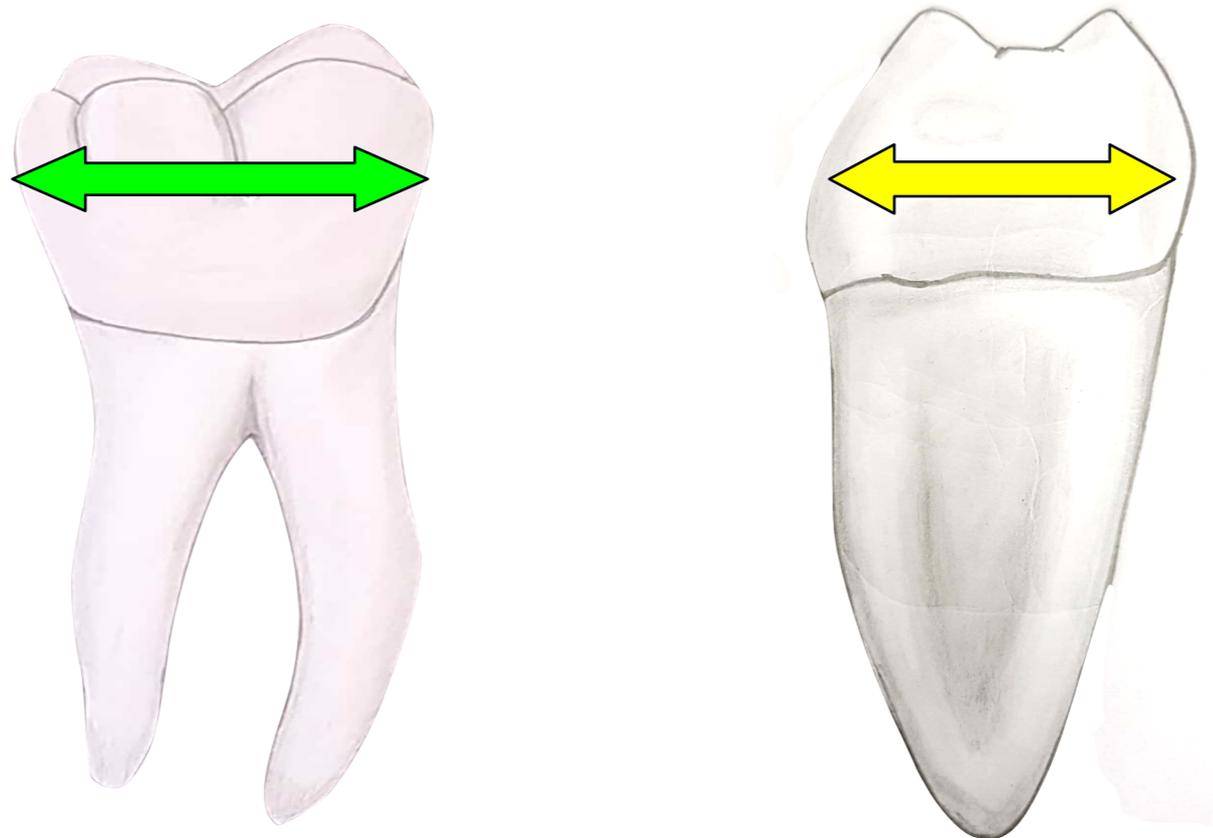


MANDIBULAR PERMANENT MOLARS

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General notes:

1. The crown of mandibular molars are wider **mesiodistally** than **buccolingually**.
2. Presence of four or five cusps.
3. Five cusped tooth is formed from **five lobes**.
4. Mandibular molar has two roots, one **mesially** and other **distally**.
5. **Permanent first molar** is the first permanent tooth erupt in the oral cavity.
6. Main function of molars is grinding of food.



