

Guiding the Developing Dentition in Pediatric Dentistry

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Developmental periods

Predentate period



The deciduous dentition period

-20 teeth



The permanent dentition period

-32 teeth



The mixed dentition period

-24 teeth





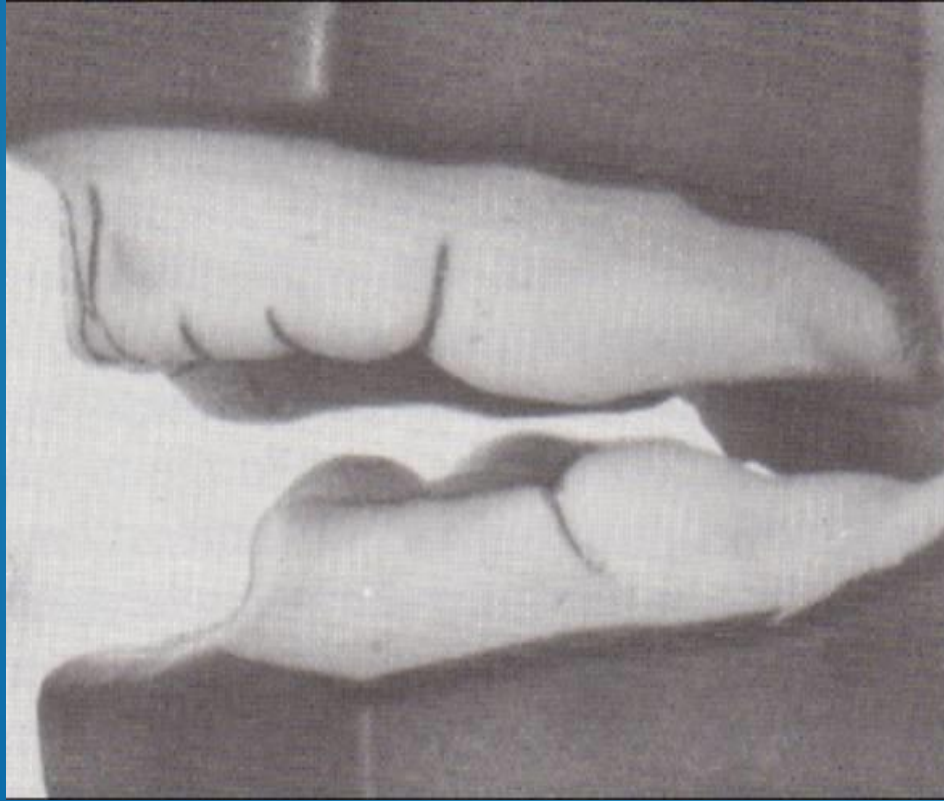
Need to know.....?

- Normal process of development of dentition and occlusion
- Transient malocclusion and self correcting anomalies
- Guiding and correction developing malocclusion in mixed dentition
- Preventive and interceptive orthodontic procedures





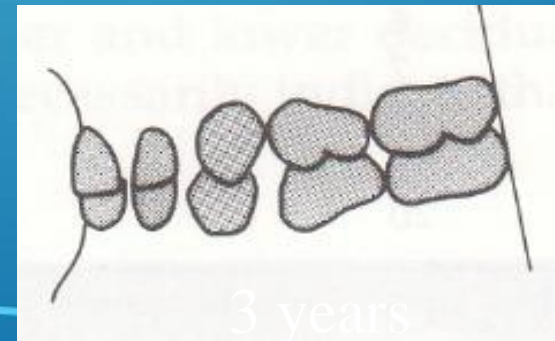
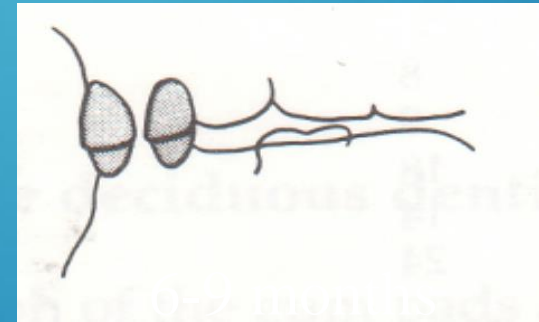
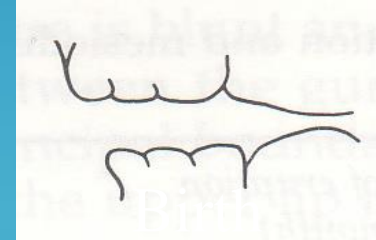
The gum pads(birth to six months)



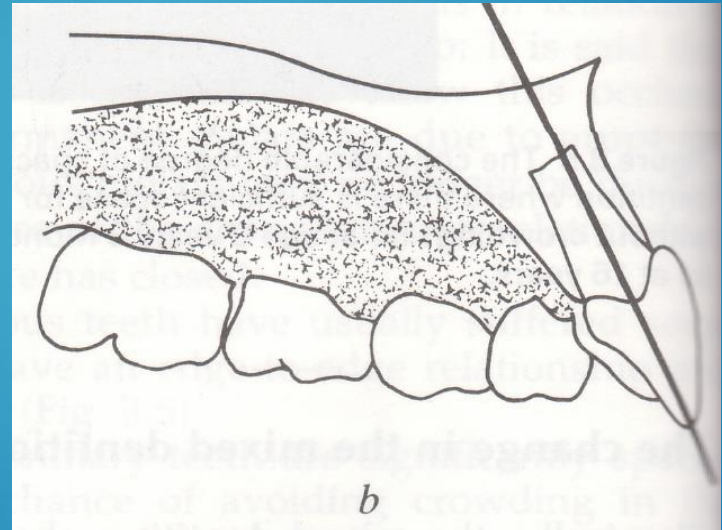
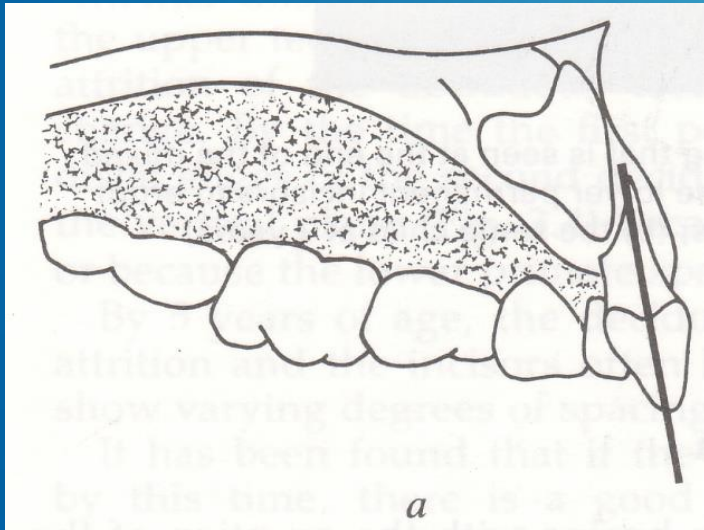
Eruption of primary teeth: 6 months to 36 months

3 years

- Anterior teeth erupt in vertical upright position – less overjet
- Deep bite (Increased overbite)

