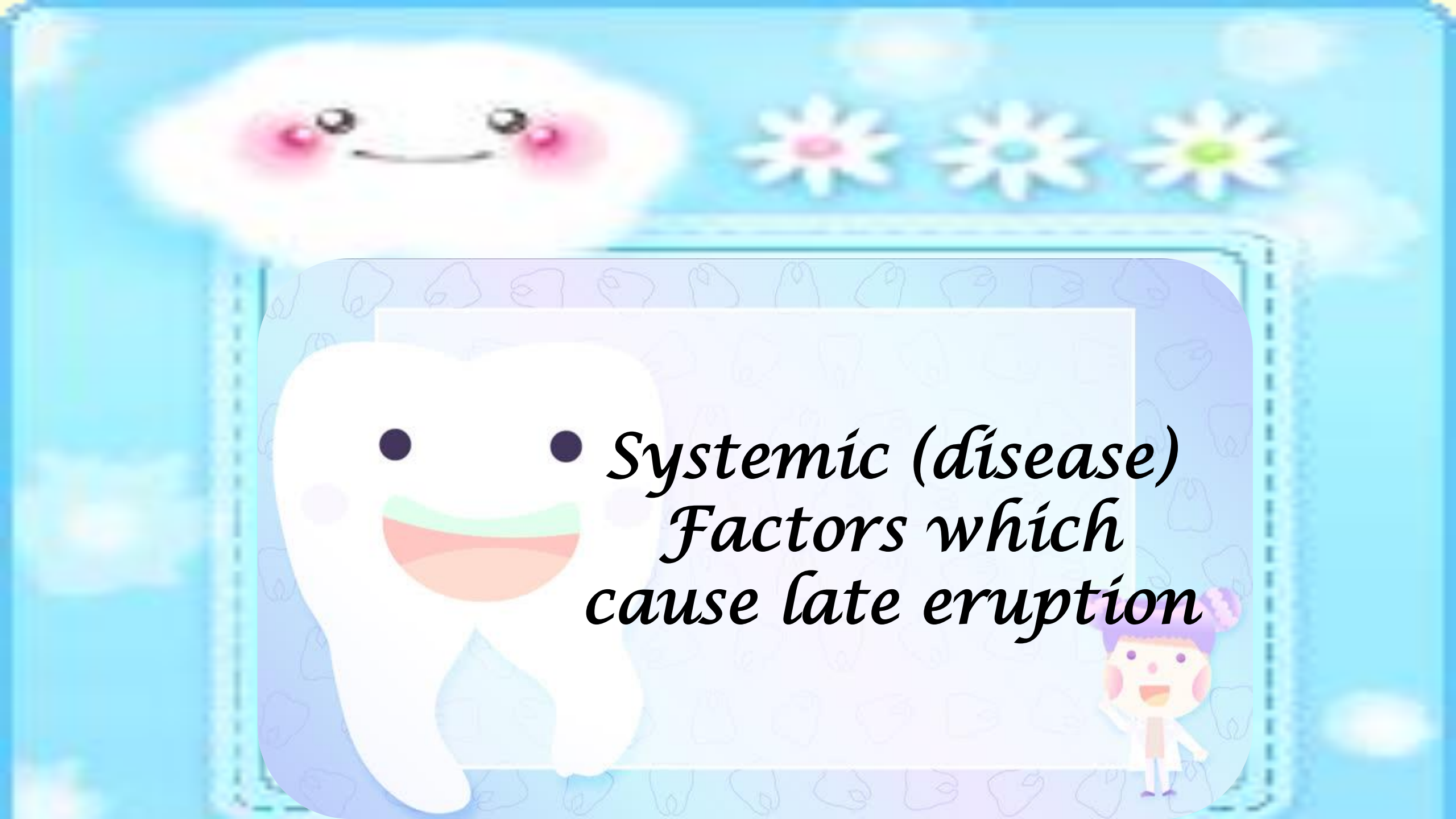


- 
- *Systemic (disease)
Factors which
cause late eruption*

Down syndrome (trisomy 21)

is a condition in which extra genetic material causes delays in the way a child develops, both mentally and physically.

- The physical and medical of Down syndrome can vary widely from child to child. While some kids with DS need a lot of medical attention, others are healthy.



Medical conditions that occur more frequently in infants and children with Down syndrome and increase the mortality of these individuals include cardiac defects, leukemia, and upper respiratory infections.