Lingual Aspect

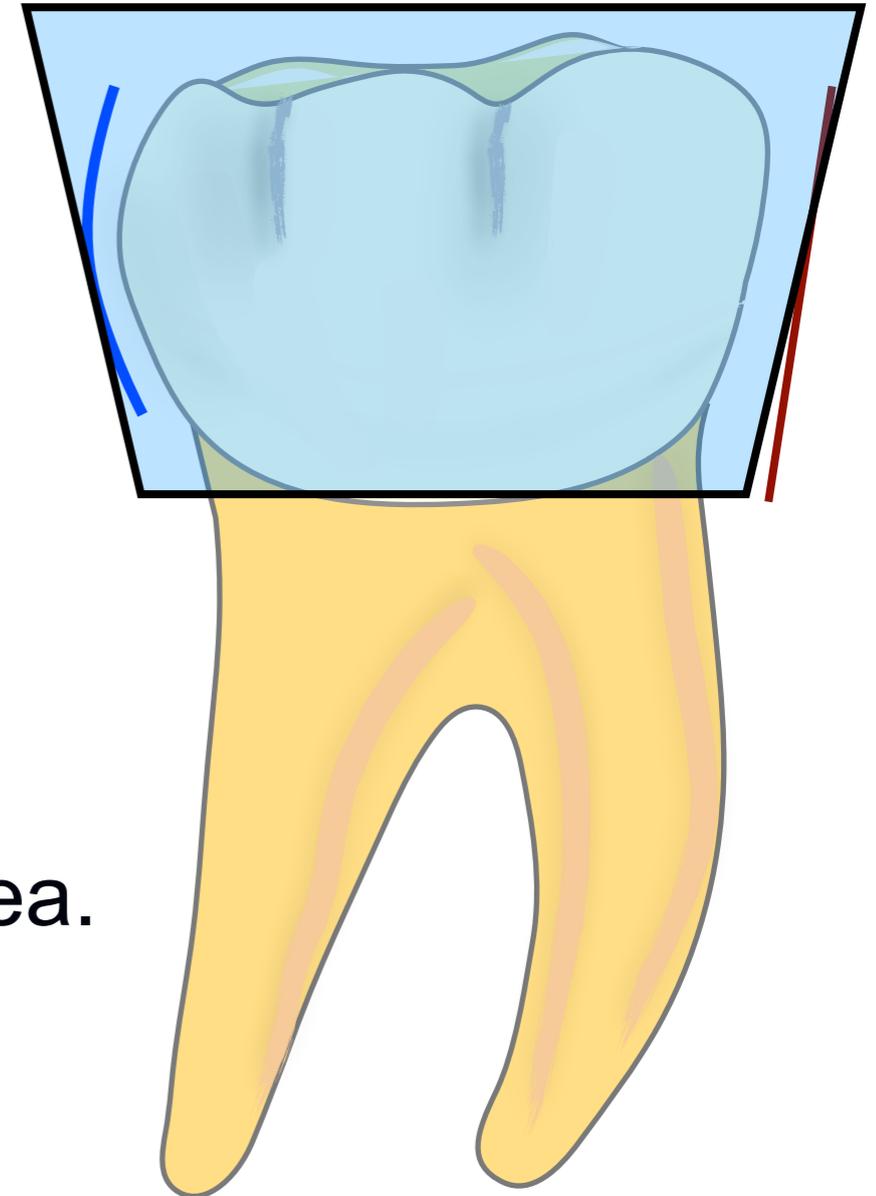
Geometrical shape: Trapezoid.

1- Mesial outline:

- Straight from cervical line to contact area.
- Mesial contact area at the junction between occlusal and middle thirds

2- Distal outline:

- More convex from cervical line to contact area.
- Distal contact area set at the middle third .
- Distal surface is shorter than the distal surface.