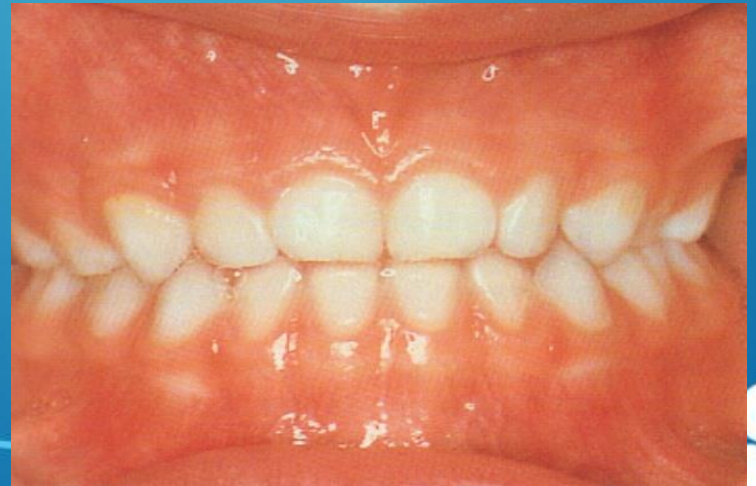
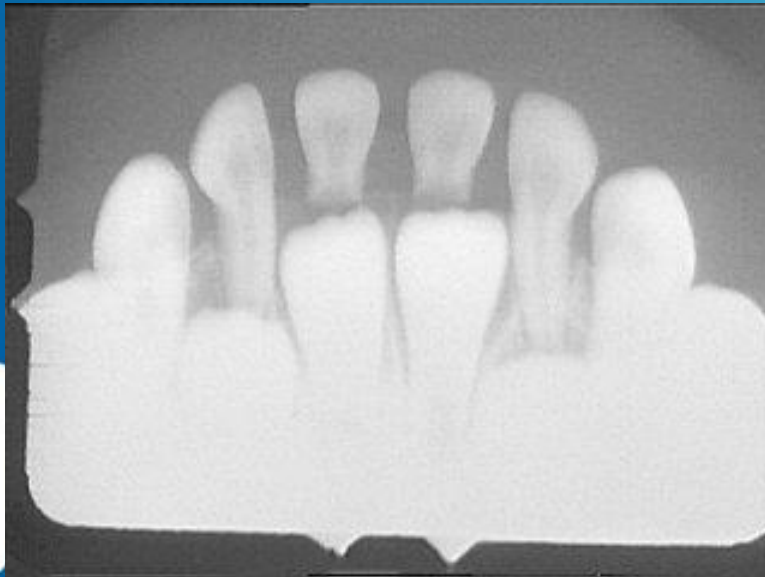


Vertical position of the primary teeth.



The primary dentition

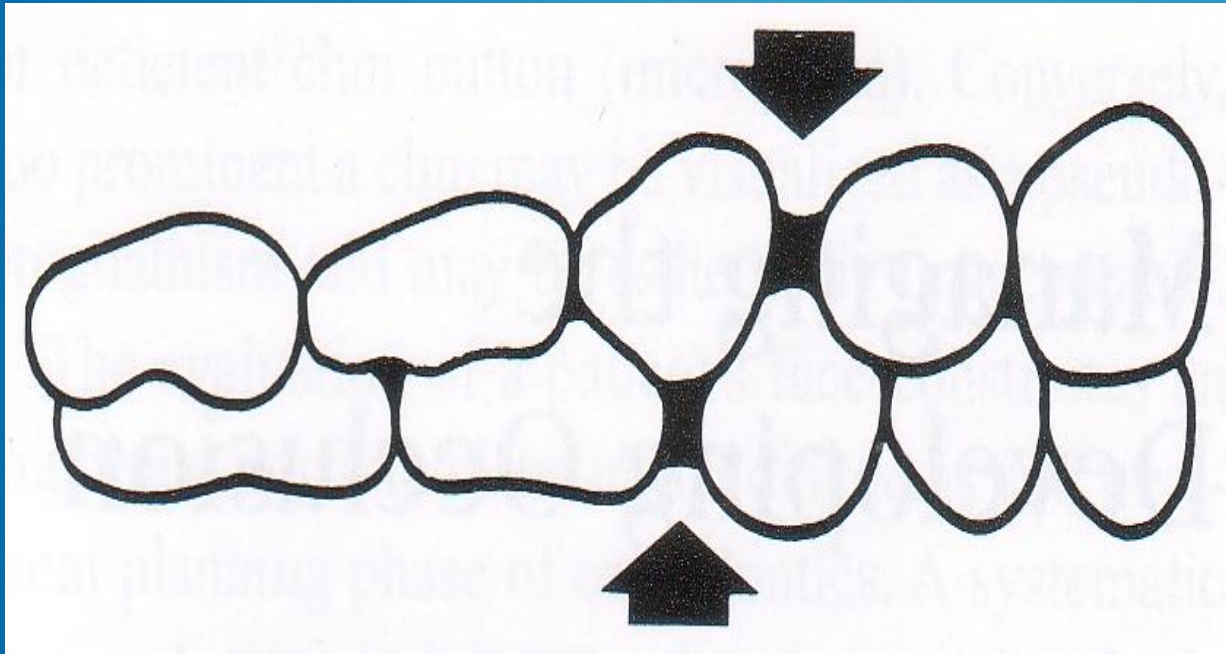
- Spaced dentition-
physiological /
developmental spaces
- Closed dentition





Primate spaces

Mesial to upper canine
distal to lower canine

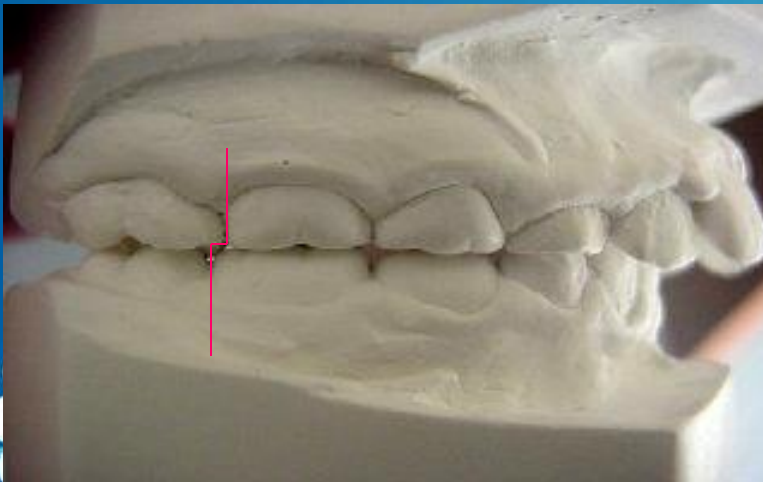




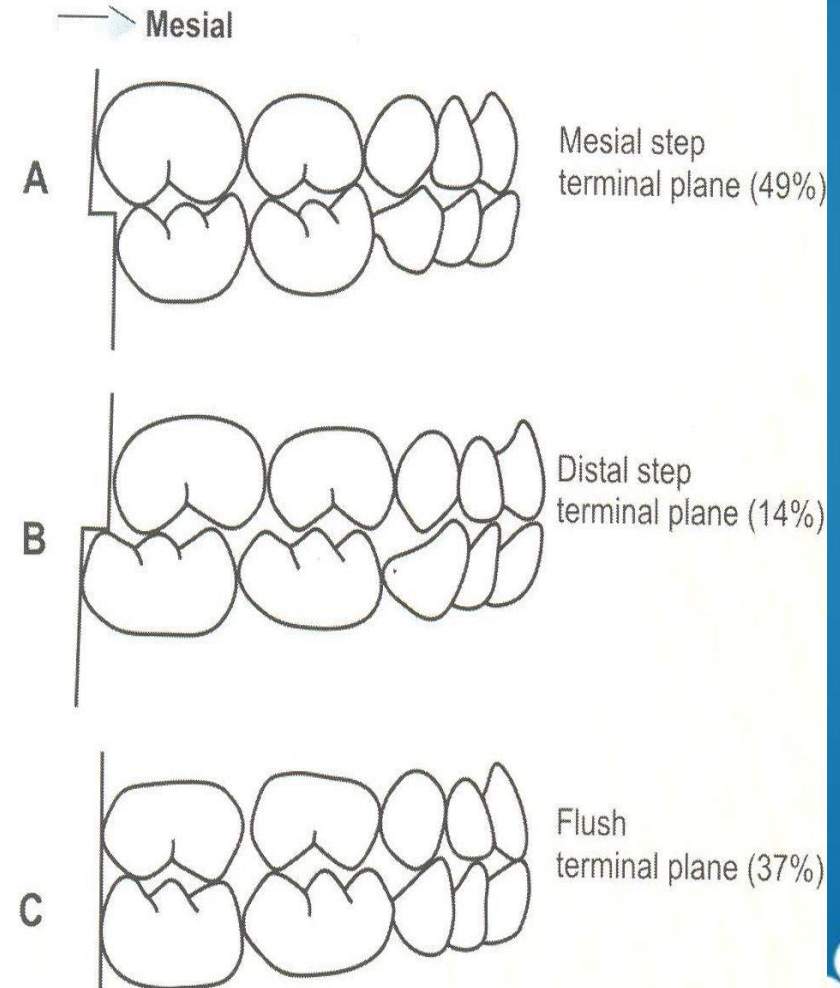
According to distal of upper and lower 2nd molar