There are specific facial characteristics, ocular anomalies and premature fusion of the cranial sutures in these patients

Oral findings include

*mouth breathing, open bite, appearance of macroglossia, fissured lips and tongue, angular cheilitis, delayed eruption times, **Supernumerary teeth** missing and malformed teeth, oligodontia, small roots, microdontia, crowding, and a low level of caries.*

Children with Down syndrome experience a high incidence of rapid, destructive periodontal disease, which may be related to local factors such as tooth morphology, bruxism, malocclusion, and poor oral hygiene.



CLEIDOCRANIAL DYSPLASIA

Definition



- **Cleidocranial Dysplasia** (*cleido* = collar bone, + *cranial* head, + *dysplasia* = abnormal forming) , also known as **Cleidocranial Dysostosis**, is a condition characterized by defective development of the cranial bones and by the complete or partial absence of the collar bones (clavicles).
- It is also characterized by late ossification of cranial sutures and delayed tooth eruption.

Dental Correlation



Dental abnormalities seen in cleidocranial dysplasia may include:

- Delayed loss of the primary teeth
- Delayed appearance of the secondary teeth
- Unusually shaped, peg-like teeth
- Misalignment of the teeth and jaws (malocclusion)
- Supernumerary teeth, sometimes accompanied by cysts in the gums.

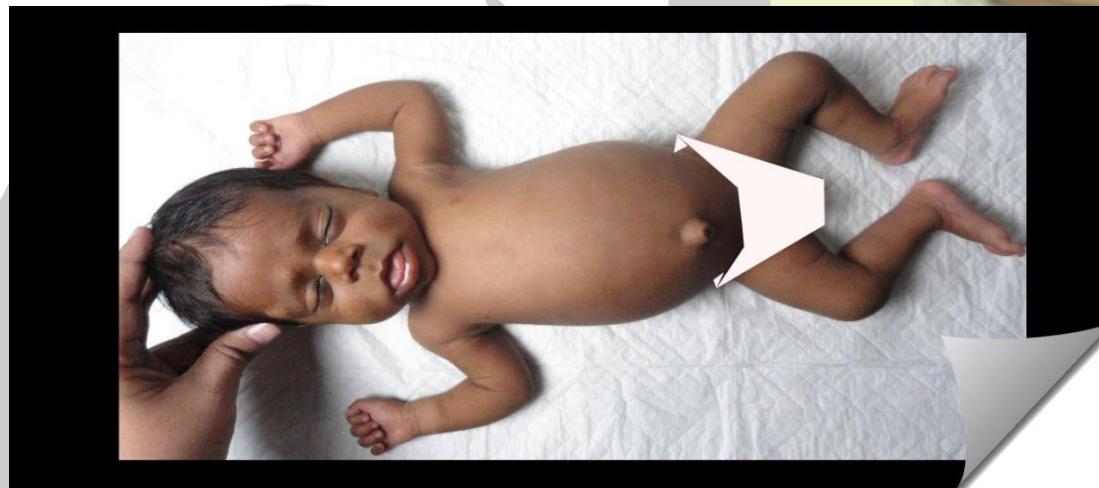


HYPOTHYROIDISM

Congenital Hypothyroidism (Cretinism)

Occurring at birth and during the period of most rapid growth, if undetected and untreated, causes mental deficiency and dwarfism. This condition was referred to as cretinism. 1. Congenital hypothyroidism is the result of an absence or underdevelopment of the thyroid gland and insufficient levels of thyroid hormone. 2. Child with congenital hypothyroidism is a small and disproportionate person, with abnormally short arms and legs. 3. The head is disproportionately large, although the trunk shows less deviation from the norm. 4. Obesity is common.

Congenital Hypothyroidism



Congenital Hypothyroidism



5. The dentition of the child with congenital hypothyroidism is delayed in all stages, including eruption of the primary teeth, exfoliation of the primary teeth, and eruption of the permanent teeth.

6. The teeth are normal in size but are crowded in jaws that are smaller than normal.

7. The tongue is large and may protrude from the mouth. The abnormal size of the tongue and its position often cause an anterior open bite and flaring of the anterior teeth.