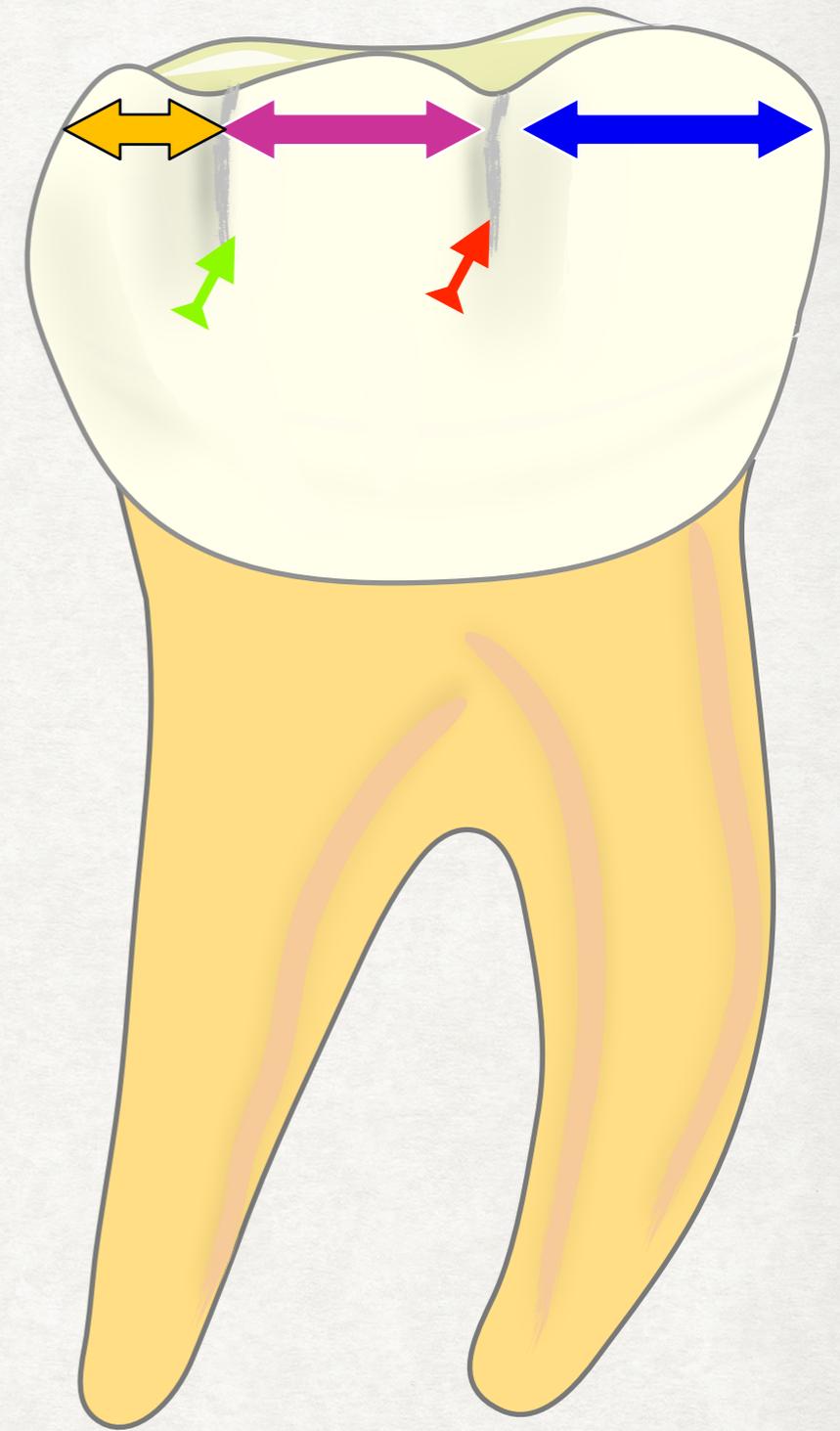


3- Occlusal outline: five cusps are seen.

- Two lingual cusps are higher than buccal cusps.
- Three buccal cusps.
- Mesio Buccal cusp (wider), ML, DL, DB, and Distal cusp (smallest and sharpest).

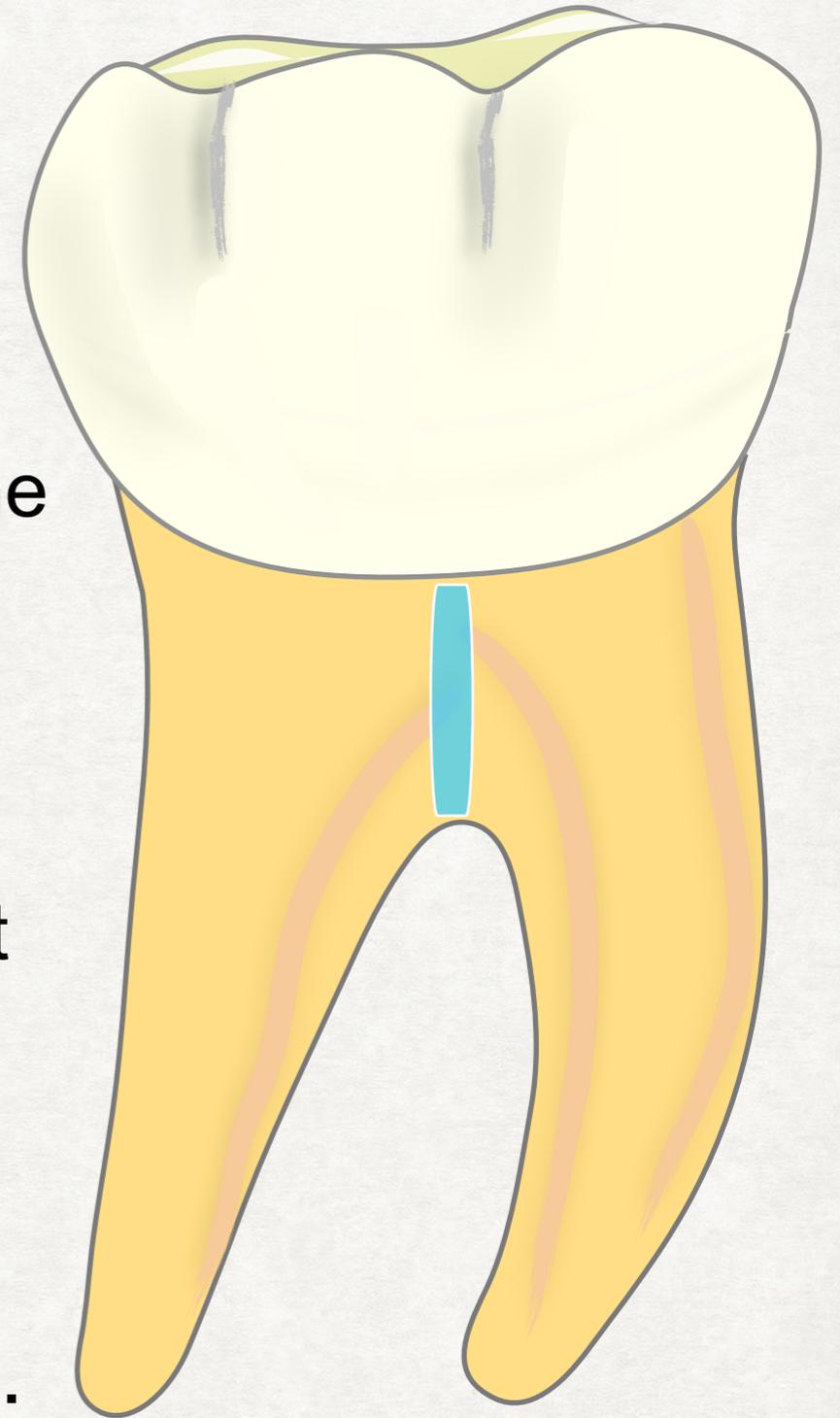
4- developmental grooves:

