DENTAL ANATOMY
LEC 14&15

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Maxillary second molars

Principal identifying features

1. No fifth cusp “cusp of Carabelli” is evident.

2. Roots are less divergent and may be coalescent (joined together).

Principal identifying features

3. Both distal cusps (distobuccal and distolingual cusps) are less developed.

4. The crown is smaller in overall dimensions than the maxillary first molar.

Maxillary third molars

Principal identifying features

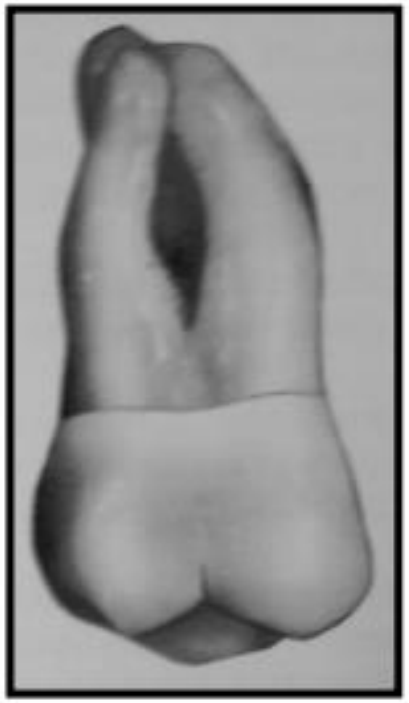
1. It is the smallest maxillary molar tooth.

2. Triangular occlusal outline, the distolingual cusp is very small and poorly developed and it may be absent.

Principal identifying features

3. The roots are shorter, convergent, often fused, and usually are three in number.

4. The mesiolingual cusp is the largest cusp.



Principal identifying features

5. It may have many variations:

a) Heart shaped type with three cusps (most common type).

b) Rhomboidal shaped type with four cusps.

c) One cusp type occlusally (peg shaped).

d) Congenitally missing.

Mandibular second molars

Principal identifying features

1. It is smaller than the first molar in all dimensions.

2. It has four well-developed cusps; two buccal and two lingual of nearly equal size.

Principal identifying features

3. There is no distal cusp but the distobuccal cusp is larger than that of the first molar.

4. It has two roots; one mesial and one distal.

Occlusal Aspect

1. **The occlusal surface is rectangular in shape.**

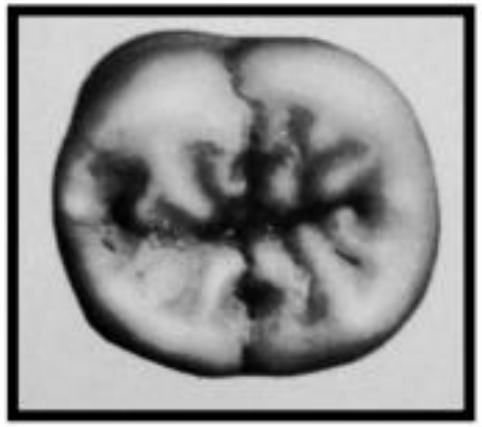
2. **Many teeth show considerable prominence cervically on the mesiobuccal lobe only.**

Occlusal Aspect

3. The buccal and lingual developmental grooves meet the central developmental groove at right angles at the central pit. These grooves form a cross, dividing the occlusal surface into four parts that are nearly equal.

Occlusal Aspect

4. Unlike the first molar, the occlusal surface is not smooth but is roughened by many supplemental grooves radiating from the developmental grooves.



