

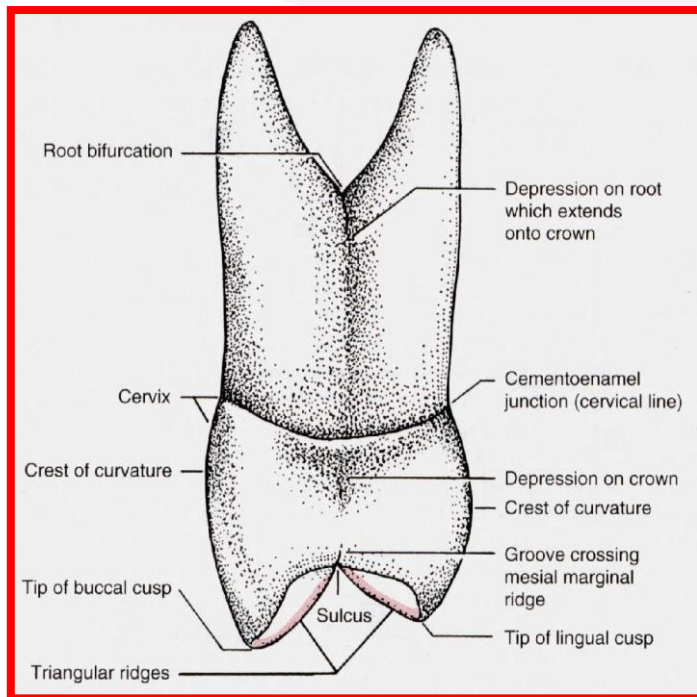


Maxillary right First Premolar



جامعة
المنارة

Maxillary First Premolar

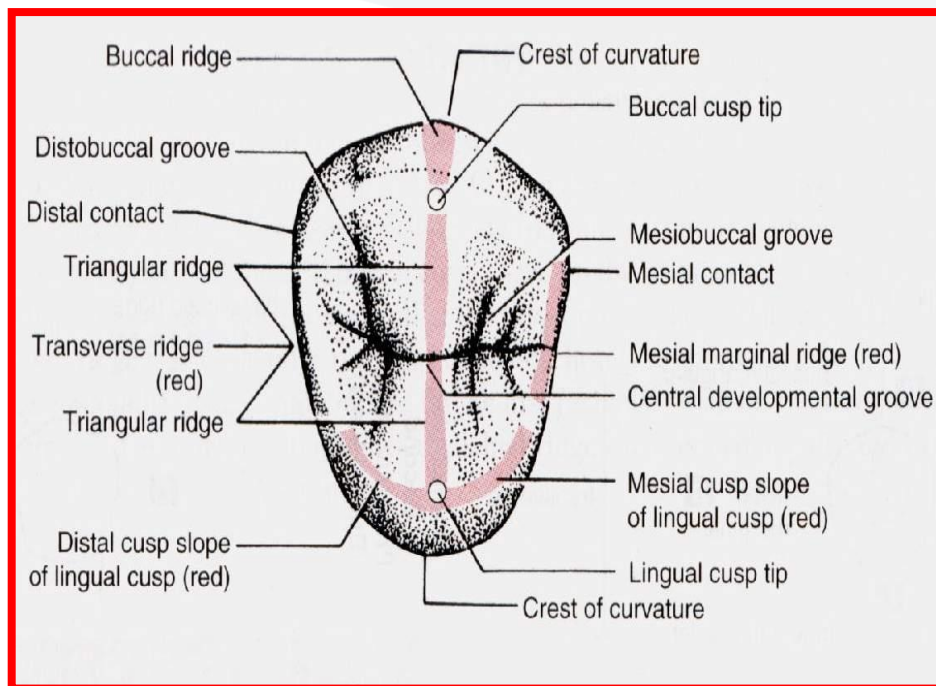


Maxillary First Premolar has two cusps, a buccal and a lingual ,each being sharply defined. The buccal cusp is usually 1 mm longer than the lingual cusp. most the maxillary first premolars have two roots , and two pulp canal , one buccal and one lingual. When only one root Is present , two pulp canals are usually found anyway .