8. Tooth crowding, malocclusion, and mouth breathing cause a chronic hyperplastic type of gingivitis.



Juvenile Hypothyroidism (Acquired Hypothyroidism)

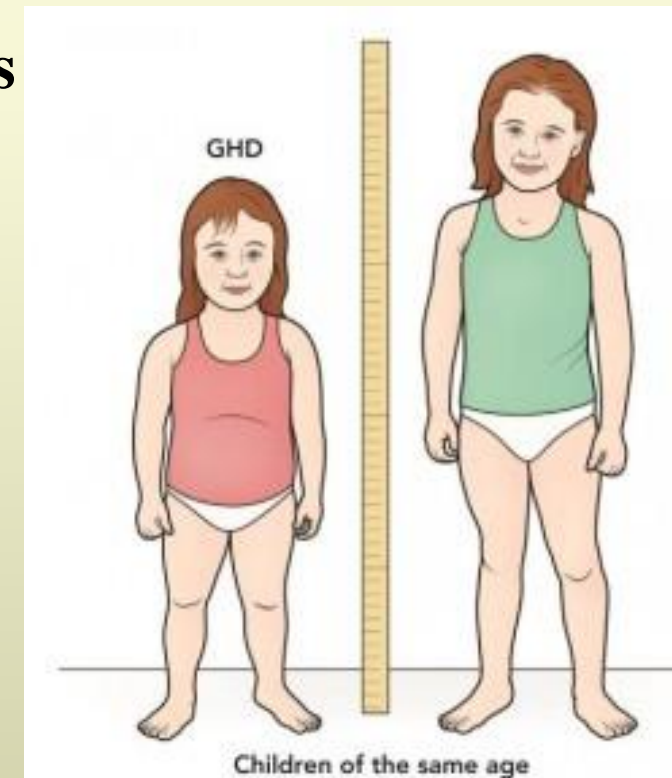
It results from a malfunction of the thyroid gland, usually between 6 and 12 years of age. Because the deficiency occurs after the period of rapid growth, the unusual facial and body patterns characteristic of a person with congenital hypothyroidism are not present. However, obesity is evident to a lesser degree. In untreated juvenile hypothyroidism, delayed exfoliation of the primary teeth and delayed eruption of the permanent teeth are characteristic. A child with a chronologic age of 14 years may have a dentition in a stage of development comparable with that of a child 9 or 10 years of age.



HYPOPITUITARISM

1. A pronounced deceleration of the growth of the bones and soft tissues of the body will result from a deficiency in secretion of the growth hormone.
2. Pituitary dwarfism is the result of an early hypofunction of the pituitary gland.
3. An individual with pituitary dwarfism is well proportioned but resembles a child of considerably younger chronologic age.
4. The dentition is essentially normal in size.
5. Delayed eruption of the dentition is characteristic. In severe cases the primary teeth do not undergo resorption but instead may be retained throughout the life of the person.

The underlying permanent teeth continue to develop but do not erupt. Extraction of the deciduous teeth is not indicated because eruption of the permanent teeth cannot be ensured.