The terminal plane

- **Flush** terminal plane
- **Mesial step**
- **Distal step**

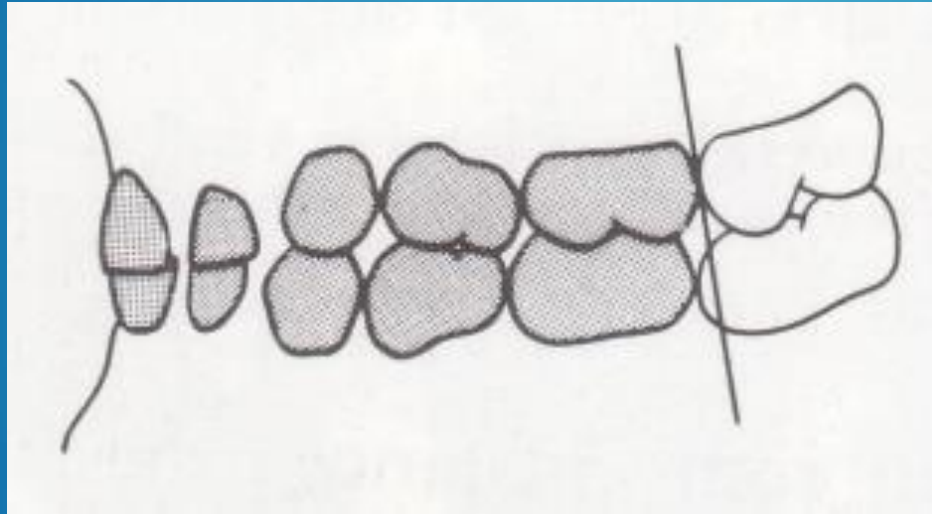


Distal step





Early mixed dentition : 6 to 9 years

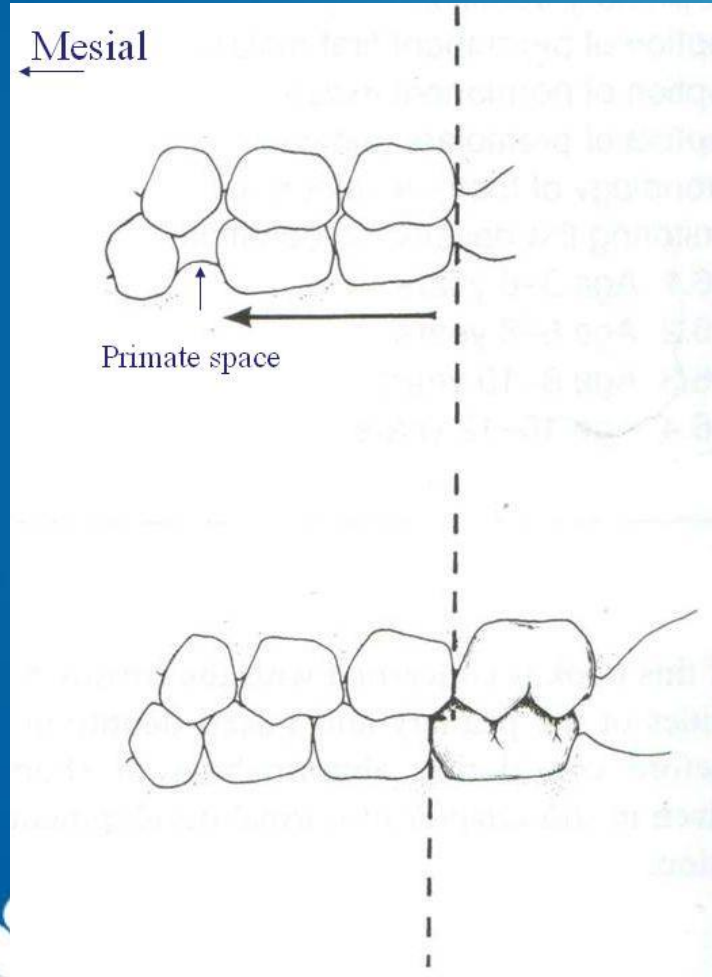


5-6 years

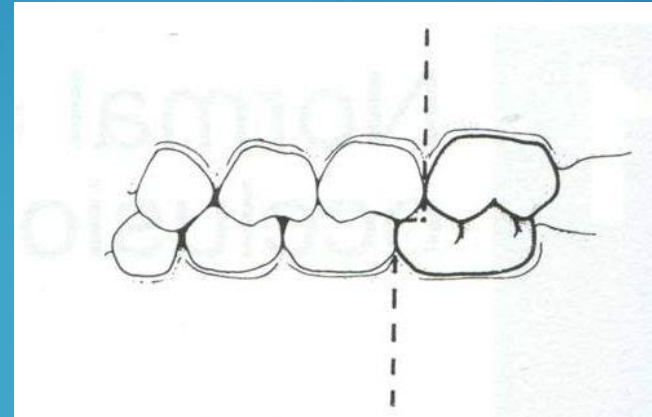


Early mesial shift

Spaced dentition

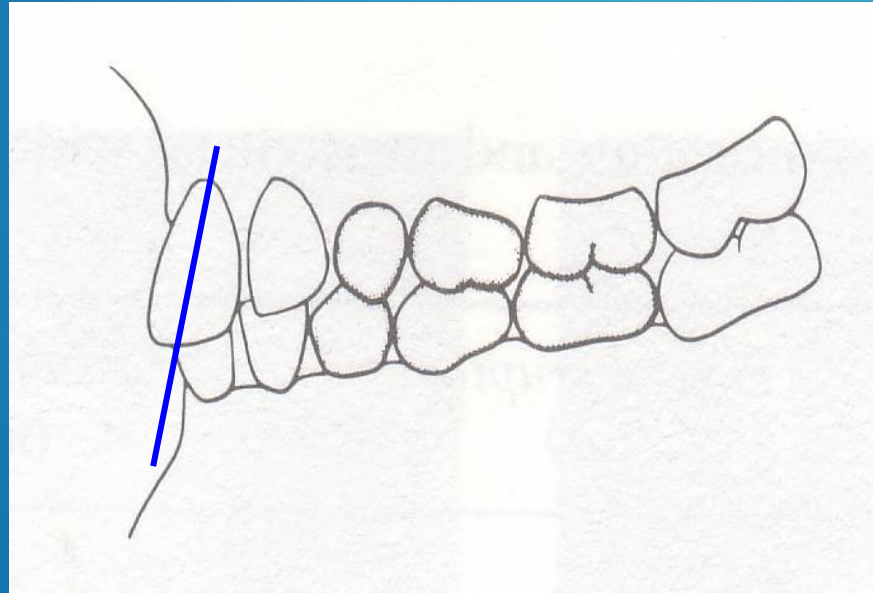


Closed dentition



No mesial shift

Early mixed dentition : 6 to 9 years



8-9years

Incisal liability

- Sum of MD width of

BA	AB
----	----

 = X
- Sum of MD width of
- | | |
|----|----|
| 21 | 12 |
|----|----|

 = Y
- $Y > X$
- Tooth size difference is about 6-7 mm.