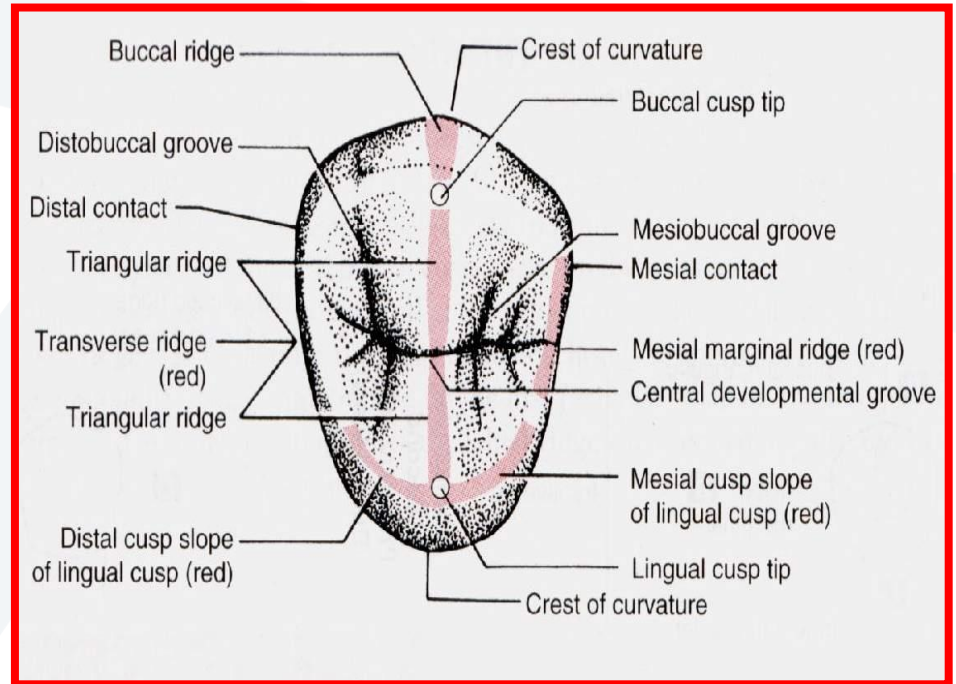
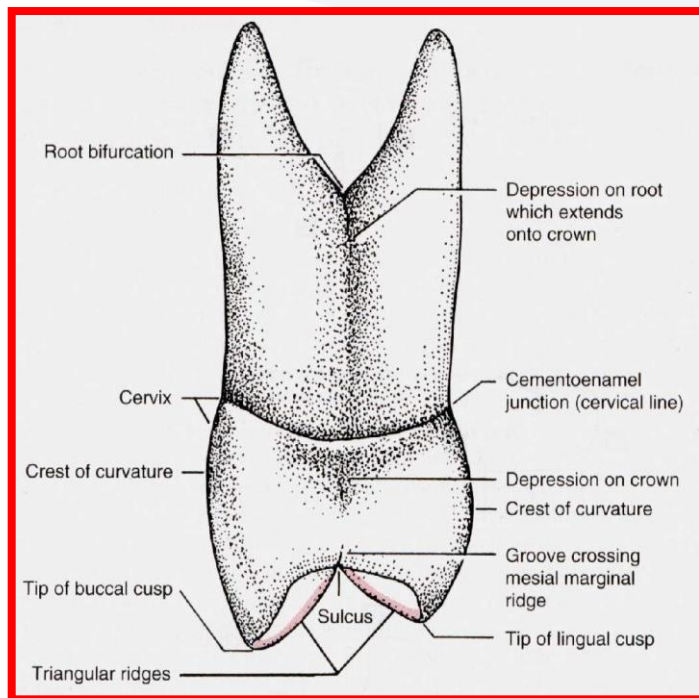
جامعة
المنارة

Maxillary First Premolar



The Crown is angular ,and the buccal line angles are prominent, the crown is shorter than the canine 1.5 to 2 mm. The mesial slope of the buccal cusp is longer than the distal slope.

