

# **PHYSIOLOGIC TOOTH MOVEMENT—SHEDDING**



# Shedding(exfoliation)

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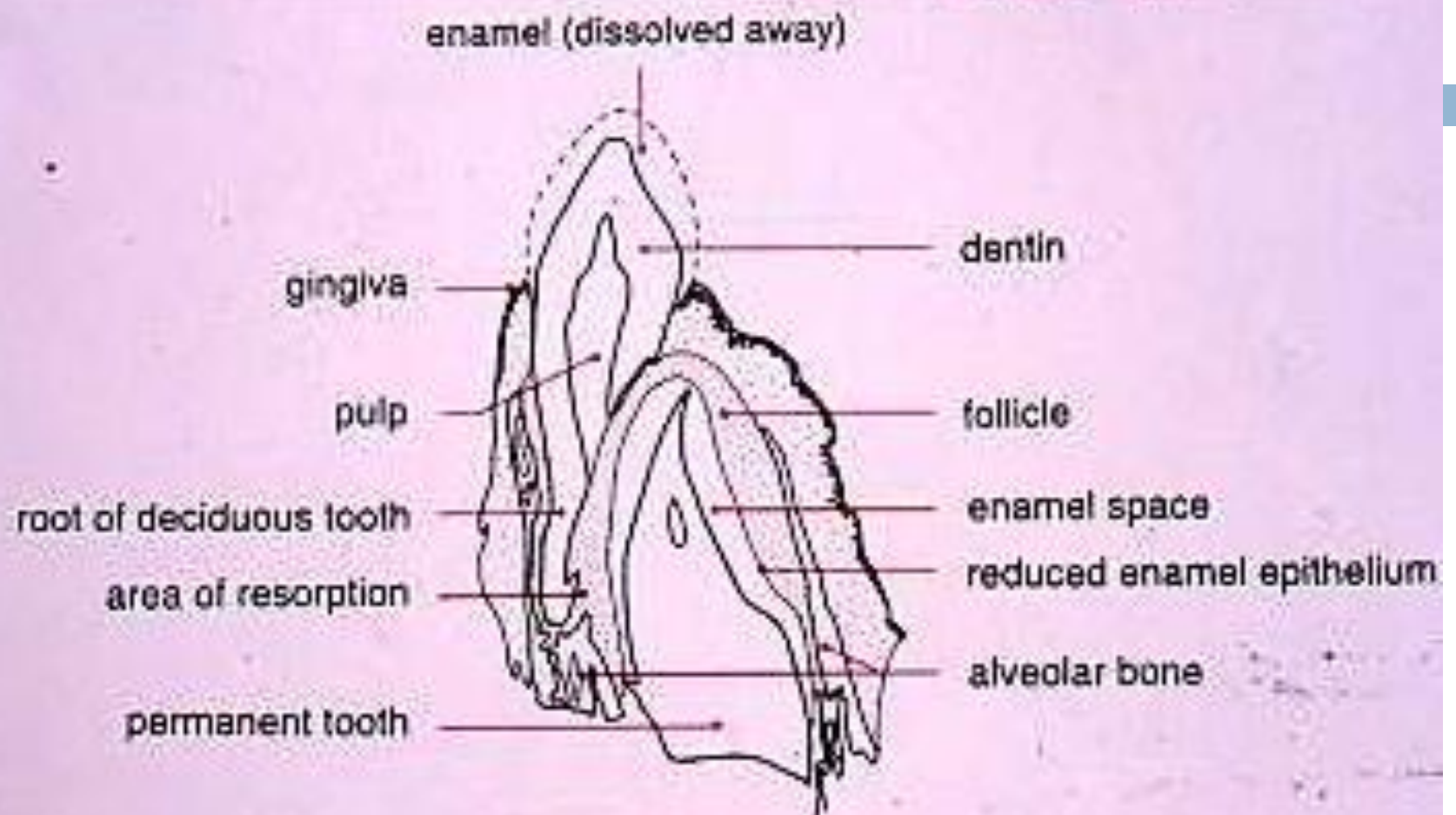
- Gradual removal of roots and alveolar bone

## Significance of shedding

- A. To accommodate the growing jaw, thus , another generation of teeth is needed to fulfill this requisite
- B. To withstand the masticatory force by growth of muscle of mastication from infant to adult .

- Single-rooted teeth are usually shed before root resorption is complete, therefore odontoclasts are not found within pulp chamber of these teeth and the odontoblasts layer remains intact.
- In molars, however, the roots are usually completely resorbed and the crown is also partially resorbed before shedding.