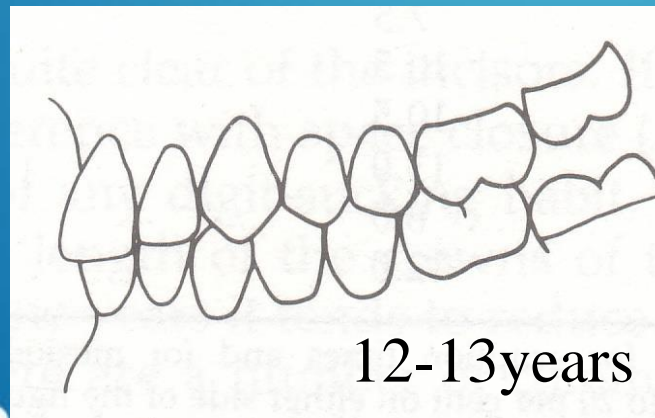
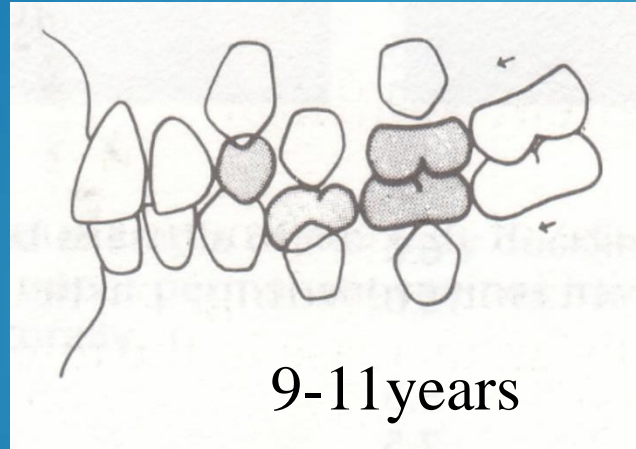
Incisor liability adjustment:

- Interdental spacing: 2-3 mm
- Inter canine arch growth: 3-4 mm
- Incisor labiality: 1-2 mm

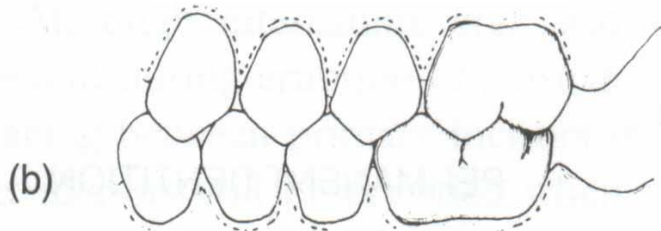
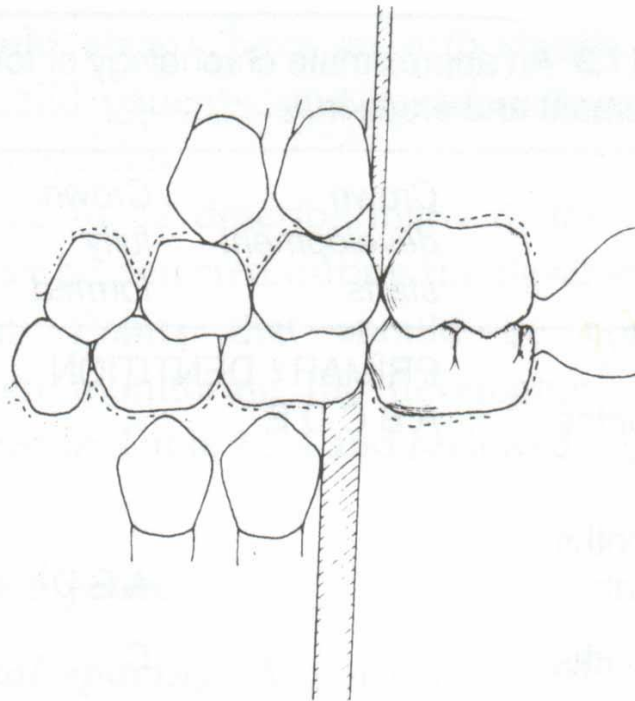