Some landmarks on the maxillary Right first Premolar:



The maxillary 1pre molare has some characteristics,those that defferntiate Posterior teeth from anterior teeth are as the follows :

- 1-Greater faciolingual size compared with M-D size .
- 2- Border contact area .
- 3- Contact areas more nearly at the same level .
- 4- Less curvature of the cervical line mesially and distally .
- 5- Shorter crown ,cervico – occlusally than that of anterior teeth.

Some landmarks on the maxillary Right first Premolar:

Triangular ridges are those ridges which descend from the tips of the cusps of molars and premolars toward the central part of the occlusal surface.

Transverse ridges are created when a buccal and lingual triangular ridge join. It is the union of two triangular ridges crossing transversely across the surface of a posterior tooth.

Cervical ridges are the height of contour at the gingival portion, on certain deciduous and permanent teeth.

Buccal aspect



- The buccal cusp is long, coming to a pointed tip and resembling the canine in this aspect.
- Generally, this tooth is not wide in a M-D direction as the canine .
- The roots are 3 or 4 mm shorter than those of maxillary canine .



Buccal aspect



- The buccal surface of the crown is convex , showing strong development of the middle buccal lobe .
- The ridge from cusp tip to cervical margin on the buccal surface of the crown is called the **buccal ridge** .



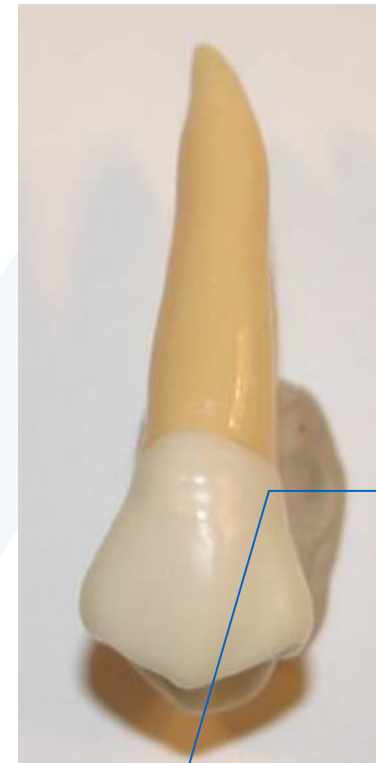
Buccal aspect

- Shallow **saddlings** are present on either side of the cusp tip.



Buccal aspect

- from this aspect the crown is **trapezoidal** .

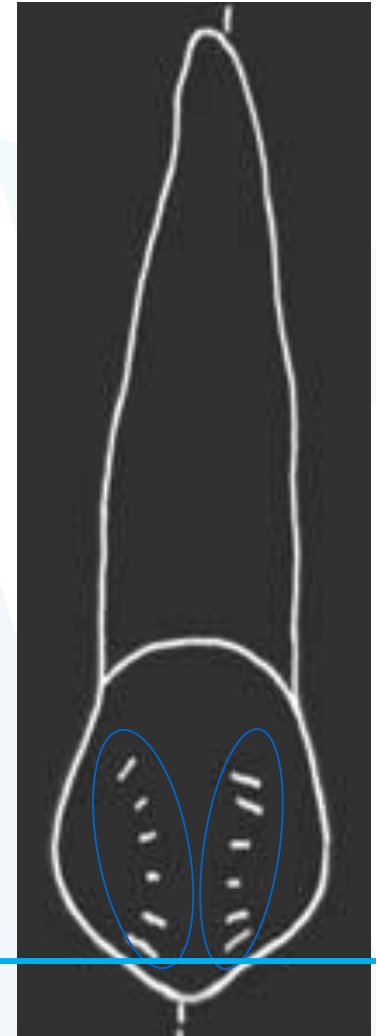


Buccal aspect

- Shallow mesio- and distobuccal longitudinal depressions are present on the buccal surface .

