primary molars**
- **Can delay eruption of permanent teeth**
- **Inhibit growth of alveolar process, leading to development of a bony step.**
- **Supraeruption of opposite teeth can also occur**

Henderson (1979) pointed out that ankylosis should be considered as an interpretation in the rhythm of eruption.

Nagan (1990) suggested that ankylosed tooth that has failed to erupt or is submerged well below the occlusal plane of adjacent tooth should be extracted and be replaced with a suitable spacemaintainer as it may cause supra-eruption of the opposing tooth and space loss by tipping of adjacent tooth.

L. Loss of primary teeth:

- Can accelerate permanent successor eruption if crown completion is complete and root formation has started.
- Can delay permanent successor eruption if crown completion is not complete

M. Premature loss of primary teeth

Lead to:

- Loss of arch length
- Tipping of adjacent teeth
- Supraeruption of opposing teeth

N. Supernumerary teeth —————

M. Abnormal TMJ relationship

-- Leads to development of functional malocclusions

**N. Gingival Or Periodontal conditions leading to
premature loss of Primary teeth**

Thank you!