Late mixed dentition : 9-12 years



Leeway space of nance



- Sum of MD width of EDC
is greater EDC
than sum of MD width of
543
543

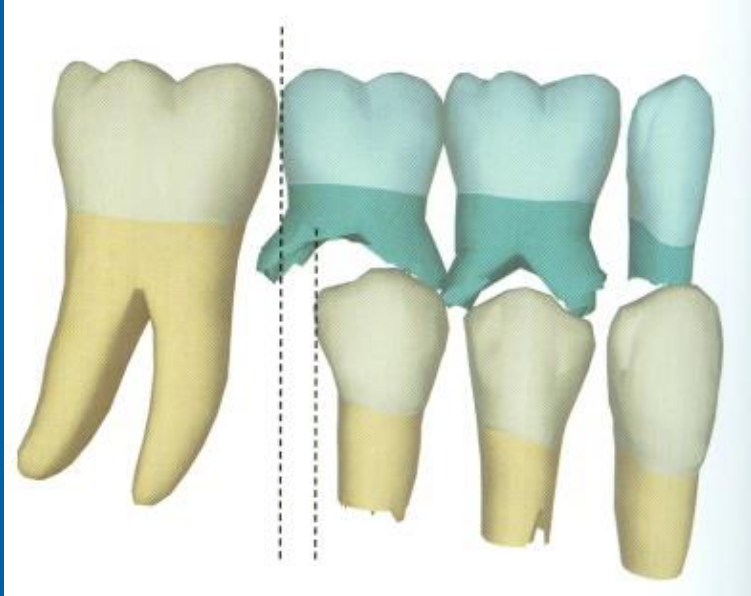
Maxilla = 0.9mm/1.8mm

Mandible = 1.7mm/3.4mm

- Late mesial shift



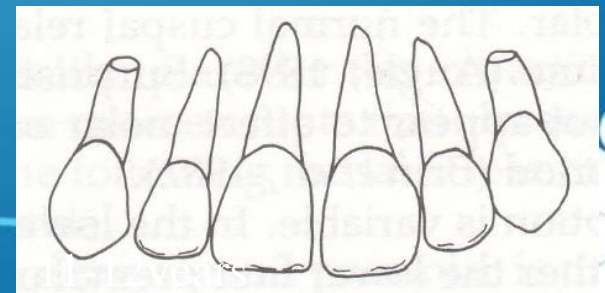
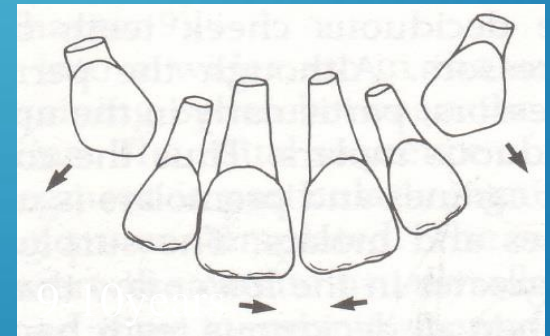
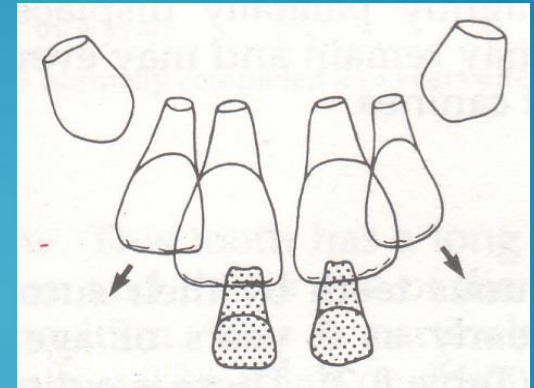
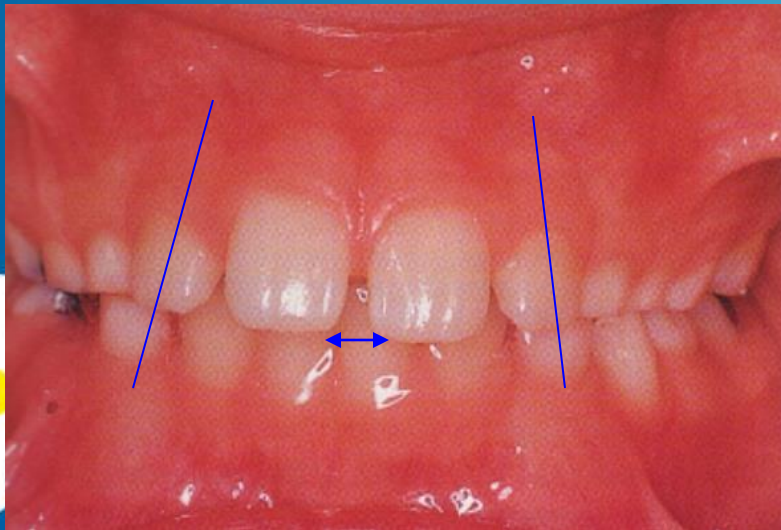
Leeway space of Nance



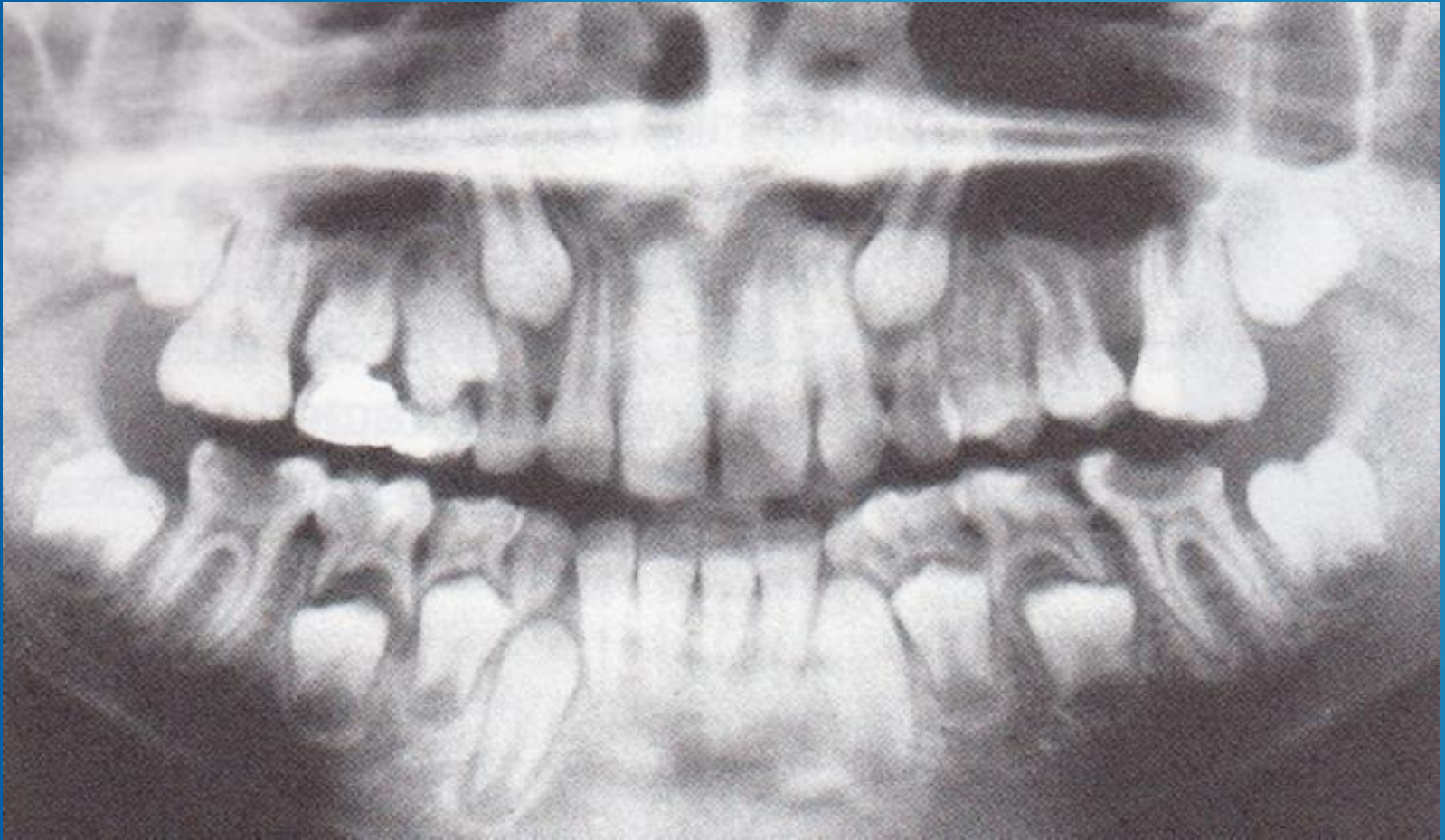


Ugly duckling stage (Broadbent phenomenon): 9-11years

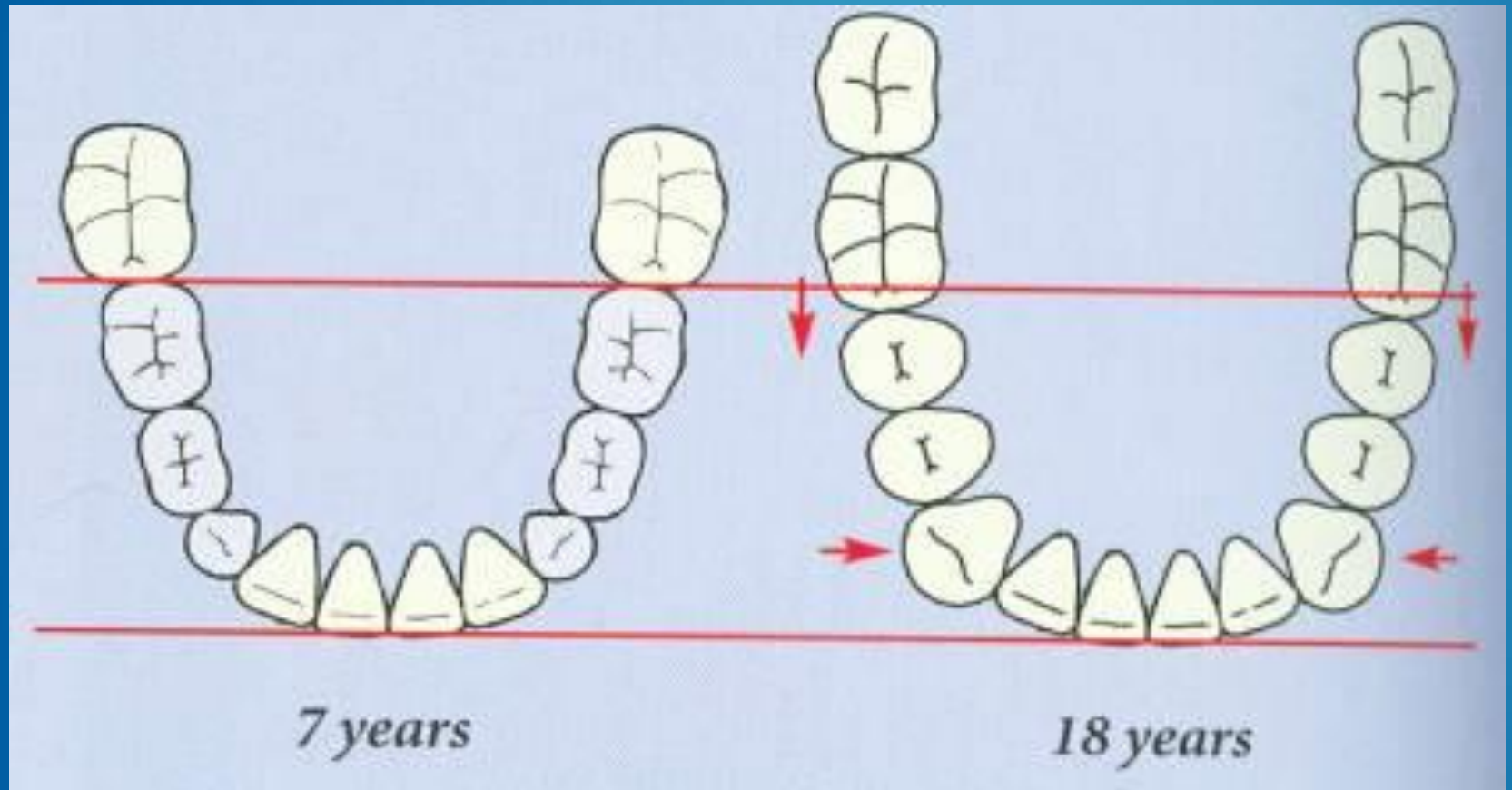
- Flaring of the upper central and lateral incisors