1. mesio Buccal developmental groove lie between MBC and DBC
2. Disto Buccal developmental groove lie between DBC and DC.



Roots:

- The root trunk is the unbranched part of the root from cervical line to the furcation area at 4 mm.
- Developmental depression at the center of the root trunk.
- The two roots are diverge from each other
- The mesial root curves mesially from the root trunk to the middle portion of the root length then curves distal to tapered apex.
- the Distal root is straight with distal curvature.
- the mesial root is longer than the distal root



Lingual Aspect

Similar to the buccal outline.

The crown converge Lingually.

Occlusal outline:

Mesiolingual, distolingual cusps and small part of the distal cusp.

Lingual developmental groove lie between MLC and DLC.

The lingual developmental groove fades out near the middle of the crown.

Cervical line is slightly convex or straight and located more occlusal.

The root trunk is longer than in buccal side.



Mesial Aspect

Geometrical Shape:

Rhomboid in shape due to the lingual inclination.

Buccal outline:

Convex from cervical line to cusp tip, maximum convexity is at cervical ridge, then becomes slightly concave at the middle then become convex at the mesiobuccal cusp tip.

Lingual outline:

Convex , maximum convexity at the middle of the crown.

Cervical Line: Usually Straight.

Mesial Marginal Ridge:

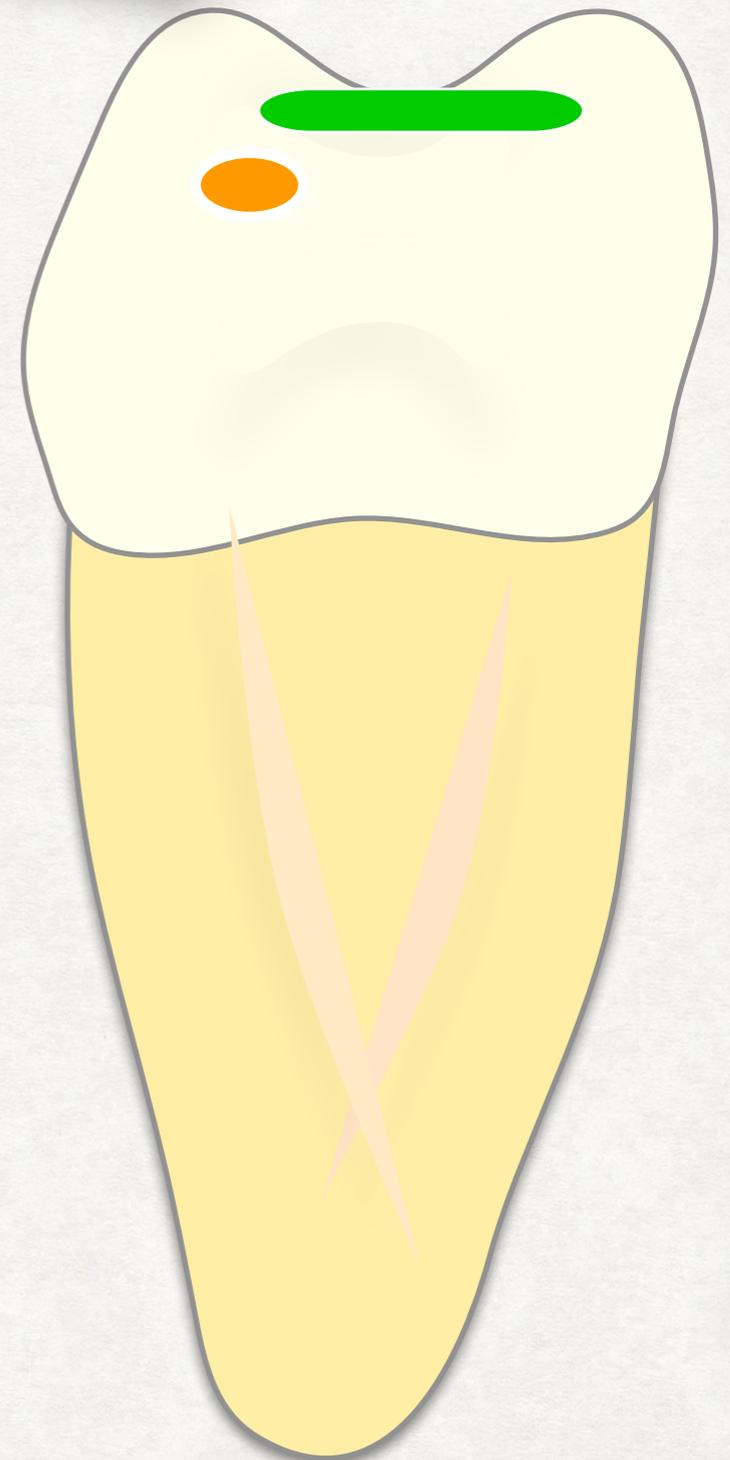
Wide And Perpendicular To Long Axis.