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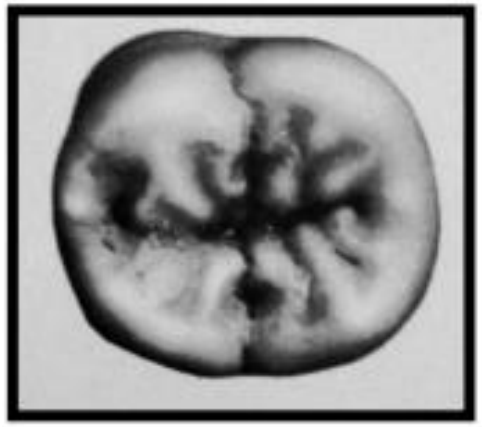
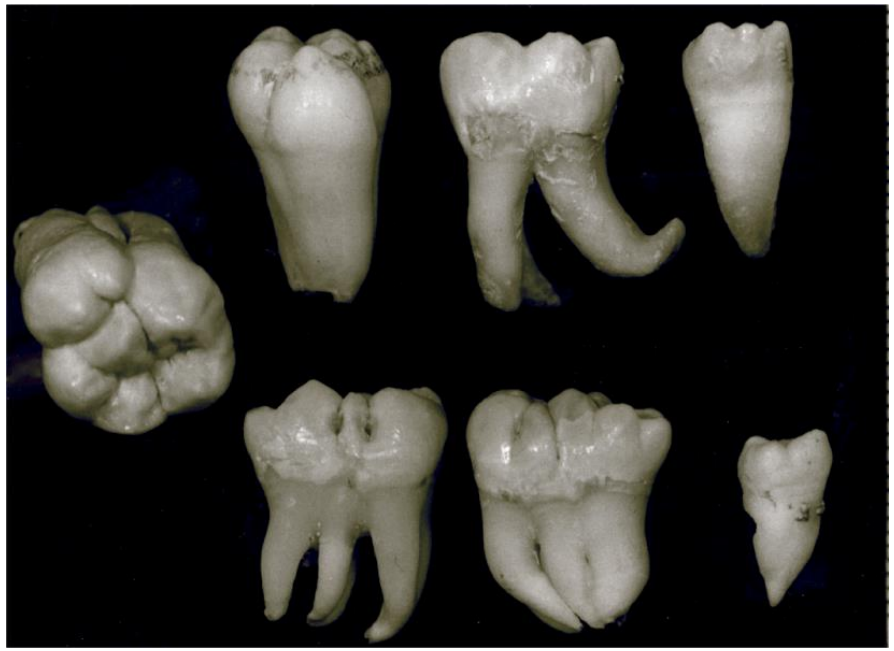


Mandibular Third Molars

Principal identifying features

1. **This tooth varies considerably in different individuals and present many anomalies both in form and position.**



Principal identifying features

2. Generally, this tooth is more similar to the second molar regarding the number of cusps and occlusal form. It has a tendency for a more rounded occlusal outline and a smaller bucco-lingual dimension distally.

Principal identifying features

3. The size of the tooth is variable; ranging from large teeth larger than the second molar with five or more cusps to dwarfed (small) teeth.

4. The tooth could be congenitally missing.

Principal identifying features

5. Usually there are two short roots, one mesial and one distal. Sometimes there are more than two roots or the roots may be fused.

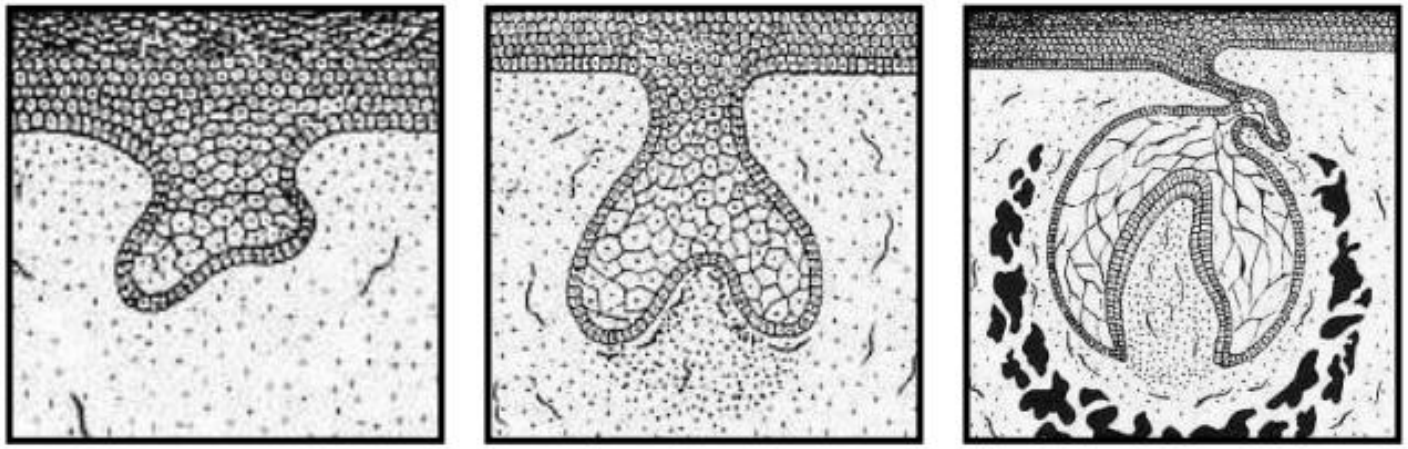
Tooth Development

Tooth Development

The development of the crown and the root of the tooth takes

place within the bone in the jaw.

1. Bud stage, 2. Cap stage, and 3. Bell stage.



Tooth Development

After the root and crown are formed, the tooth penetrates the mucous membrane and enters into the mouth by a process called "eruption".