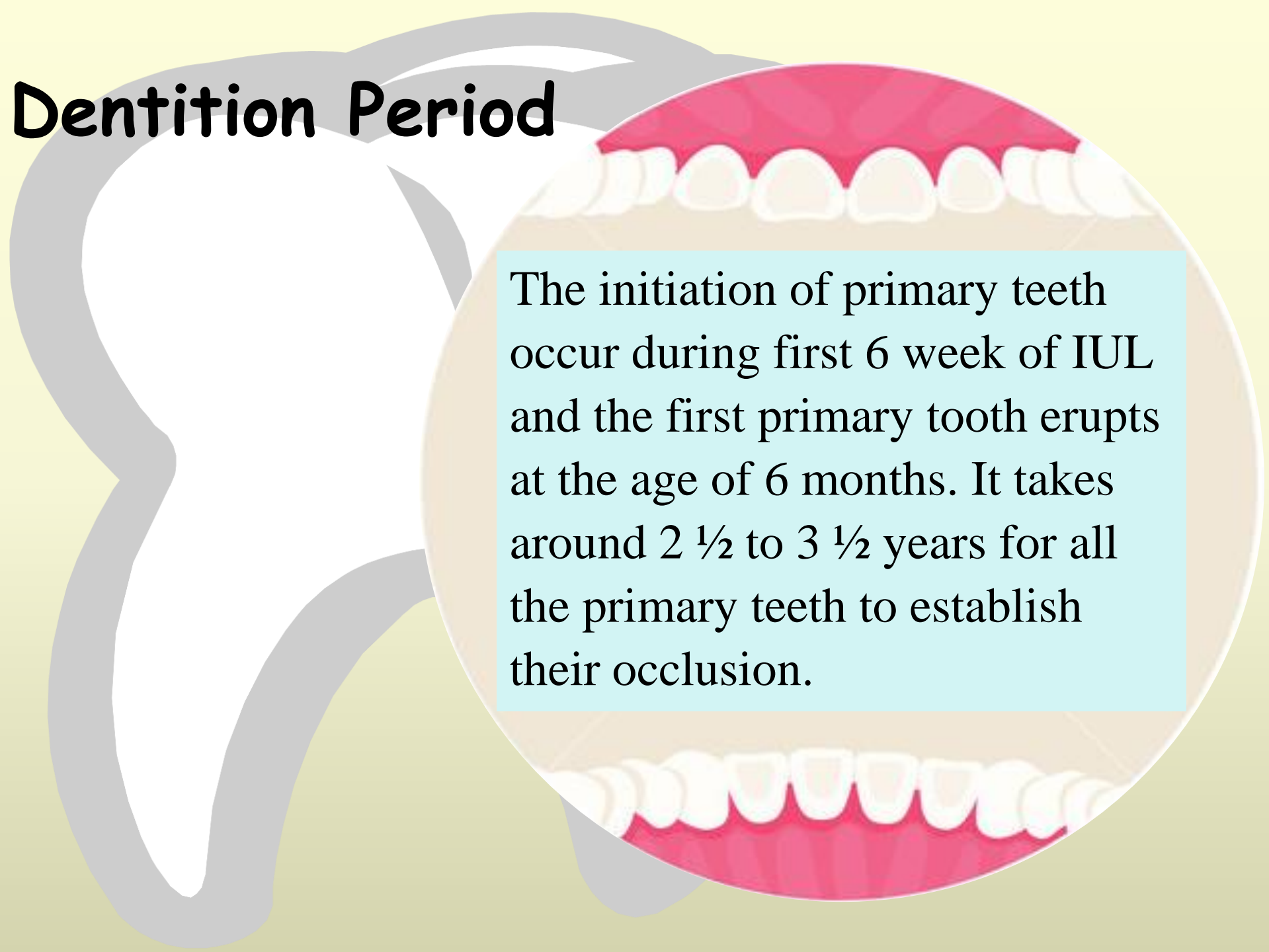
ACHONDROPLASTIC DWARFISM

1. Easily diagnosed at birth, demonstrates a few characteristic dental findings.
2. Many children die during first year of life.
3. Growth of the extremities is limited because of a lack of calcification in the cartilage of the long bones. Stature improvements have been reported with surgical lengthening of the limbs and also with growth hormone therapy.
4. The head is disproportionately large, although the trunk is normal in size.
5. The fingers may be of almost equal length, and the hands are plump.
6. The fontanelles are open at birth.
7. The upper face is underdeveloped, and the bridge of the nose is depressed.
8. The etiology of achondroplastic dwarfism is unknown, it is clearly an autosomal-dominant disorder. There is some evidence that the condition is more likely to occur when the ages of the parents differ significantly. In contrast to DS, the increased age of the father may be related to the occurrence of the condition.



Deciduous Dentition Period

The initiation of primary teeth occur during first 6 week of IUL and the first primary tooth erupts at the age of 6 months. It takes around 2 ½ to 3 ½ years for all the primary teeth to establish their occlusion.