D

M



Buccal aspect

- The crown exhibits a little curvature at the cervical line .



Buccal aspect

- The **mesial outline** of the crown is slightly concave from the cervical line to the mesial contact area.



Buccal aspect

- Buccal crest of curvature in the gingival 1/3.
- Mesial cusp ridge slightly longer and stright than distal .Which is shorter and more curved .

The opposite arrangement is true of the maxillary canine .

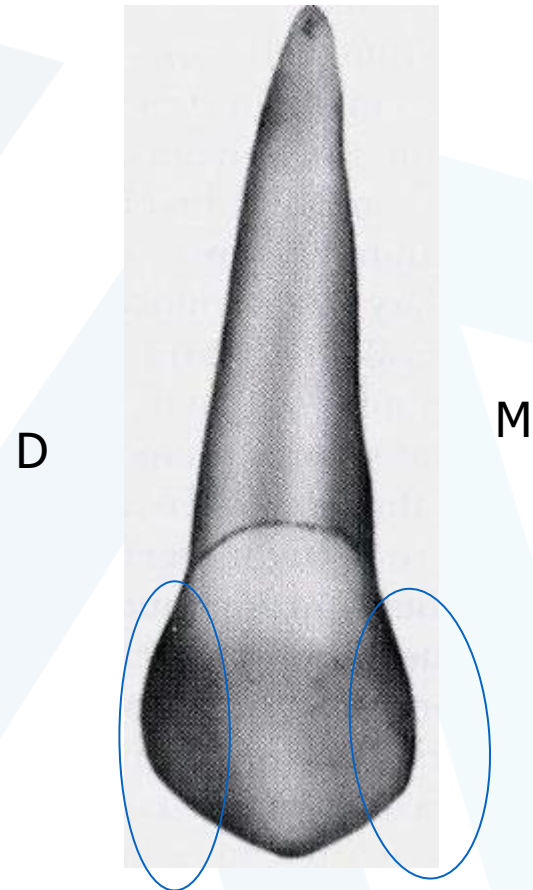
D



M

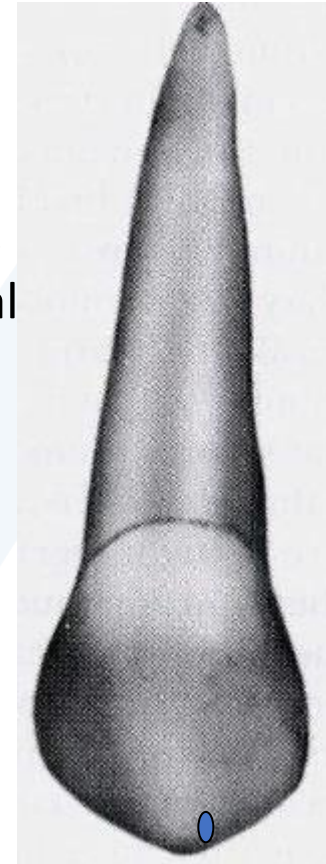
Buccal aspect

- Distal contour is more convex than mesial contour.