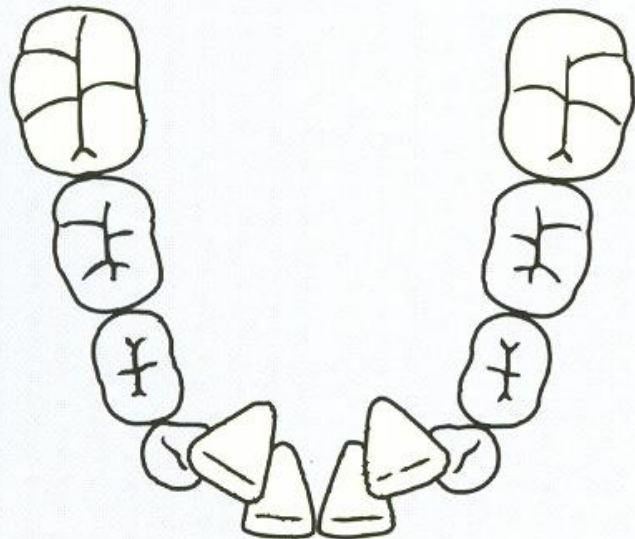
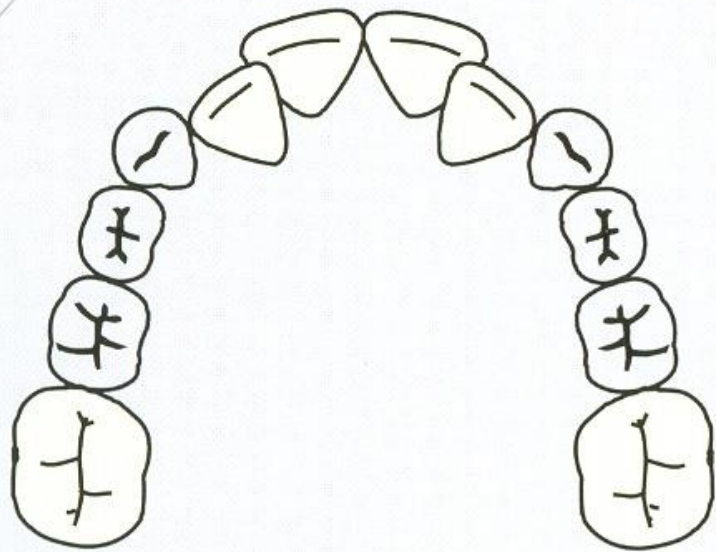


