

# Mandibular Molars

- The mandibular molars erupt 6 months to 1 year before the corresponding permanent maxillary molars.
- The crown of mandibular molars have four or five major cusps, of which there are always two lingual cusps of about the same width.
- All mandibular molars are wider mesiodistally than buccolingually, unlike to anterior teeth.

# Mandibular Molars

- Each mandibular molar has two well-developed roots: one mesial and one distal.
- A tooth with two roots is referred to as bifurcated, which means divided into two.
- A bifurcation is the area at which the two roots divide.

# Mandibular First Molars

- The permanent mandibular first molars erupt between 6 and 7 years of age.
- These teeth are usually the first permanent teeth to erupt in the oral cavity.
- The two roots, mesial and distal, of a mandibular first molar are larger and more divergent than those of a second molar.

# Buccal aspect

- Crown-trapezoidal-cervical & occlusal outlines representing the uneven sides
- Occlusal--longer



# Grooves

## ● 2 in crown portion-MBDG, DBDG

### DBDG

Terminus near the DB line angle at the cervical third of the crown



MBDG- shorter-terminates centrally located CO situated a little mesial to the root bifurcation buccally.

# Cusps

- MB, DB & D—relatively flat
- Distal cusp--small



- Cervical line—regular-dipping apically toward the root bifurcation.
- Mesial outline—concave at cervical third up to its junction with the convex outline of broad contact area.
- Distal outline-straight above the cervical line to its junction with the convex outline of distal contact area-which is also the outline of the distal portion of distal cusp.



**Buccal**

# Lingual aspect

- Cusps-3 two lingual and lingual portion of distal cusp.



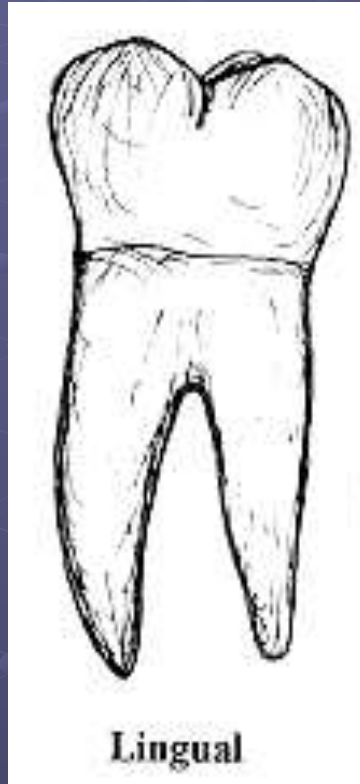
# Grooves

- LDG-extend short distance only



- Mesial outline-convex from cervical line to MR.
- Distal outline-straight immediately above the cervical line to a point immediately below the distal contact area.
- Cervical line-irregular and tends to point sharply toward the root bifurcation and immediately above it.

# Lingual aspect

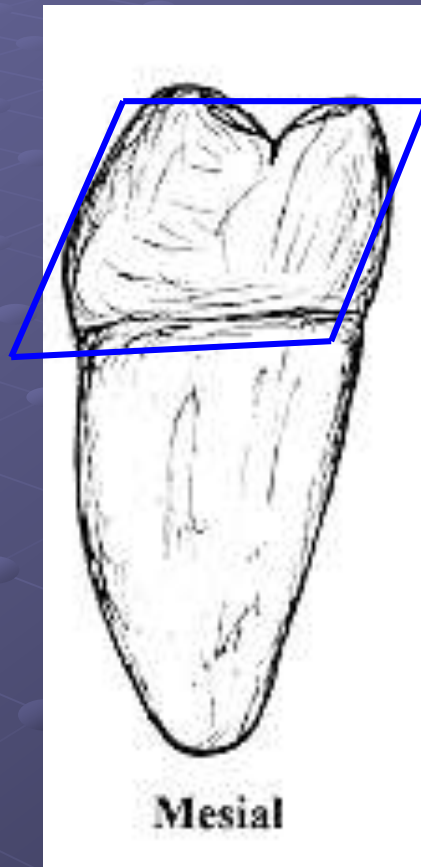


# Lingual aspect

- Surface of crown lingually is smooth & spheroidal on each of the lingual lobes.