Buccal aspect

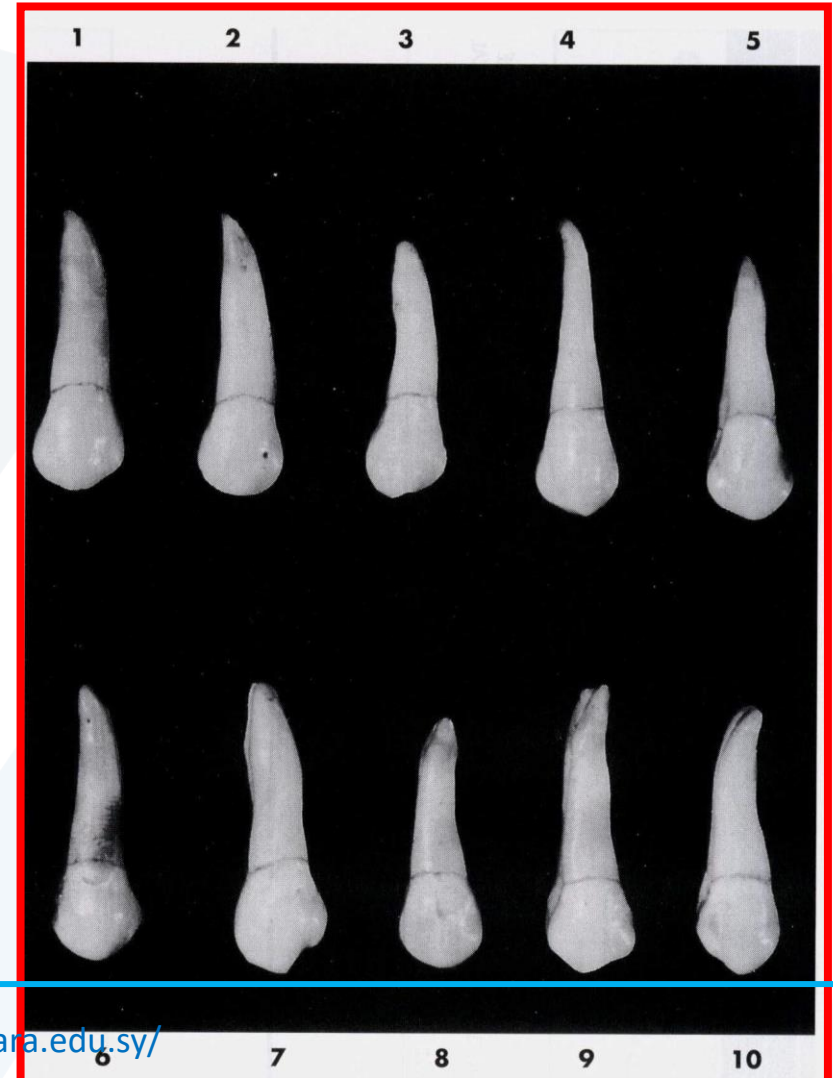
- **Mesial height of contour** (lies immediately occlusal to the halfway point from the cervical line to the tip of the buccal cusp .) at the junction of the occlusal and middle 1/3.
- **Distal height of contour** slightly apical to mesial. .



Buccal aspect Ten Typical specimens



- Anatomical variation



Lingual aspect



- lingual cusp is shorter than the buccal cusp and displaced mesially . The crown taper to the Palatal because the palatal cusp is narrower mesiodistally than the buccal cusp .



Palatal aspect

- The lingual cusp is smooth and spheroidal form from the cervical portion to the area near the cusp tip .The spheroidal form of the lingual portion of the crown is convex at all points.
- The cervical line lingually is regular, with slight curvature toward the root .



palatal aspect

palatal contour is convex with height of contour in the middle 1/3.



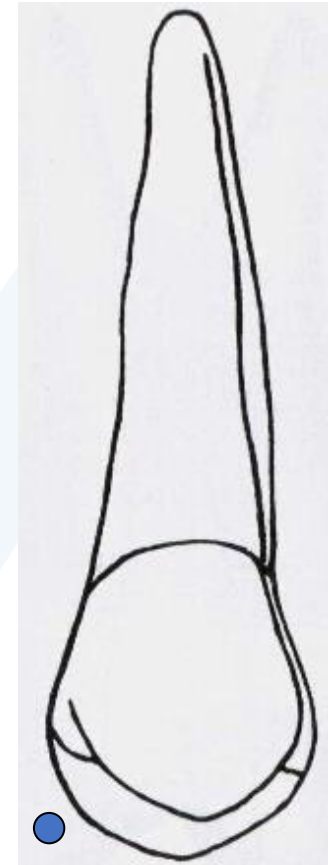
palatal Aspect

- Mesiodistal dimension of the crown is narrower in its palatal $\frac{1}{2}$; hence, in this view a portion of the mesial and distal surfaces can be seen. Clinically this results in a large (long) lingual embrasure .



