



Dental Anatomy

Lecture (13)

PERMANENT MANDIBULAR SECOND MOLARS

Principle 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.
3. There are 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. They are broad bucco-lingually, but they are not as broad as those of the first molar, nor are they as widely separated.

Buccal Aspect

1. The crown is shorter cervico-occlusally and narrower mesio-distally than that of the first molar.
2. There is only one developmental groove, the buccal developmental groove which separates between the mesiobuccal and distobuccal cusps.
3. Both mesio-buccal and disto-buccal cusps are nearly equal in their mesio-distal measurements .
4. The cervical line in many instances points sharply to the root bifurcation.
5. The roots are shorter than those of the first molar. They are usually closer together and are parallel to each other. They are inclined distally forming an acute angle with the occlusal plane than that found on the first molar.



Lingual Aspect

1. The crown and the roots converge lingually but to a slight degree, therefore:
 - a. Little of the mesial and distal surfaces may be seen from this aspect.
 - b. The mesio-distal dimension cervically is greater than that of the first molar.
2. The contact areas are more noticeable from this aspect and they are slightly more cervically positioned than those of the first molar.



Mesial Aspect

1. The buccal cervical ridge is less pronounced compared to the first molar .
2. The mesial root has a somewhat pointed apex.



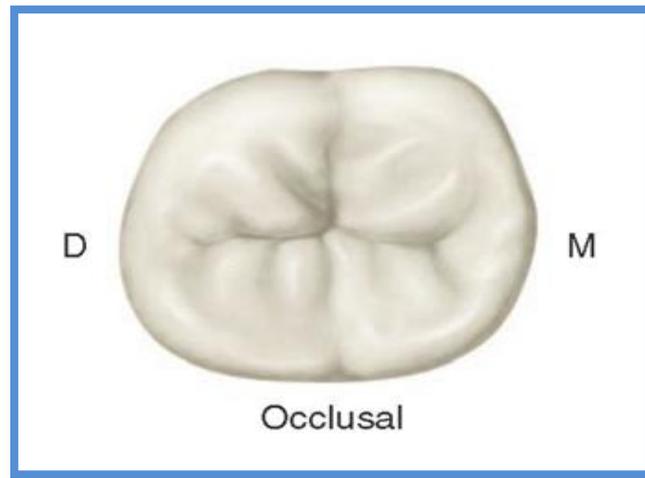
Distal Aspect

1. From this aspect this tooth is similar in form to the first molar except for the absence of a distal cusp and a distobuccal groove.
2. The contact area is centered on the distal surface bucco-lingually and is centered between the cervical line and the marginal ridge.



Occlusal Aspect

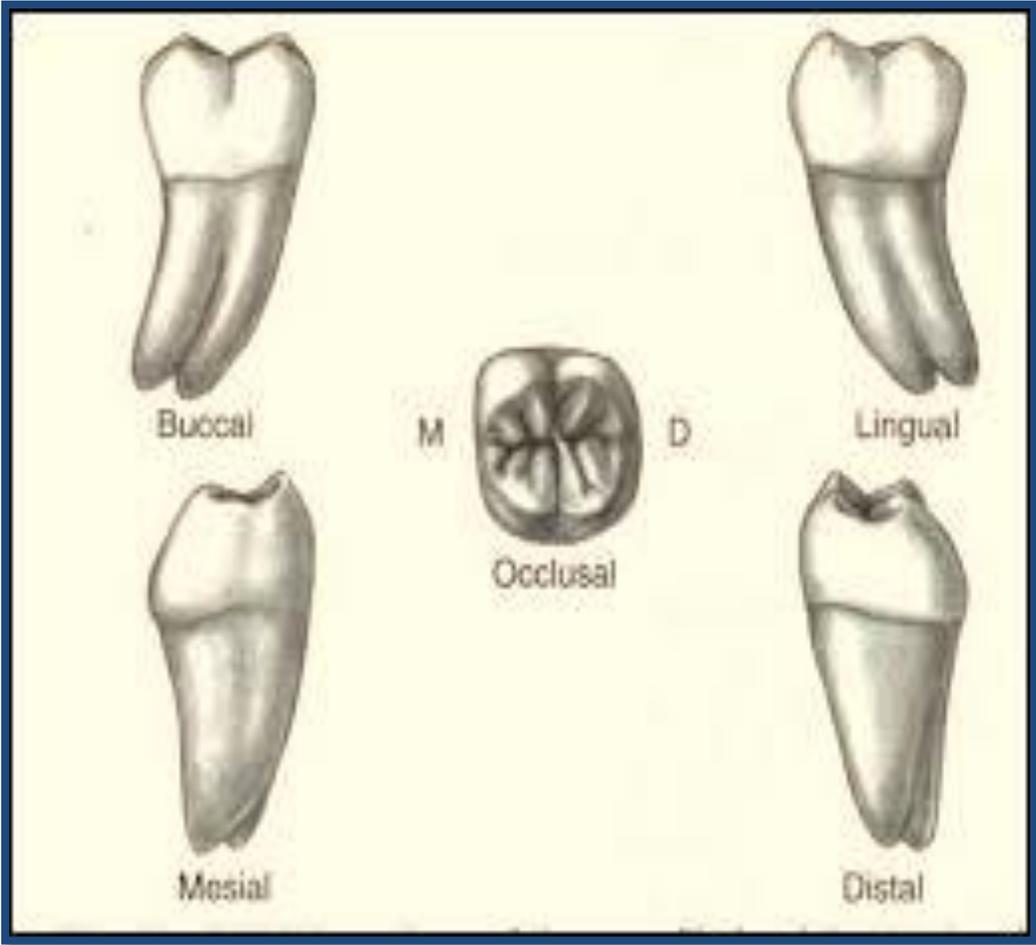
- 1.The occlusal outline is rectangular in shape .
- 2.The distal cusp is not present and there is no distobuccal groove.
- 3.The buccal and lingual developmental grooves meet the central developmental groove at right angles at the central pit. These grooves form a cross dividing the occlusal surface into four parts that are nearly equal.
- 4.Unlike the first molar, the occlusal surface is not smooth but is roughened by many supplemental grooves radiating from the developmental grooves .
- 5.Many teeth show considerable prominence cervically on the mesiobuccal lobe only.
- 6.The cusp ridge of the distobuccal cusp lies buccal to the cusp ridge of the mesiobuccal cusp.



Permanent mandibular third molars

Principle identifying features

- 1.**This tooth varies considerably in different individuals and present many anomalies both in form and position.
- 2.**Generally this tooth is more similar to the second molar regarding the number of cusps and occlusal form than it does to the first molar.It has a tendency for a more rounded occlusal outline and a smaller bucco-lingual dimension distally.
- 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.**Usually there are two short roots :one mesial and one distal.These are usually shorter than the roots of the first or second molars with greater tendency for distal inclination in relation to the occlusal plane.Sometimes there are more than two roots or the roots may be fused.
- 5.** The tooth could be congenitally missing.



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