

## Anatomy of Primary Teeth



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## Lecture Overview

- Primary Dentition
- General Morphological considerations
- Implications of Primary tooth morphology

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## Primary Dentition

- 20 primary teeth as compared to 32 permanent teeth
- No premolars in the primary dentition
- The primary molars are replaced by the premolars
- The permanent molars erupt distal to the primary second molars

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## General Morphologic considerations

- Crown
- Pulp
- Root



Fig 14-4 Comparison of the morphologic features of permanent teeth.

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## Crown of Primary Teeth

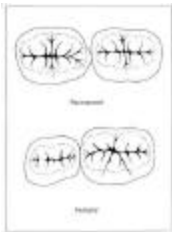


Fig 14-5 The crown of a primary tooth.

- Shorter
- Narrower occlusal table
- Constricted in the cervical portion
- Thinner enamel and dentin layers
- Enamel rods in the cervical area directed occlusally
- Broad and flat contacts
- Color is usually lighter

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## Crowns of Primary Teeth

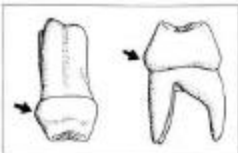


Fig 14-12 Prominent mesio-buccal cervical bulge seen in primary molars.

- Prominent mesio-buccal cervical bulge seen in primary molars
- Incisors have no developmental grooves or mammelons

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## Primary Crown Anatomy

- Mandibular Incisors- central is symmetrically flat when viewed from buccal, lateral has a more rounded DI angle
- Maxillary Incisors- central is only tooth that has a greater width than height
- Maxillary 1st Molar- unique look, 3 cusps
- Mandibular 1st Molar- 4 cusps, transverse ridge dividing occlusal surface

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## Primary Crown Anatomy

- Canines- maxillary is long and sharp, mandibular has similar shape but smaller
- Maxillary 2nd Molar - resembles permanent maxillary first molar but smaller
- Mandibular 2nd Molar- resembles permanent mandibular first molar but smaller

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## Pulp of Primary Teeth

- Relatively larger
- Pulp horns are closer to the outer surface
- Great variation in size and location
- Mesial pulp horn is higher
- Pulp chamber shallow
- Form of the pulp follows the external anatomy
- Usually a pulp horn under each cusp

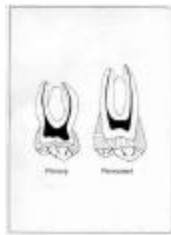


Fig 11.8 The primary maxillary and mandibular pulp horns (to be seen) are shown in the pulp chamber.

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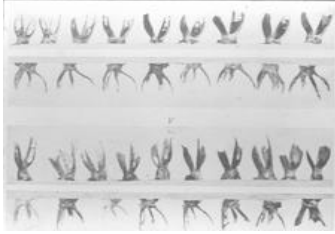
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## Pulpal Anatomy



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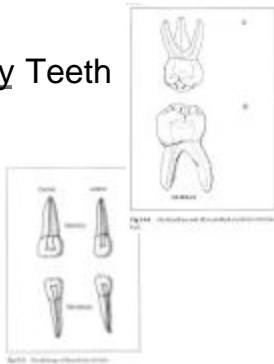
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## Roots of Primary Teeth

- Roots of anterior teeth are narrower mesio-distally
- Posterior teeth have longer and more slender roots in relation to crown size
- Molar roots flare more as they approach the apex
- Apical foramina may be larger and accessory canals often larger and more numerous



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## Implications of Primary tooth morphology

- The progress of caries is much faster in the primary dentition, so incipient lesions should be restored sooner than later!
  - Thinner enamel and dentin
  - Mesial pulp horn higher

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## Procedures in Primary Teeth

- Restorative Dentistry
  - Enamel is thinner, therefore modifications are necessary in the cavity prep
  - Broad contacts need to be restored
  - Beware of the mesio-buccal pulp horn
  - May need to do SSC if both proximal surfaces involved
  - Preserve the buccal cervical ridge to obtain mechanical retention for SSC

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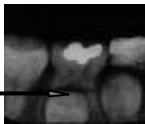
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## Procedures in Primary Teeth



- Surgical Procedures
  - Conical anterior roots facilitate easy removal
  - Flared roots of the molars - use caution as premolar buds are located between the roots
- Pulp Therapy
  - Pulpotomy- beware of perforations
  - Pulpectomy
    - Difficult on molars due to tortuous and irregular pulp canals
    - Beware of tooth buds

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## Summary

- Primary teeth have
  - Thinner enamel and dentin layers
  - Pulp horns closer to the outer surface
  - Mesial pulp horn much higher
  - Relatively larger pulps
  - Enamel rods direct slightly occlusally in the cervical area
  - Cervical area is constricted significantly
  - Roots flare as they approach the apex
  - More tortuous and irregular pulp canals

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