**Fig. 1.6** Sagittal section through the jaw of a 6-year-old child showing resorption of a deciduous incisor by the permanent

# Shedding of teeth

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Factors related to shedding

include

1. presences of odontoclasts
2. presences of pressure

# odontoclasts

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Includes

1. Cementoclast
2. Dentinoclast



# Histology of shedding

- Odontoclasts(characteristic features)

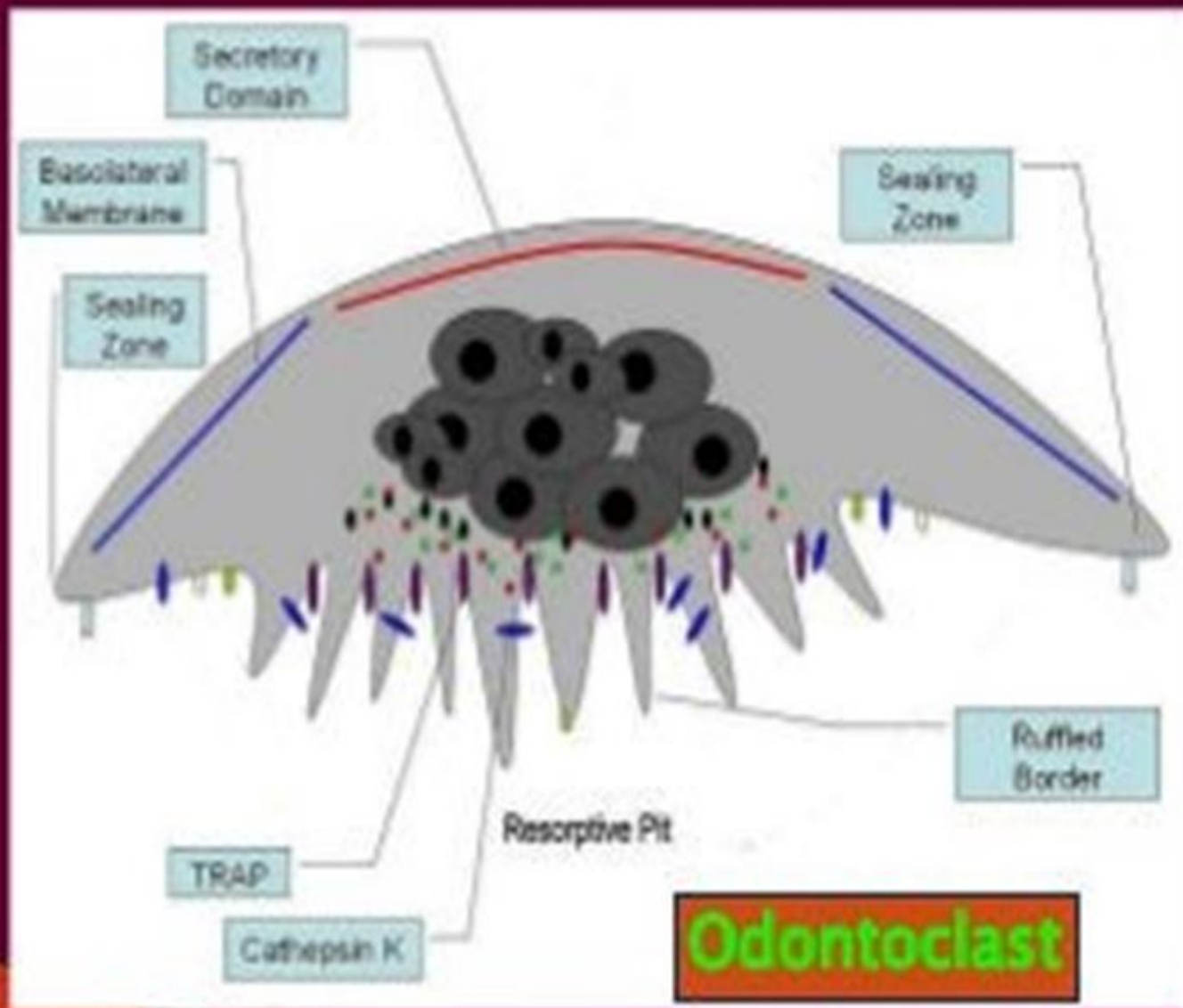
Large multinucleated cell

Cytoplasm of vacuole

Dense mitochondria

Brush border surface

Acid phosphatase



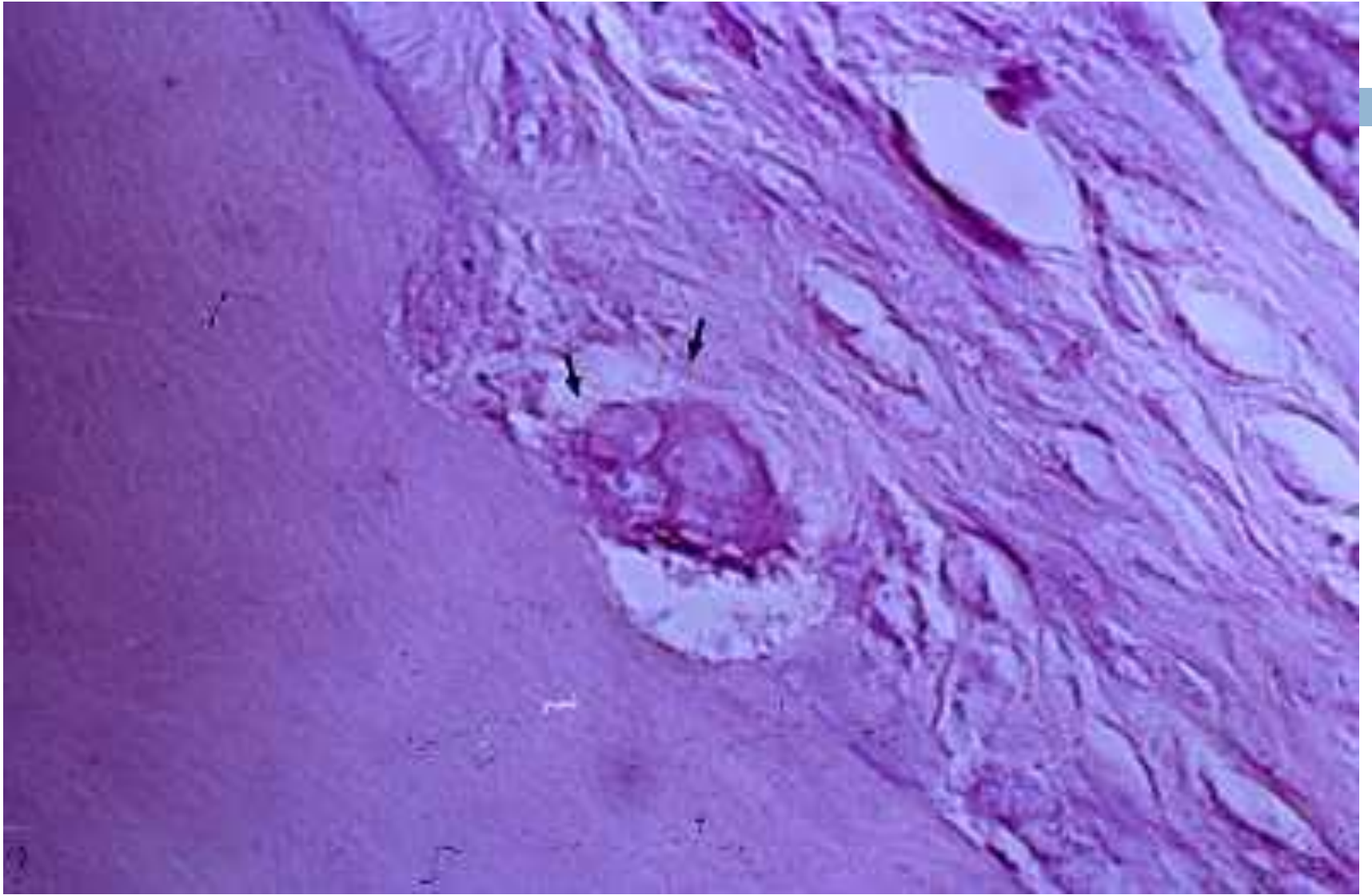