Contact Area:

Located At The Junction Of Middle And Occlusal Thirds Slightly Buccal To The Midline.

Roots:

- The Mesial Root Has Straight Buccal And Lingual Outline Till The Middle, Then Tapers To A Blunt Apex.
- It Has A Deep Groove On Its Middle Portion.



Distal Aspect

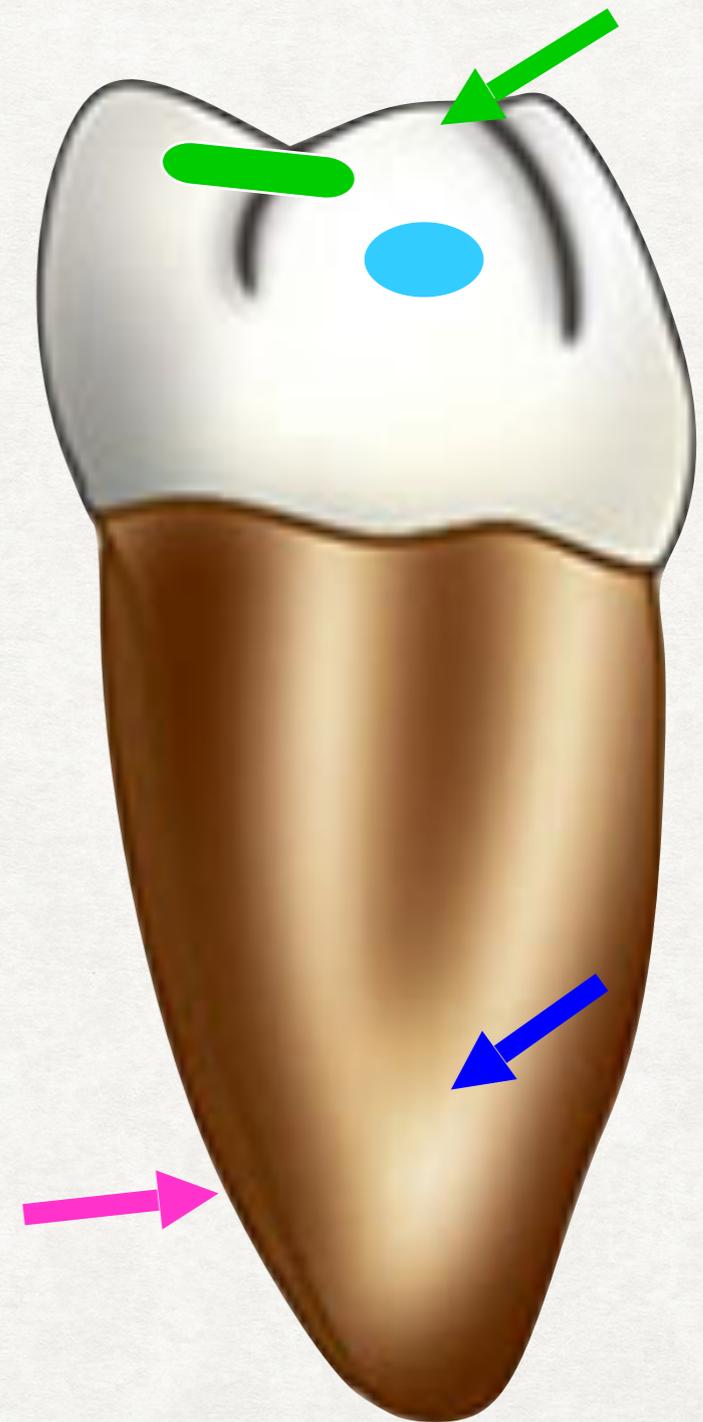
Differs from mesial aspect in :

- 1- Distal aspect is narrower.
- 2- Distal cusp is seen in the distal aspect.
- 3- Distal contact area appears just below the distal cusp tip.
- 4- Distal marginal ridge is short and more lingually locate.