Ugly duckling stage

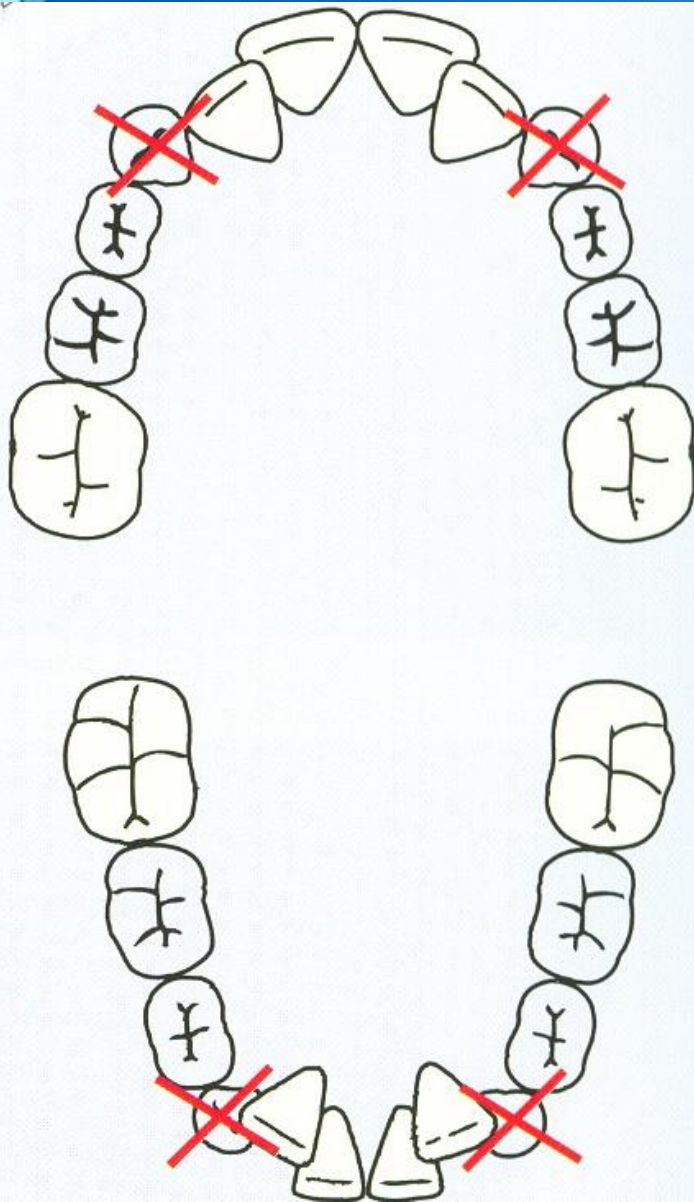


Dimensional changes: 6-18 years



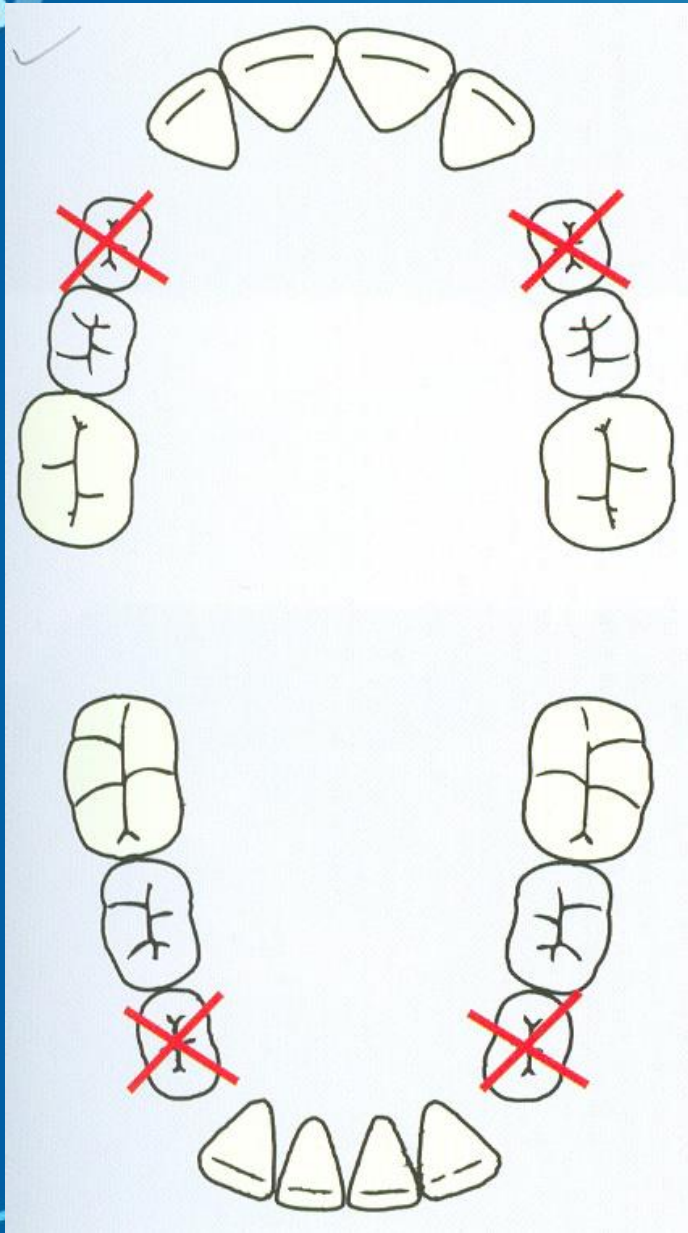


Serial extraction



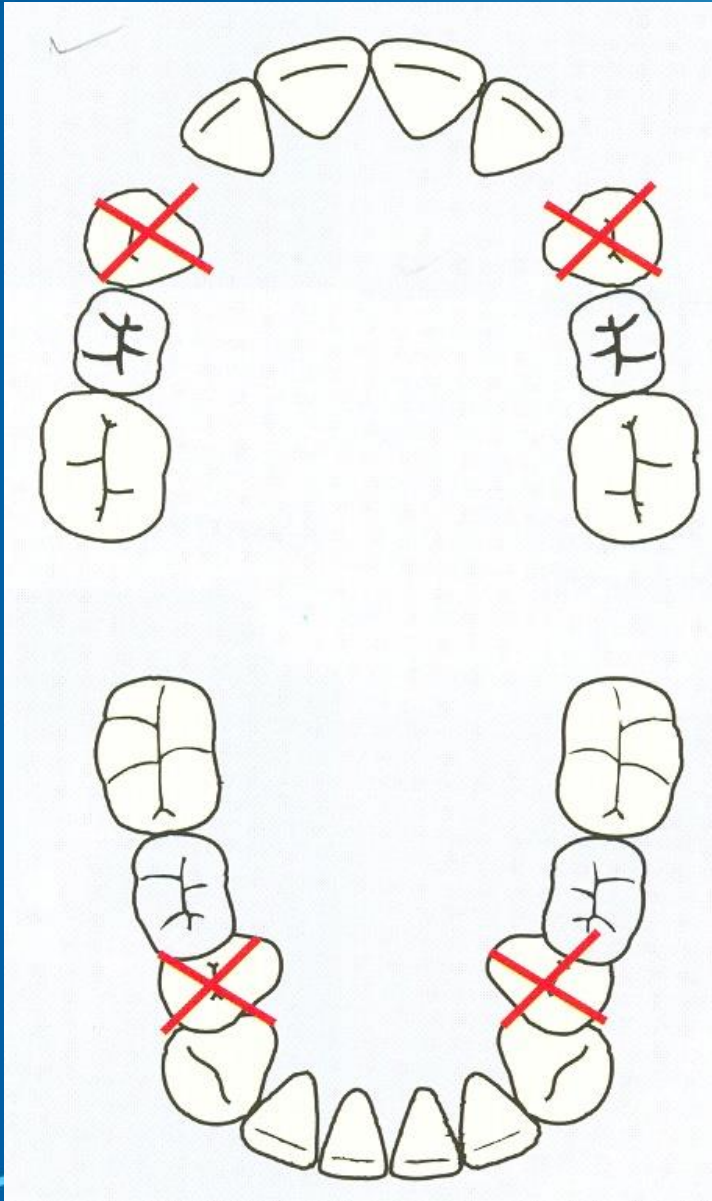
Rationale:

- Allow eruption and optimal alignment of the lateral incisors



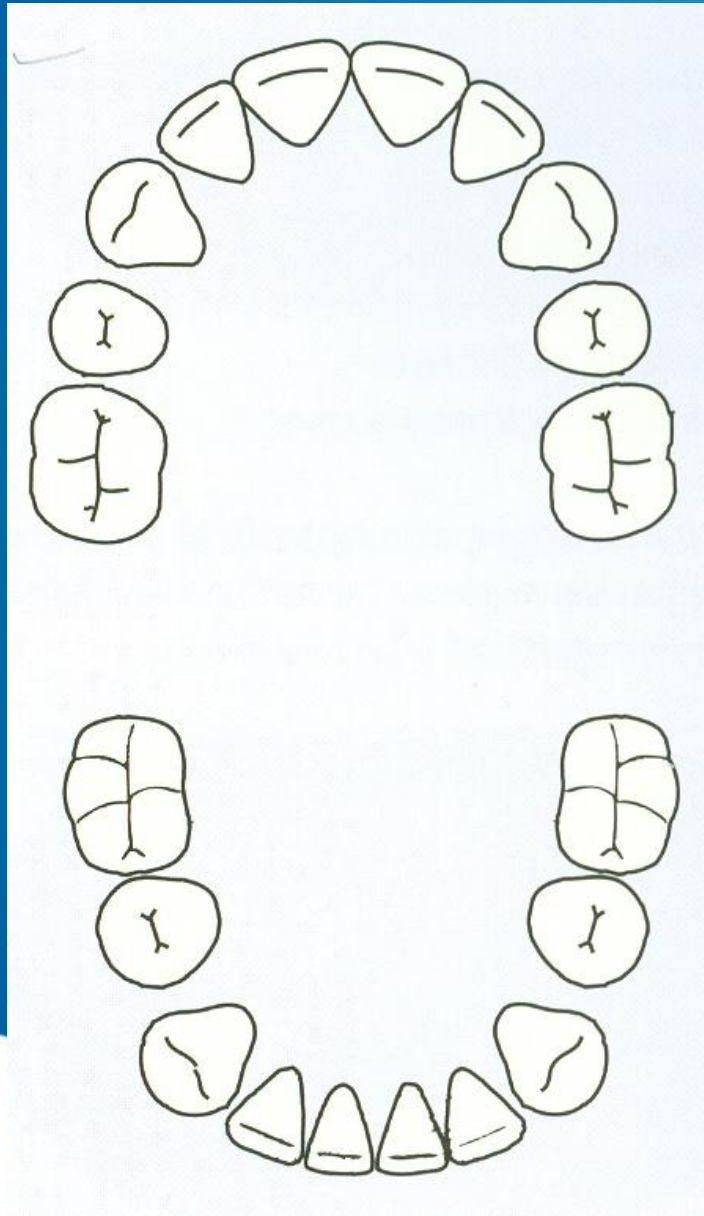
Rationale:

- To accelerate the eruption of 1st premolar , ahead of the permanent canines if possible



Rationale:

- To allow the erupting canine to drift distally into the premolar space.