# Odontoclasts

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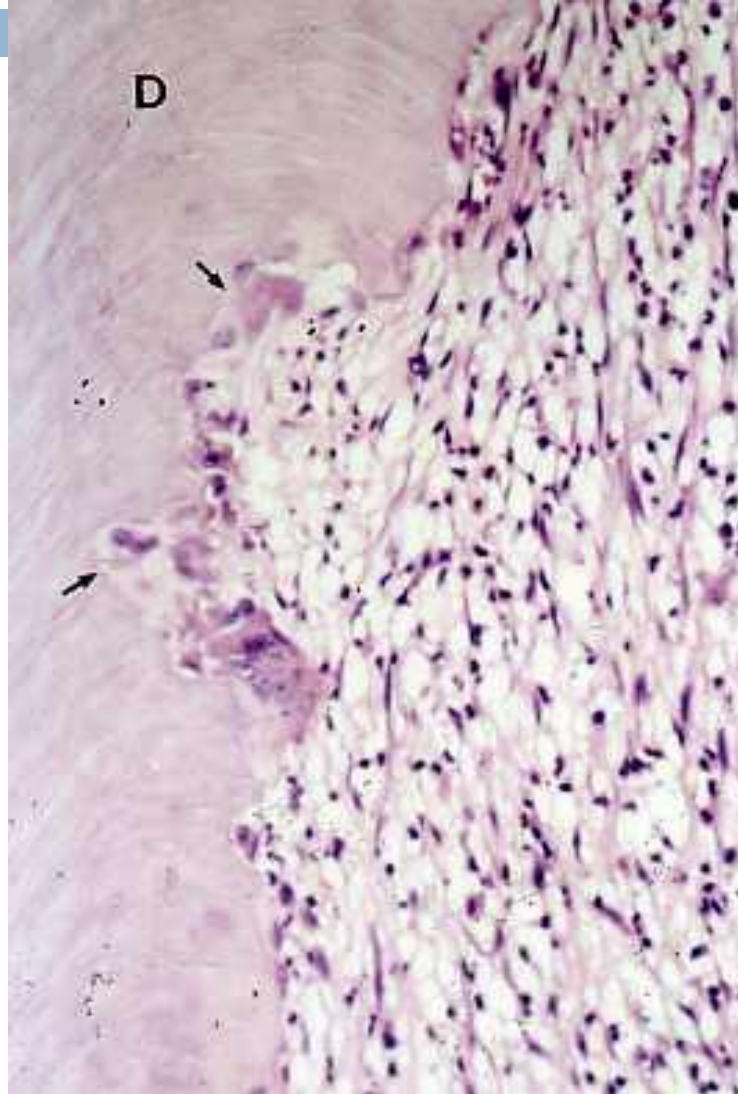
resorption bay (Howship's lacunae)

brush border (ruffled border ; microvilli )

acid phosphatase



# dentinoclast



# Shedding of deciduous



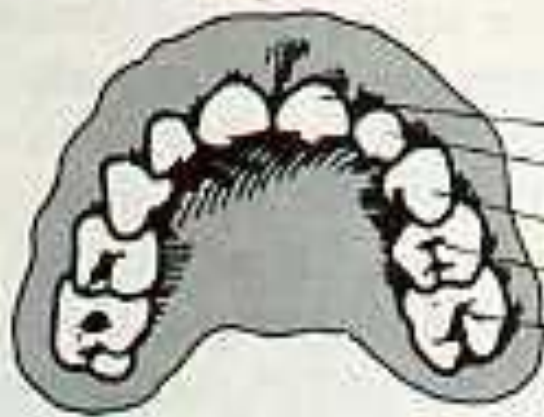


# Resorbed roots of deciduous teeth





# Eruption and shedding of primary teeth



## Upper teeth

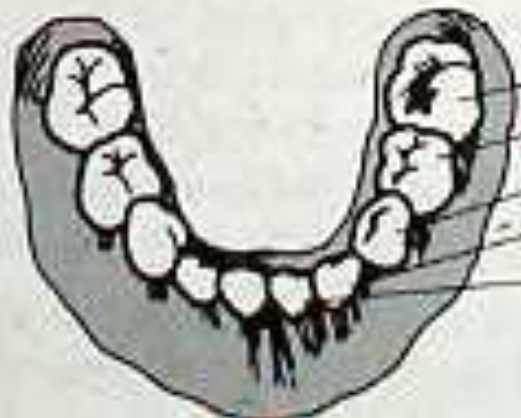
central incisor  
lateral incisor  
canine  
first molar  
second molar

## Eruption date

8-12 months  
9-13 months  
16-22 months  
13-19 months  
25-33 months

## Shedding date

6-7 year  
7-8 year  
10-12 year  
9-11 year  
10-12 year



## Lower teeth

second molar  
first molar  
canine  
lateral incisor  
central incisor

23-31 months  
14-18 months  
17-23 months  
10-16 months  
6-10 months

10-12 year  
9-11 year  
9-12 year  
7-8 year  
6-7 year

# Clinical consideration

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- Remnants of deciduous tooth
- Retained deciduous tooth
- Submerged deciduous tooth


# Remnants of deciduous tooth





# Retained Deciduous Teeth

- Deciduous teeth may be retained for a long time beyond their usual shedding time
- most often the **upper lateral incisor**, **less frequently the second permanent premolar**, especially in the mandible and **rarely the lower central incisor**