Roots:

Distal root and part of mesial root are seen.

Distal root is narrower and more tapered with blunt apex.



Occlusal Aspect

Geometrical shape:

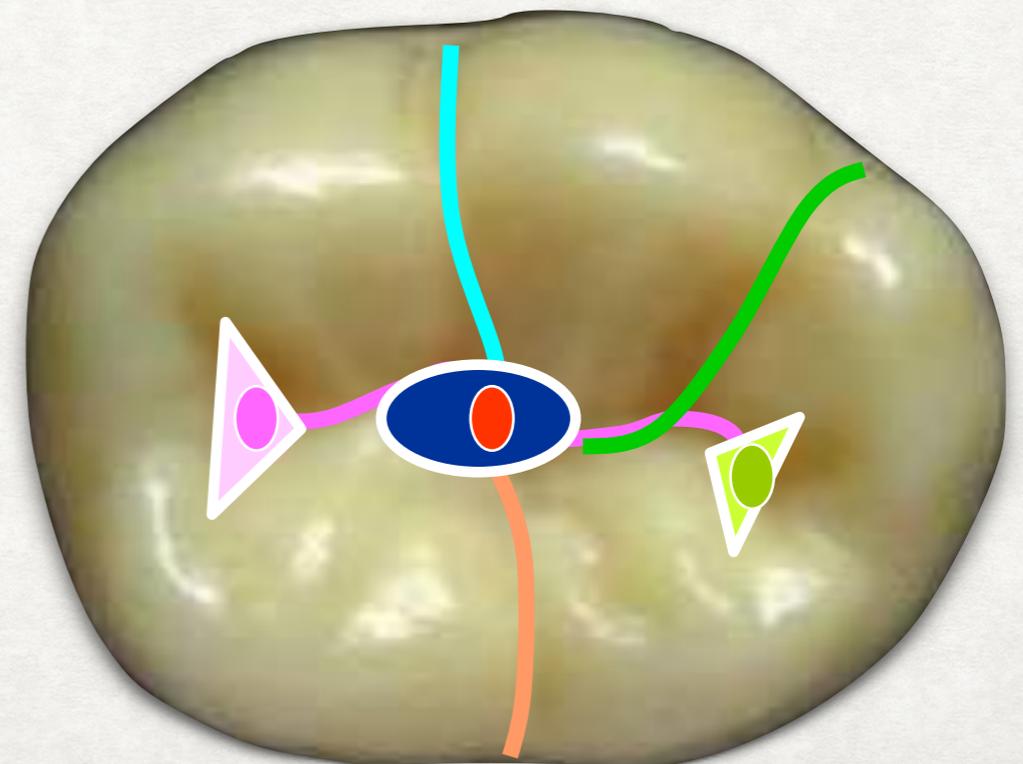
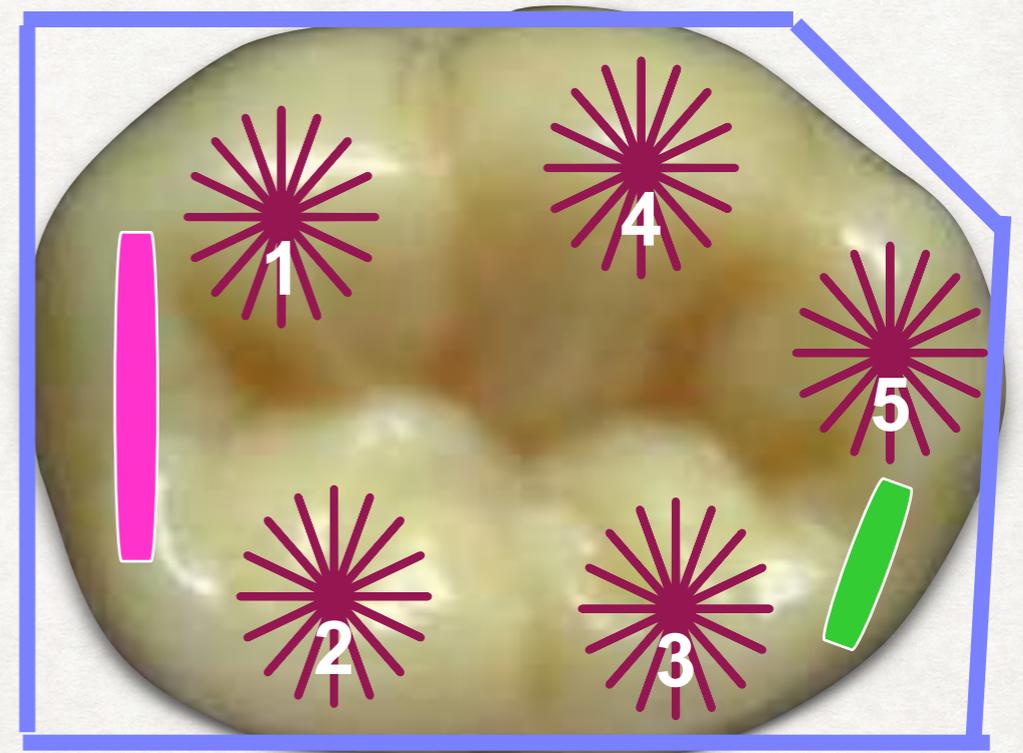
- Pentagonal in shape.
- Larger mesiodistally than buccolingually.
- Buccal surface is wider than lingual.
- Mesial surface is wider than distal.