Final outcome

1. Aligned incisors
2. Missing first premolar
3. Spacing in the posterior segment
4. Canine occupying space of 1st premolar



Other interceptive procedures



Habit breaking appliance

TONGUE THRUSTING





Fixed intra oral appliance



Blue grass appliance



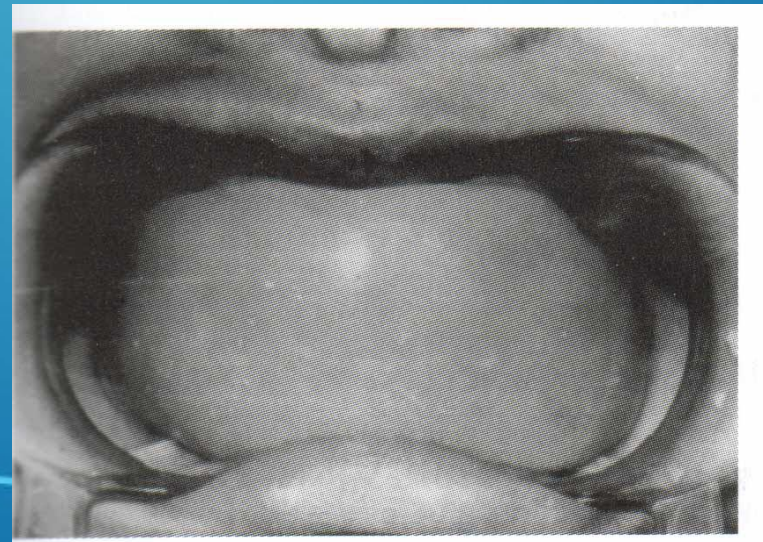
Digit sucking



Mouth breathing

Etiology

1. Deviated nasal septum
2. Allergic rhinitis, nasal polyps
3. Enlarged adenoids or tonsils
4. Short upper lip preventing lip seal
5. Obstruction in the bronchial tree



Oral screen





Lip bumper

Before



After





Anterior crossbite

- Tongue blade therapy
- Lower inclined plane(catalan's appliance)
- Removable Hawley's appliance
- Fixed appliances





Anterior crossbite

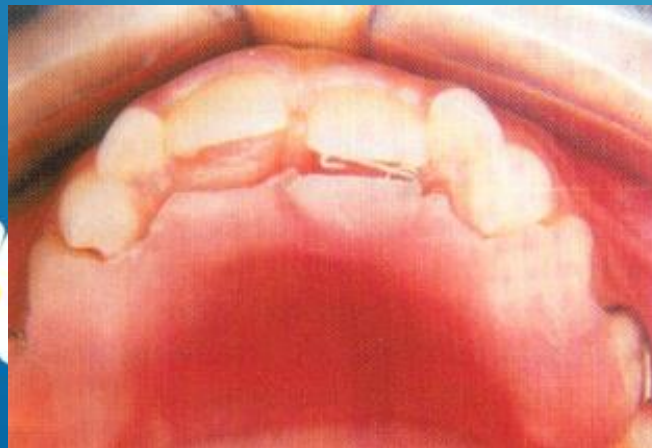
Before



After



Appliance used







Lower inclined plane (catalan's)





Pre treatment



Post treatment



Developing anterior crossbite



Tongue blade therapy



Posterior Cross bite





Management of premature loss of primary teeth in mixed dentition

- Space supervision
- Space maintainer
- Space regainer



Space maintainers for unilateral single tooth loss in the posterior region



Distal Shoe Space Maintainer

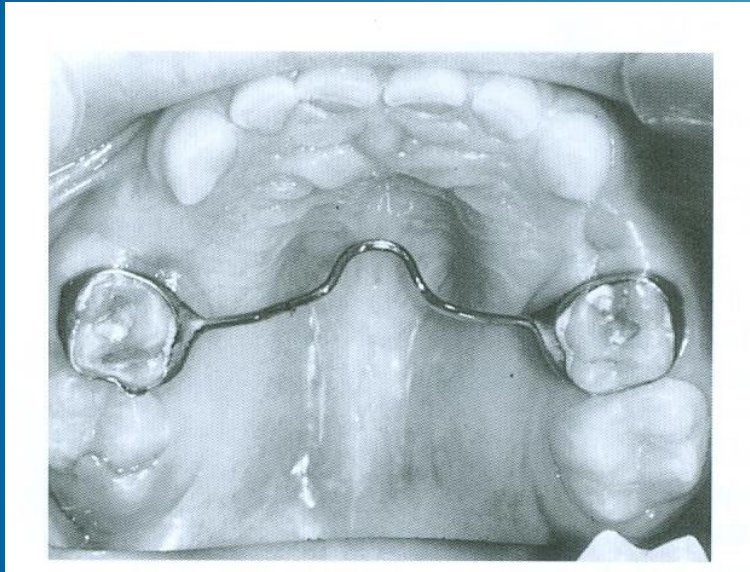


Lower Lingual Holding Arch

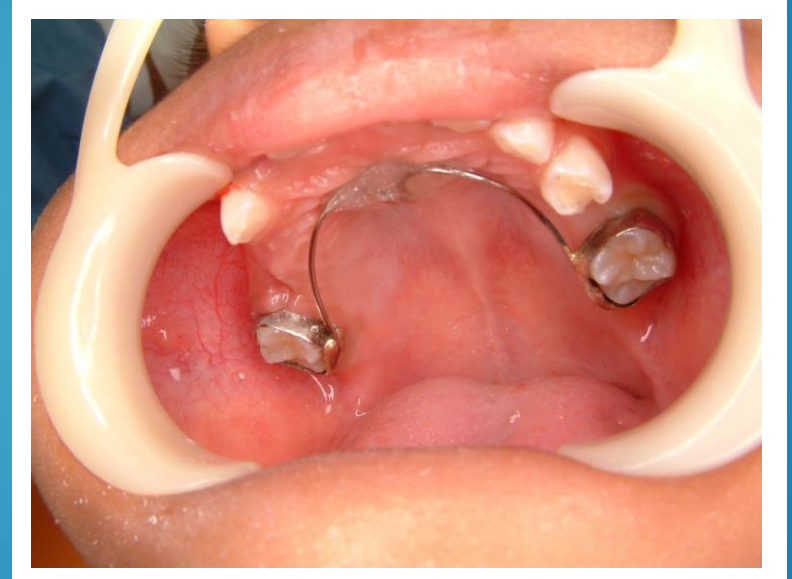
Bilateral loss in lower arch




Bilateral loss in the upper arch



Transpalatal Arch (Bar)



Nance Appliance



Fixed Space Maintaining for Anterior teeth



Bonded Space Maintainer



Preformed space maintainer



Fixed space regainers



Lip bumper





conclusions

Guiding developing dentition from primary to permanent teeth enables clinicians to achieve proper occlusion and minimizing the need for major orthodontic intervention whenever required.



Giving



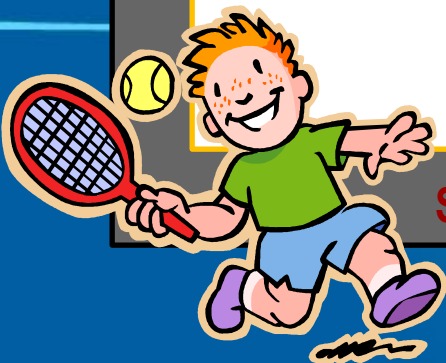
Learning



Respect



Playing



Sharing



Caring



Great Day

Thank you