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- a. their successors are impacted.
  - b. most often the upper lateral incisor.
  - c. are without permanent successors.
  - d. retained for a long time beyond their usual shedding time.
  - e. their successors are ankylosed

# Retained deciduous tooth



# Retained deciduous tooth

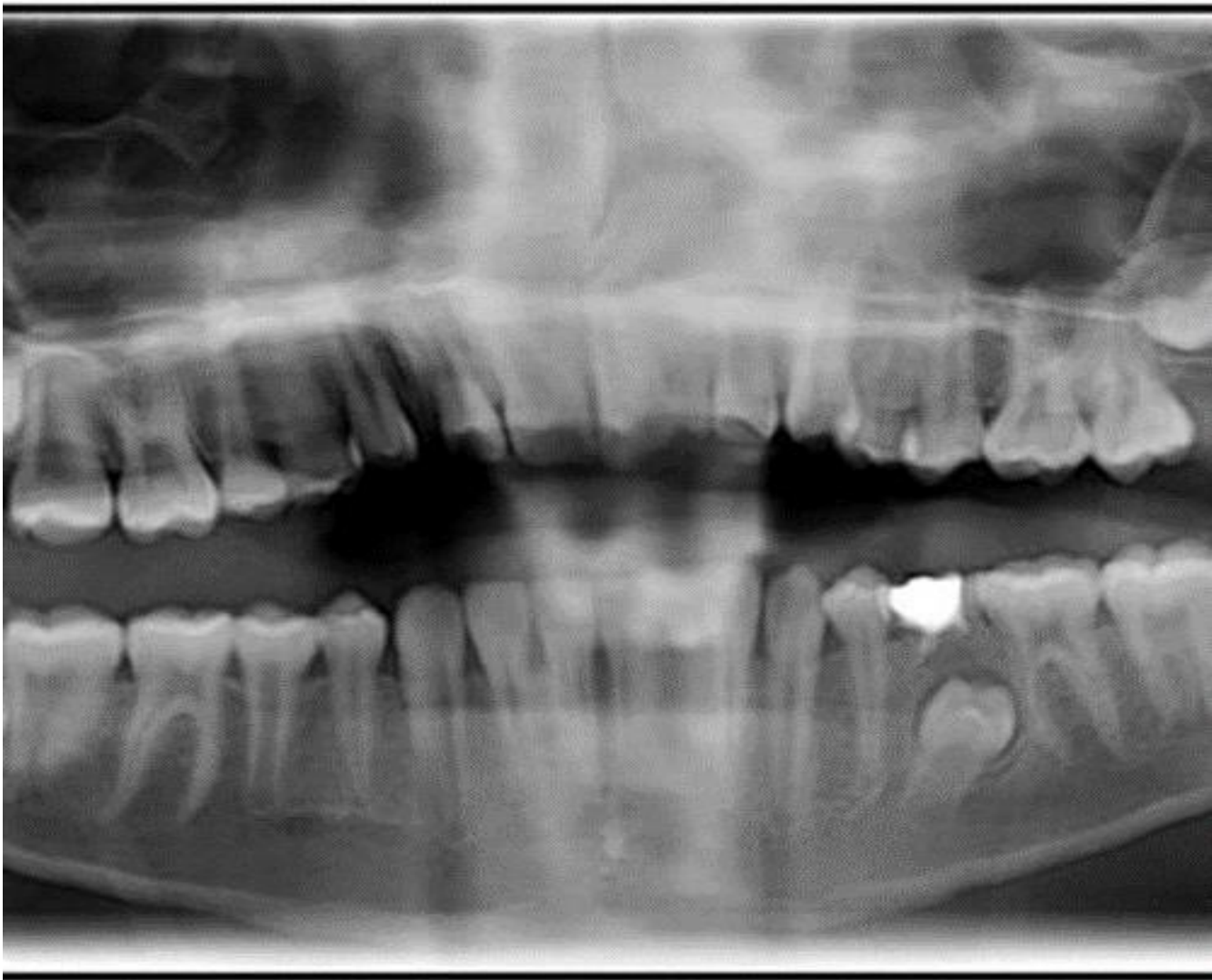






X- ray shows Retained deciduous tooth





# Submerged Deciduous Teeth

- Trauma may result in damage to either the dental follicle or the developing periodontal ligament. If this happens, the eruption of the tooth ceases, and it becomes ankylosed to the bone of the jaw

# Submerged deciduous tooth



# Thanks for your listening!