Crown Elevations:

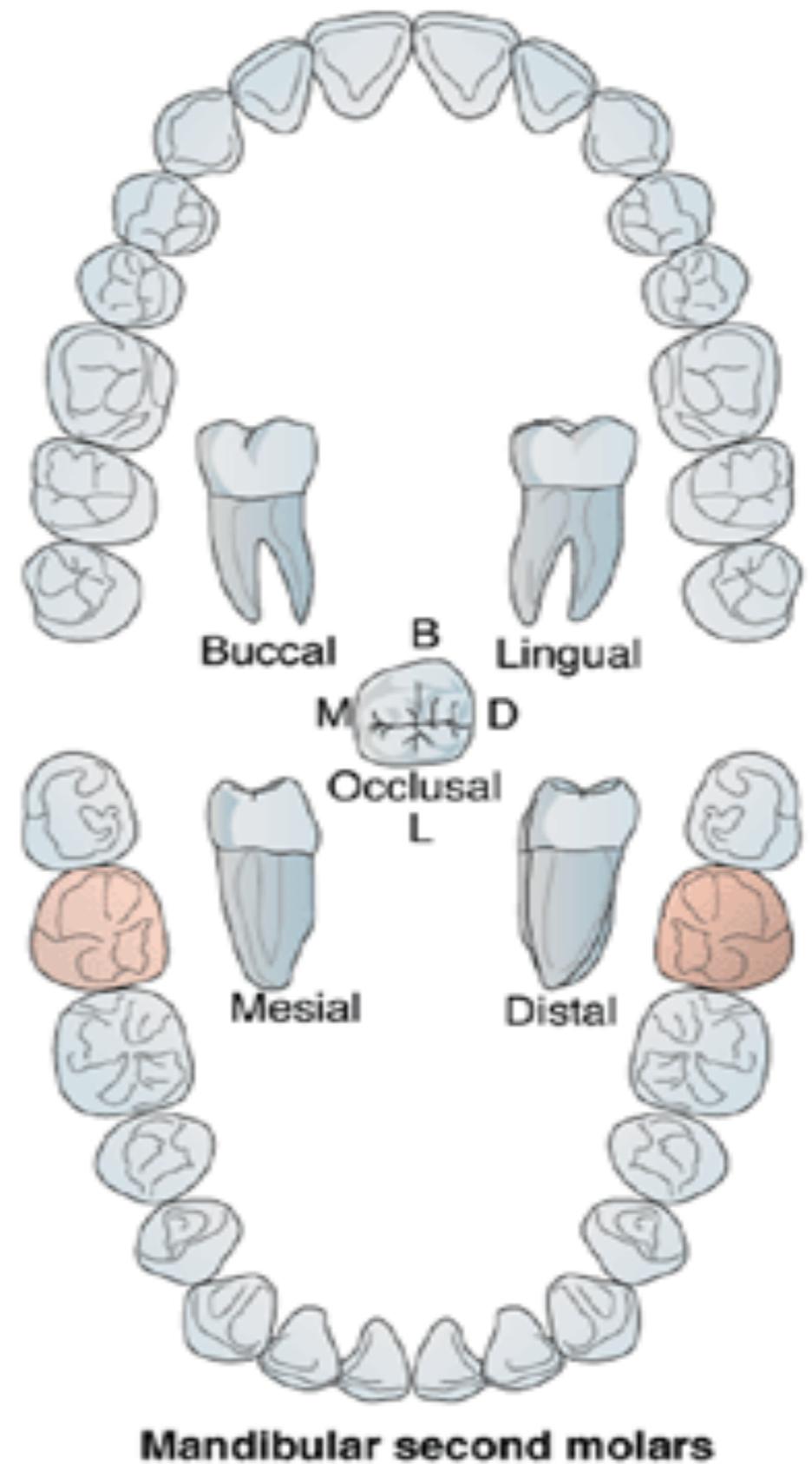
1. Five cusps arranged from largest:
MBC, MLC, DLC, DBC then DC.
2. Mesial and Distal marginal ridges: _Mesial marginal ridge is longer and broader than the distal marginal ridge.