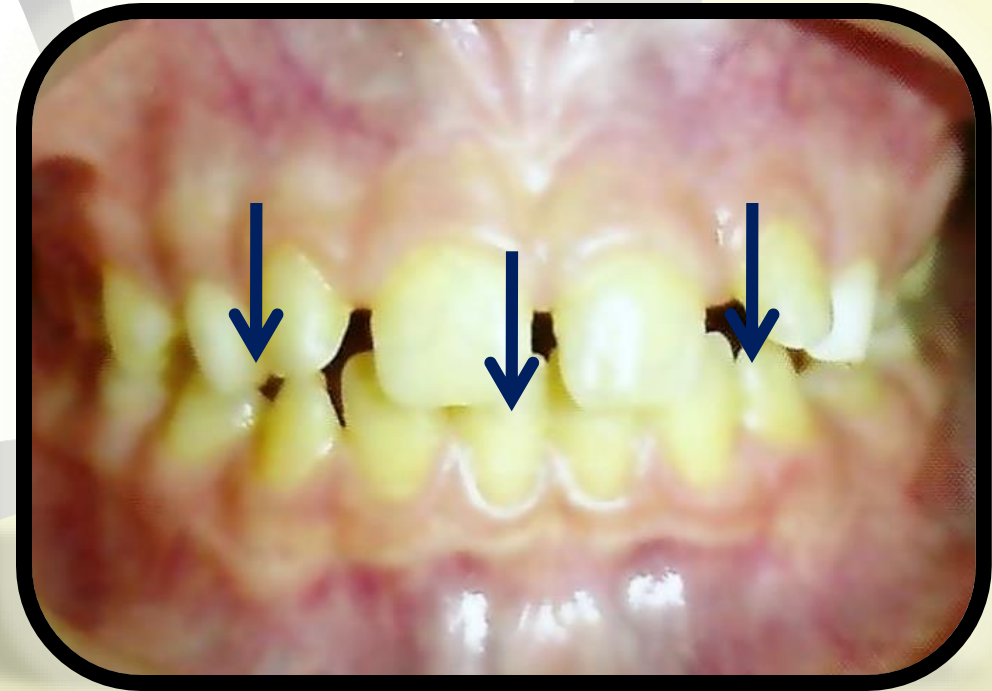


Ugly Duckling Stage (Broadbent's phenomenon)

Around the age of 8 - 9 years, a midline diastema is commonly seen in the upper arch, which is usually misinterpreted by the parents as a malocclusion.

Its typical features are:

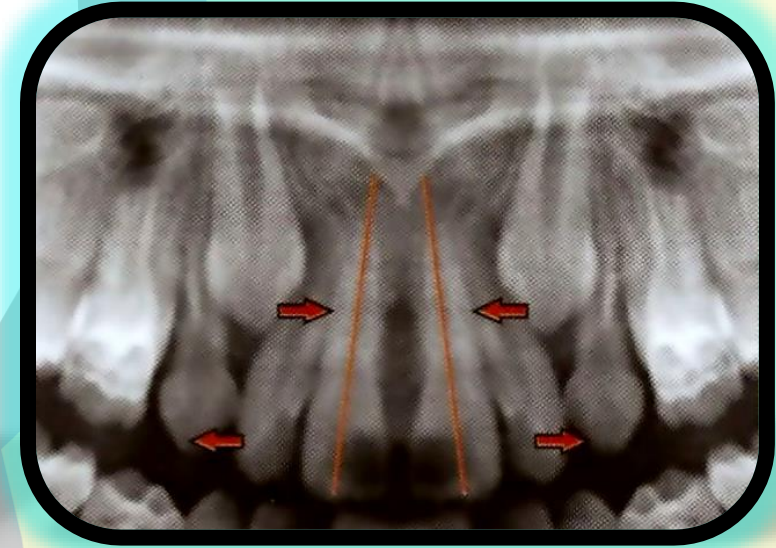
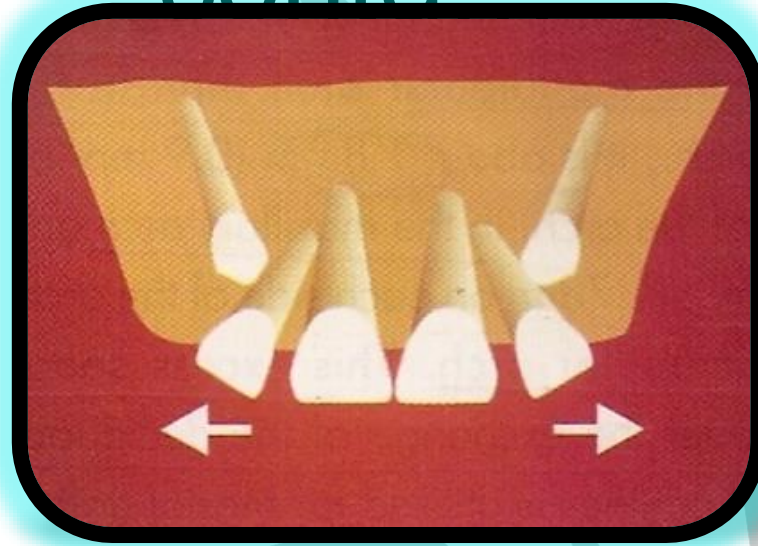
- Flaring of the lateral incisors.
- Maxillary midline diastema.