Lingual aspect

- Distal height of contour is slightly gingival to the mesial height of contour.
- Mesial height of contour is at the junction of the occlusal and middle 1/3.



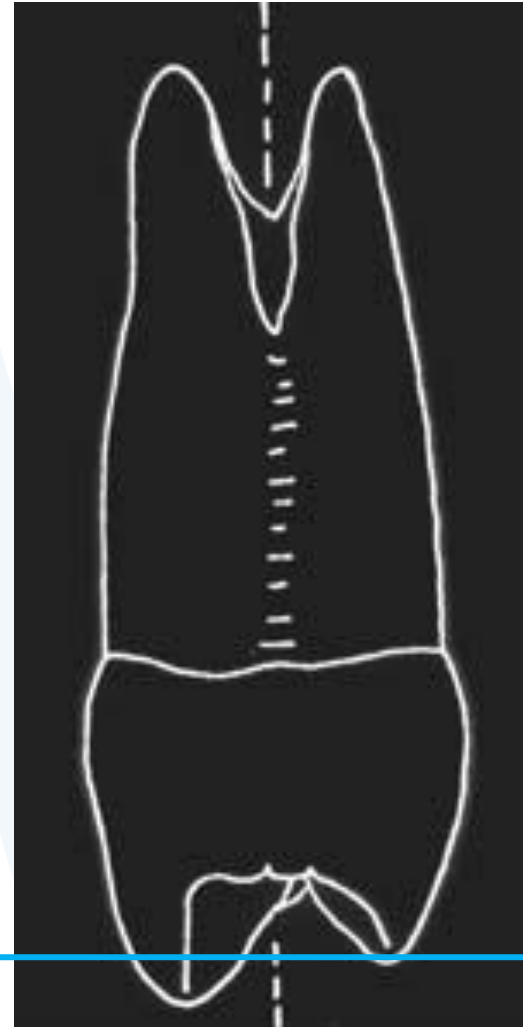
Mesial aspect

- The mesial surface of the crown is also trapezoidal .



Mesial aspect

- The buccal outline of the crown curves outward below the cervical line.
- The lingual outline of the crown is smoothly curved line starting at the cervical line and ending at the tip of the lingual cusp.



Mesial aspect

- Cervical to the mesial contact area, There is a **mesial longitudinal concavity**, called **mesial development depression**, which continues apically beyond the cervical line, join a **deep development depression** between the roots and ends at the root bifurcation . .



Mesial aspect

- Mesial height of contour(contact area) displaced buccal of center, at the junction of the occlusal and middle 1/3 .



Mesial aspect

- Buccal height of contour in the gingival 1/3.
- Lingual height of contour in the middle 1/3.



Mesial aspect

- Mesial marginal ridge is crossed by spillway.