# Mesial aspect



- BL measurement of crown is greater at mesial aspect than distal.
- BL measurement of root also greater at mesial aspect than distal.
- Entire crown has lingual tilt. In relation to root axis.

# Mesial aspect



- Buccal outline-convex immediately above the cervical line.
- Lingual outline-straight in lingual direction starting at the cervical line & joining the lingual curvature at the middle third
- Cervical line- irregular & tends to curve occlusally about 1mm toward the center of mesial surface of tooth.

# Mesial aspect

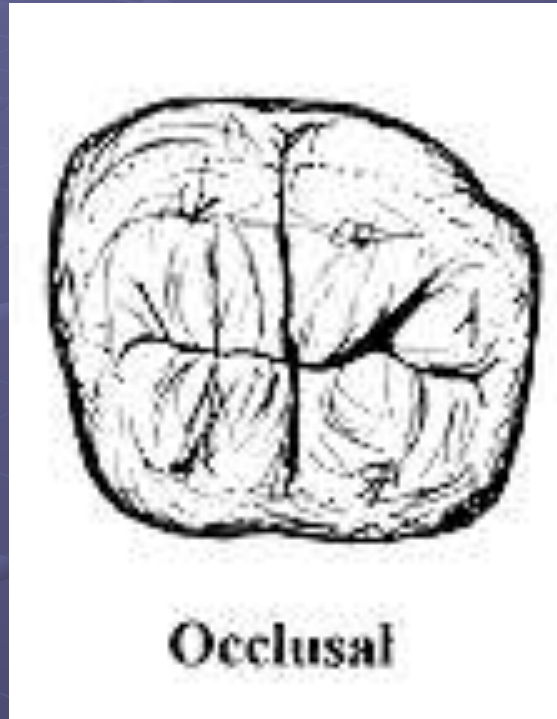


# Distal aspect



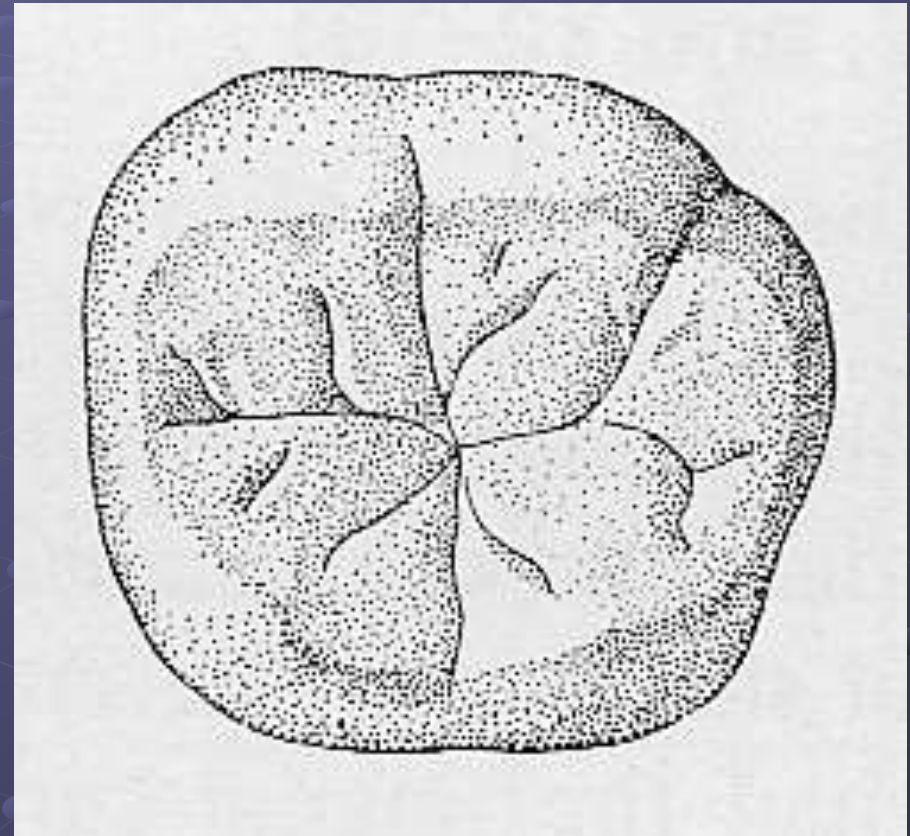
- More tooth-seen from the distal aspect because crown is shorter distally than mesially and the buccal and lingual surface of crown converge distally.
- Buccal surface-shows more convergence than lingual surface