Ugly Duckling Stage

contd

Crowns of canines on young jaws impinge on developing lateral incisor roots, thus driving the roots medially and causing the crowns to flare laterally.



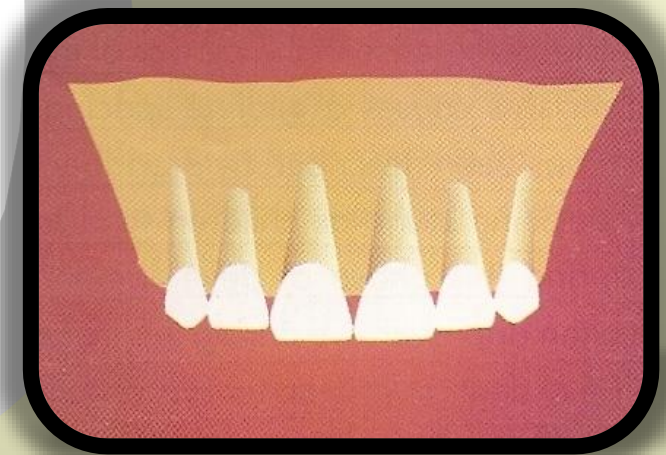
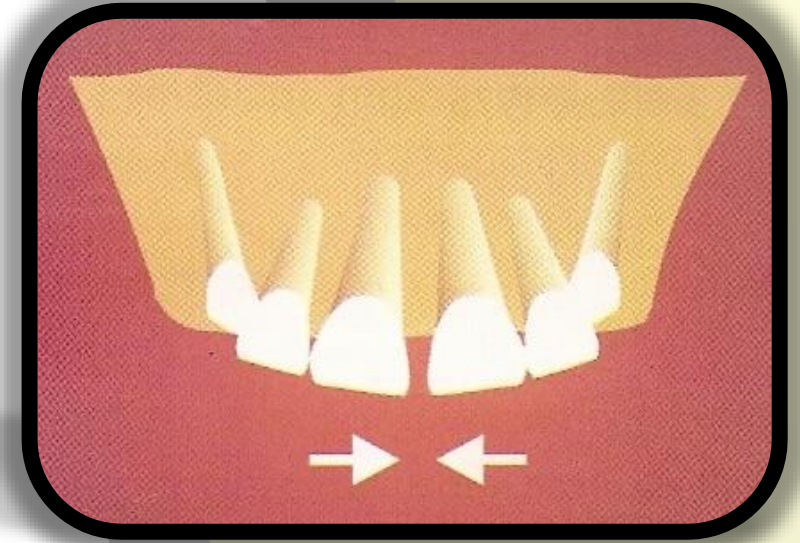
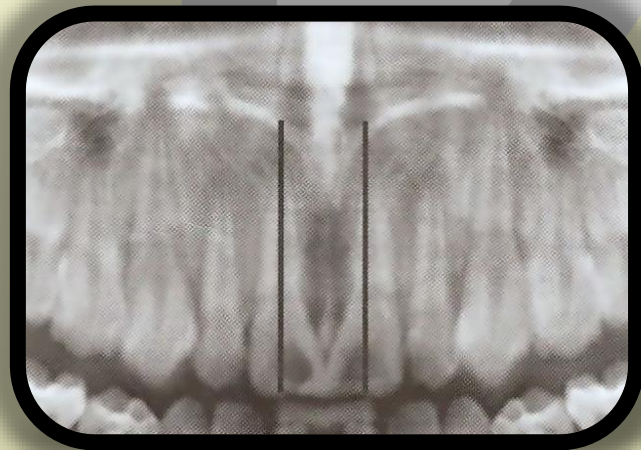
The roots of the central incisors are also forced together, thus causing a maxillary midline diastema.



Ugly Duckling Stage

contd...

With the eruption of the canines, the impingement from the roots shift incisally thus driving the incisor crowns medially, resulting in closure of the diastema as well as the correction of the flared lateral incisors.



THE END
THANK YOU