Tooth Development

The eruption of a tooth stops when it occluded with a tooth in the opposing jaw and contacts the adjacent teeth.

Deciduous Teeth

The deciduous teeth are 20 in number. They start erupting at the age of 6.5 months (mandibular central incisor), and they finish at the age of 20-30 months (mandibular and maxillary second molars).

Deciduous Teeth

The Importance of Deciduous Teeth

1. Allow proper mastication.

2. Prevents malocclusion.

3. Guide the eruption of the permanent teeth.

4. Esthetics.

5. Phonetics.

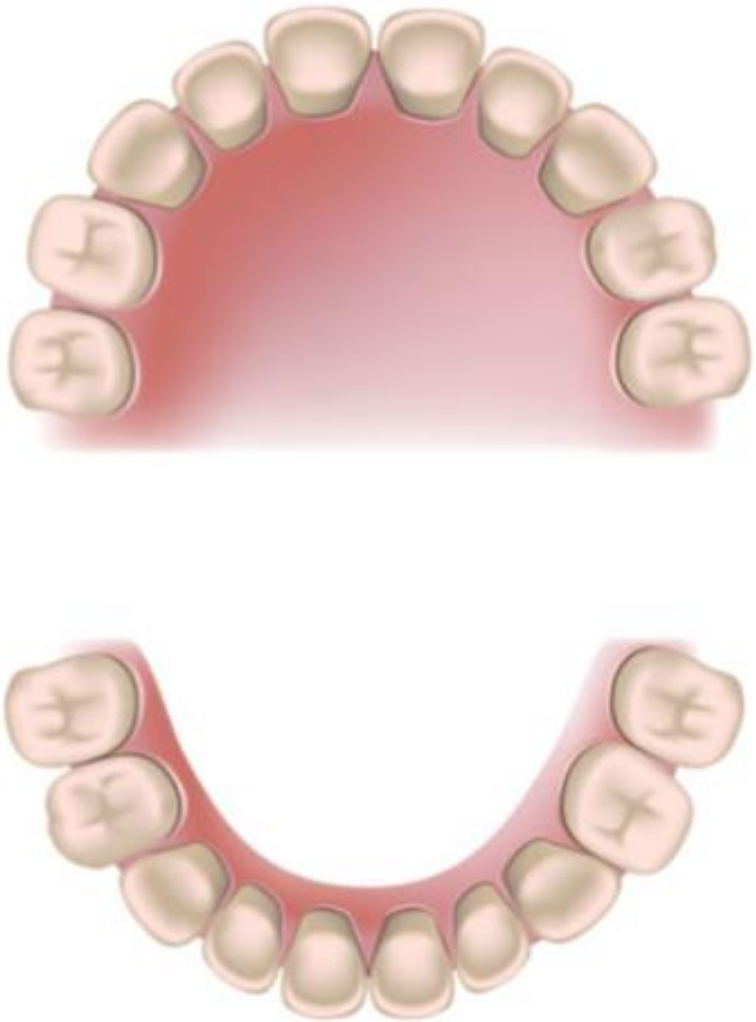
Sequential Order of Deciduous Teeth

Tooth	Eruption Time (in months)
Mandibular central incisors	6.5
Mandibular lateral incisors	7
Maxillary central incisors	7.5
Maxillary lateral incisors	8
Mandibular first molars	12-16
Maxillary first molars	12-16
Mandibular canines	16-20
Maxillary canines	16-20
Mandibular second molars	20-30
Maxillary second molars	20-30

Deciduous Teeth

The deciduous teeth roots are fully formed after eruption, then after awhile resorption to these roots starts until exfolation of the deciduous teeth occurs, followed by the eruption of the permanent successor teeth.

Deciduous Teeth



Principal Differences between Deciduous and Permanent Teeth

General Differences

1. The deciduous teeth are 20 in number while the permanent teeth are 32 in number.

2. The deciduous teeth are smaller in all dimensions.

3. The deciduous teeth show less morphology variations.

Principal Differences between Deciduous and Permanent Teeth

4. The enamel of the deciduous teeth is whiter, and more opaque so they are whiter than the permanent teeth.

5. The enamel of the deciduous teeth is thinner (0.5-1cm), while in the permanent teeth it is (1.5-2.5 cm).

Principal Differences between Deciduous and Permanent Teeth

Root Differences

1. Lack of root trunk in the deciduous molars.

2. The roots of the deciduous teeth are shorter, weaker, and narrower.

3. The roots of the deciduous teeth are longer in proportion to the crown.

4. The roots of the deciduous molars are wider than the crown, to allow more room for the development of the successor permanent teeth.


THANK YOU
FOR LISTENING