# Occlusal aspect



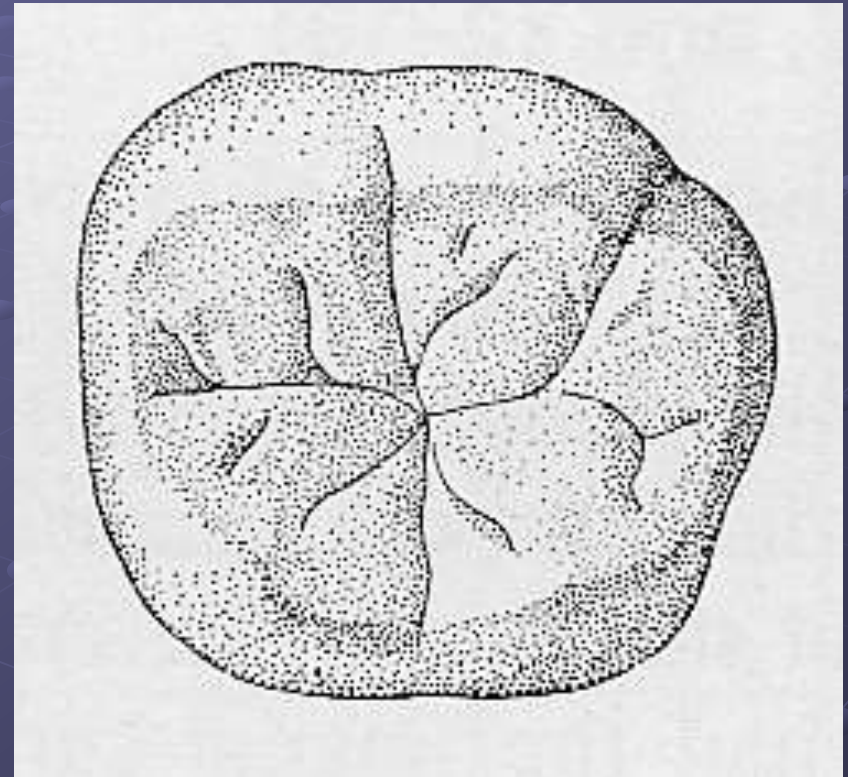
# Occlusal aspect

- Crown is pentagonal (type trait)
- B profile is longer than L
- M profile is longer than D
- B profile
  - 3 regions
  - DB is the most prominent
  - Maximum BL diameter is just D to MB groove (type trait)



# Occlusal table

- Fossae
  - Central fossa
  - 2 M & D triangular fossae
- Grooves
  - Central
  - MB & L terminate in the Central Pit
  - DB (y-shape with MB & L [type trait])
- Pits
  - M, D & central



# Occlusal aspect

Developmental grooves:

Supplemental groove

Central groove

Triangular groove

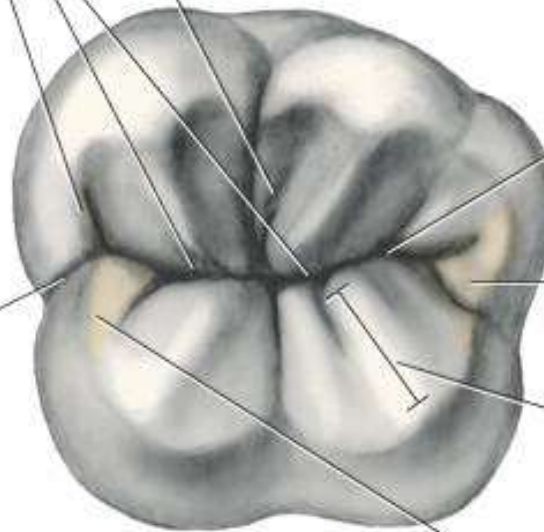
Marginal groove

Occlusal pit

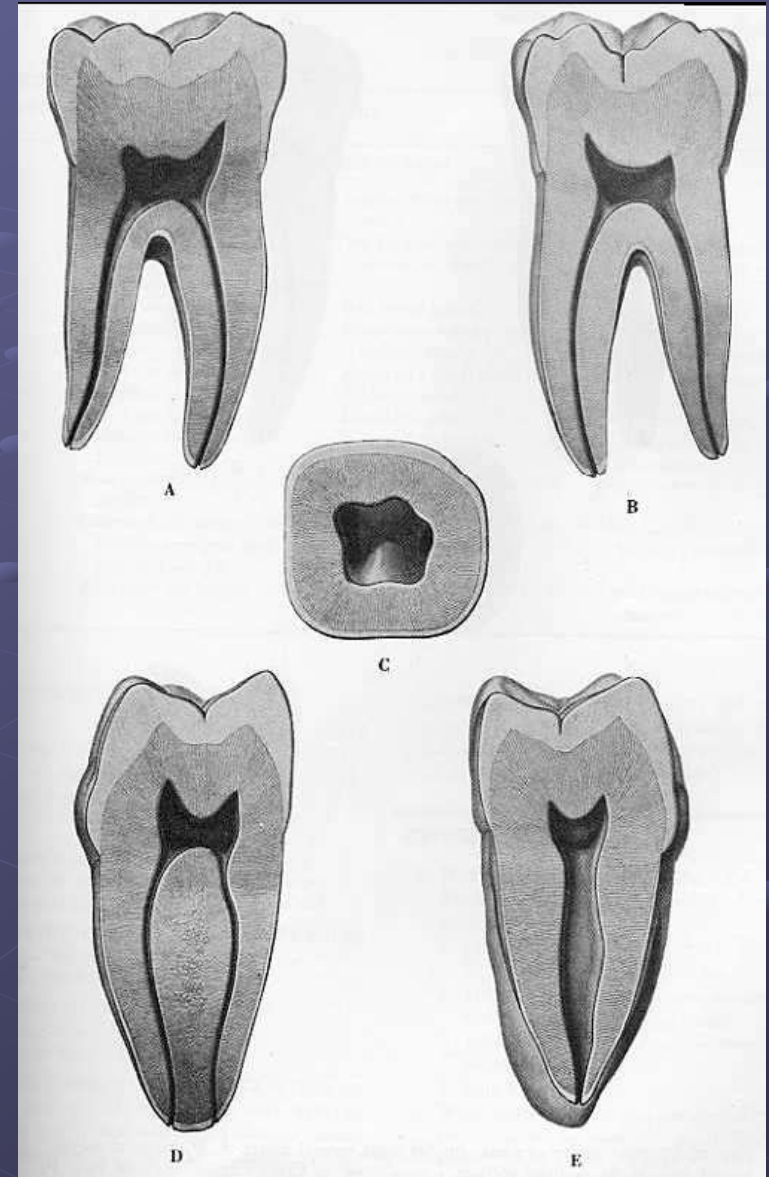
Triangular fossa

Triangular ridge

Triangular fossa



- Pulp
- MD section
  - 2 horns
  - MB > DB
  - Narrow canals
- BL section
  - 2 horns
  - ML > MB
  - 2 canals in M root
- Transverse section
  - Rectangular



# Differences between maxillary molars and mandibular molars

- Maxillary molars
- 3-4 cusps; 3 roots
- Crown wider BL than MD.
- Large and small lingual cusps.
- 1<sup>st</sup> molar wider on lingual than buccal
- Carabelli cusp-present
- Oblique ridge
- Mandibular molars
- 4-5 cusps; 2 roots
- Crown wider MD than BL
- 2 nearly equal sized lingual cusps
- 1<sup>st</sup> molars taper from buccal to lingual.
- No cusp of Carabelli
- No oblique ridge.

# Clinical Considerations with Mandibular Molars

- The mandibular molars can present difficulty in positioning the oral evacuator because of the lingual inclination of the crowns.
- Patients often have problems with their oral hygiene because of the lingual inclination of the molar teeth, and they may miss cleaning the lingual gingiva with the toothbrush.