Crown Depressions:

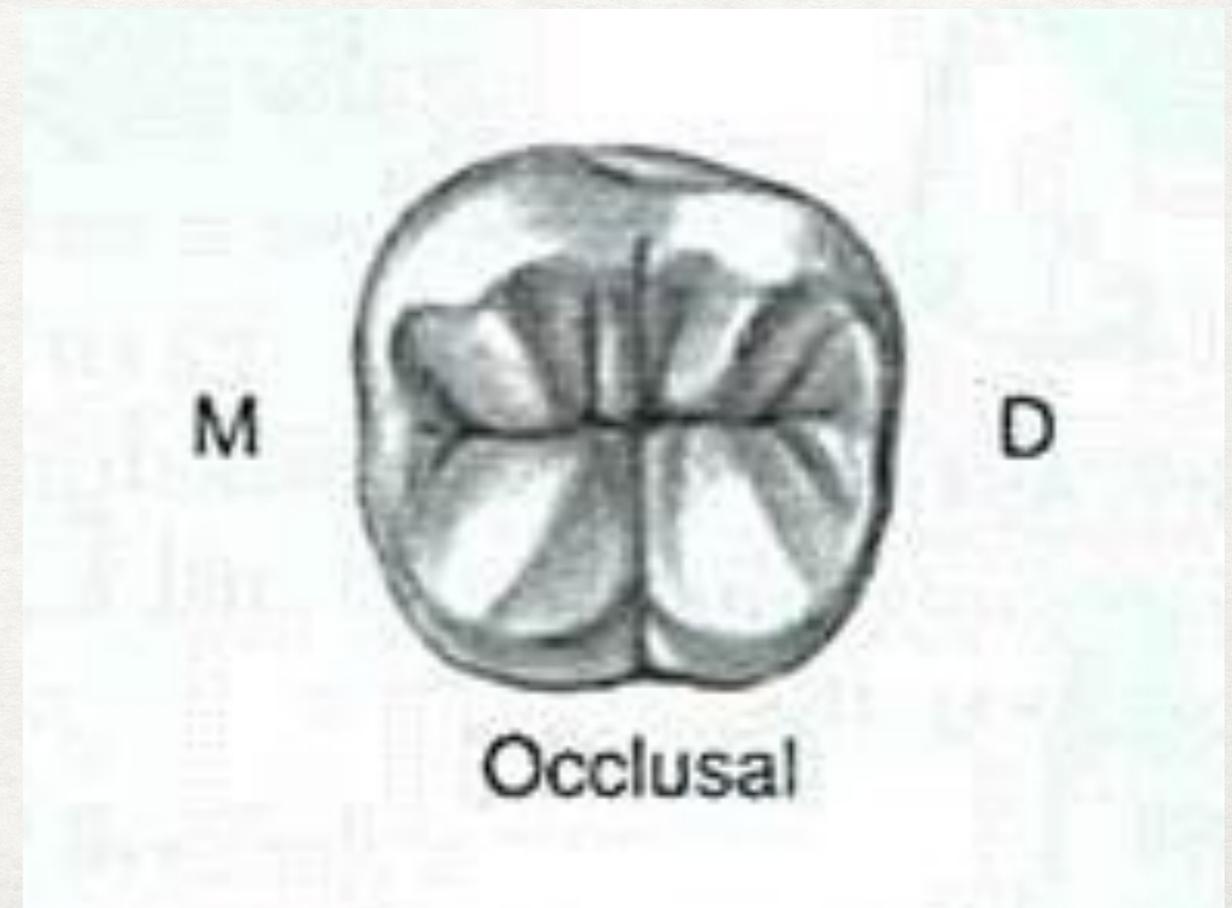
1. Central developmental groove.
2. Mesiobuccal developmental groove.
3. Distobuccal developmental groove.
4. Lingual developmental groove.
5. Central fossa and pit.
6. Mesial and distal triangular fossa and pits.*



Mandibular Second permanent Molar



1. The crown measurements are generally smaller .
2. The crown is formed from four lobes.
3. The crown is composed of four cusps which are nearly equal in size.
4. The two roots are smaller, shorter and **parallel to each other.**
5. The contact areas mesially and distally are located at the same level in the middle third.
6. The occlusal surface outline is rectangular.
7. There is a cross-shaped developmental grooves.
8. The occlusal surface has more supplemental grooves.



Mandibular third Molar

It is usually smaller in all dimensions.

Types:

Four cusp type resembles mandibular second permanent molar.

five cusp type resembles mandibular first permanent molar.

More supplemental grooves.

Roots: Fused together to form one large root.