Occlusal aspect

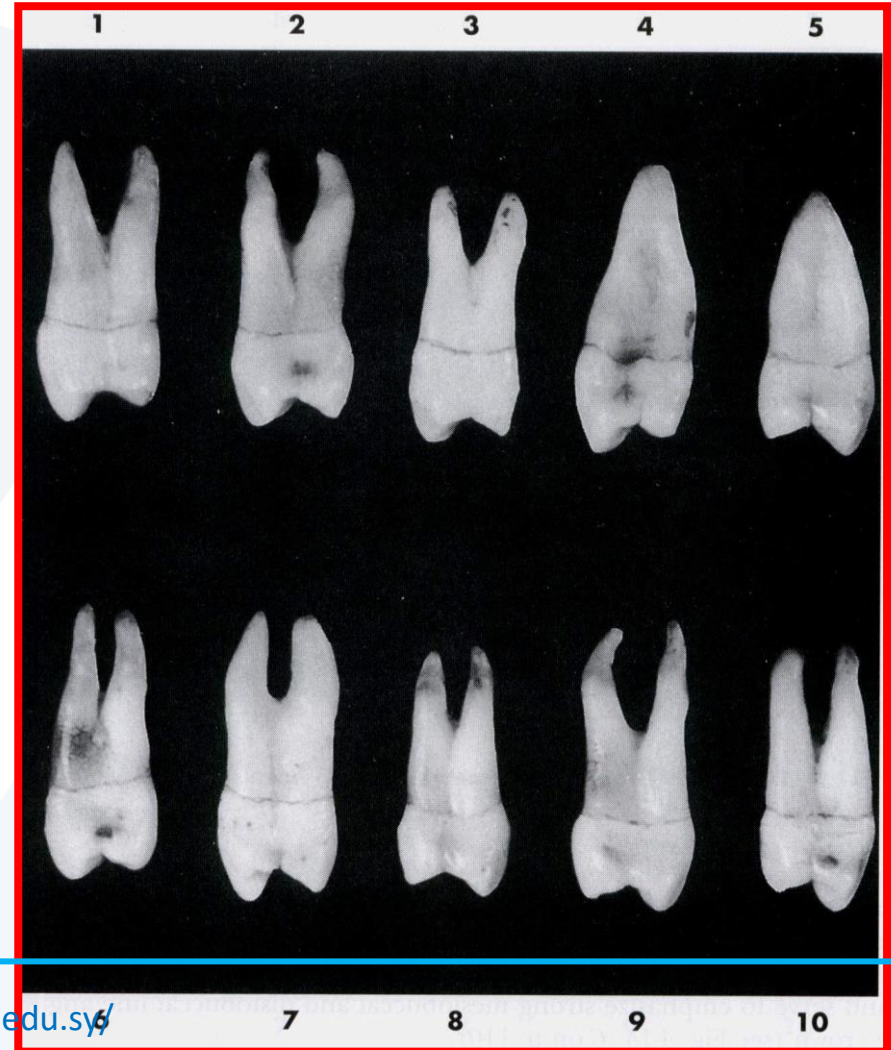
- Deep axial spillway present on mesial: named the **mesial marginal groove**.




جامعة المنصورة
MANSOURA UNIVERSITY

Mesial aspect Ten Typical specimens

- Anatomical variation



Distal aspect

- The crown surface is almost convex at all points.
- Lingual cusp **may be** less pointed than buccal cusp tip.



Distal aspect

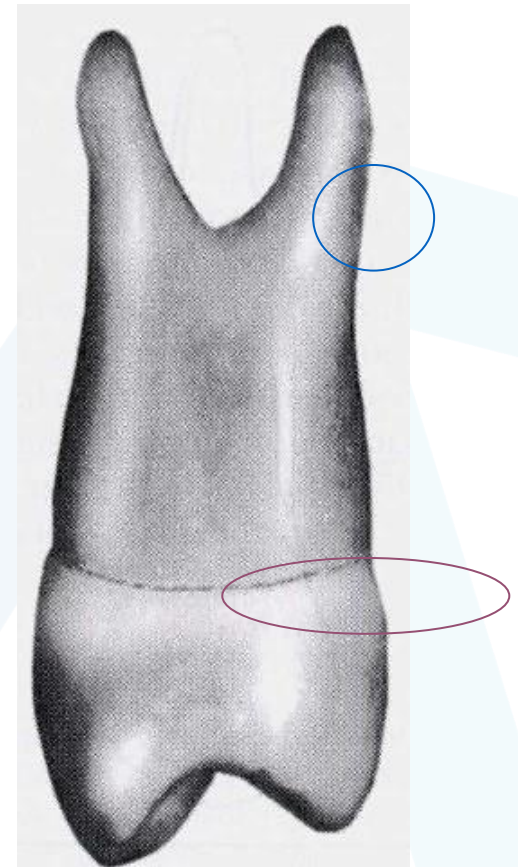


- Distal height of contour at or near the middle 1/3, and displaced slightly buccal of center .



