



Anatomy of Primary Teeth

Theory and Practice of Pediatric
Dentistry

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Lecture Overview

- Primary Dentition
- General Morphological considerations
- Implications of Primary tooth morphology
- Procedures in Primary teeth

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

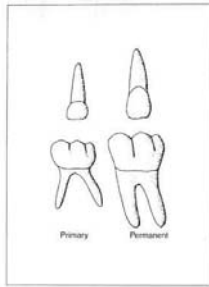


Fig 14-1 A comparison of the morphologies of primary and permanent teeth.

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Crown of Primary Teeth

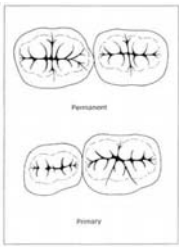


Fig 14-9 The broad, flat contacts of primary teeth contrast the narrow, pointed contacts of permanent teeth.

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

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Crown of Primary Teeth

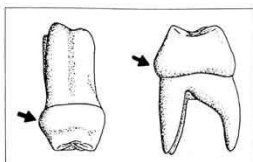


Fig 14-12 Prominent mesio-buccal cervical ridges (bulges) in primary first molars.

- Prominent mesio-buccal cervical bulge seen in primary molars

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Pulp of Primary Teeth

- Larger
- Pulp horns are closer to the outer surface
- Mesial pulp horn is higher
- Md molar pulp is larger than the Mx pulp
- Form of the pulp follows the external surface of the crown
- Usually a pulp horn under each cusp

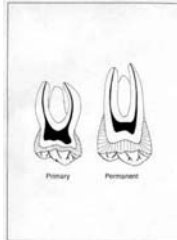


Fig 14-2 The primary and permanent pulps differ in form, size, and approximation to the external surface.

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Root of Primary Teeth

- Anterior teeth roots 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

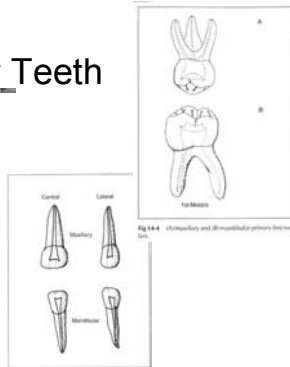


Fig 14-3 Morphology of the primary teeth.

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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 thickness is less, 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

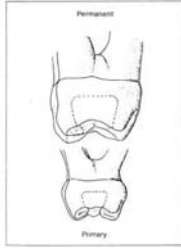


Fig 10-8 Comparison of cavity preparations in primary and permanent teeth.

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Procedures in Primary Teeth

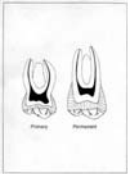


Fig 10-3 The primary and permanent pulp differ in form, size and disposition within the pulp chamber.

Surgical Procedures

- Conical anterior roots facilitate easy removal
- Flared roots of the molars - use a lot of caution as premolar buds are located between the roots

Pulp Therapy

- Tortuous and irregular pulp canals
- Pulpotomy
- Pulpectomy



Summary

Primary teeth have

- Thinner enamel and dentin layers
- Pulp horns closer to the outer surface
- Mesial pulp horn much higher
- 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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