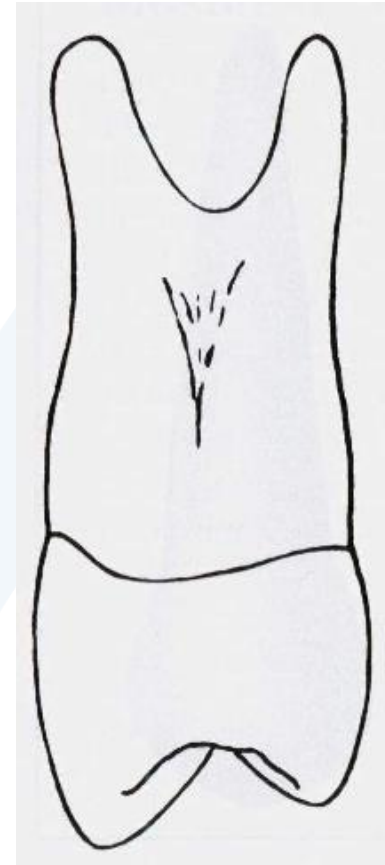
Distal aspect

- The **root trunk** is flattened on the distal surface above the cervical line .
- The **bifurcation** of the roots is abrupt near the apical third ,with no development groove leading to it such as that found mesially .



Distal aspect

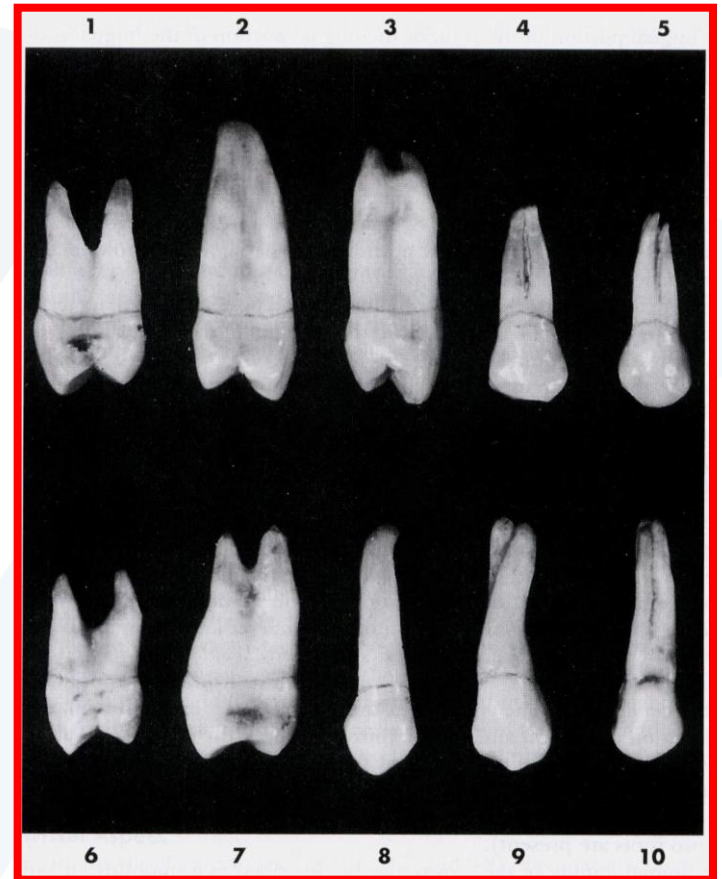
- Lingual cusp is considerably shorter than buccal cusp.



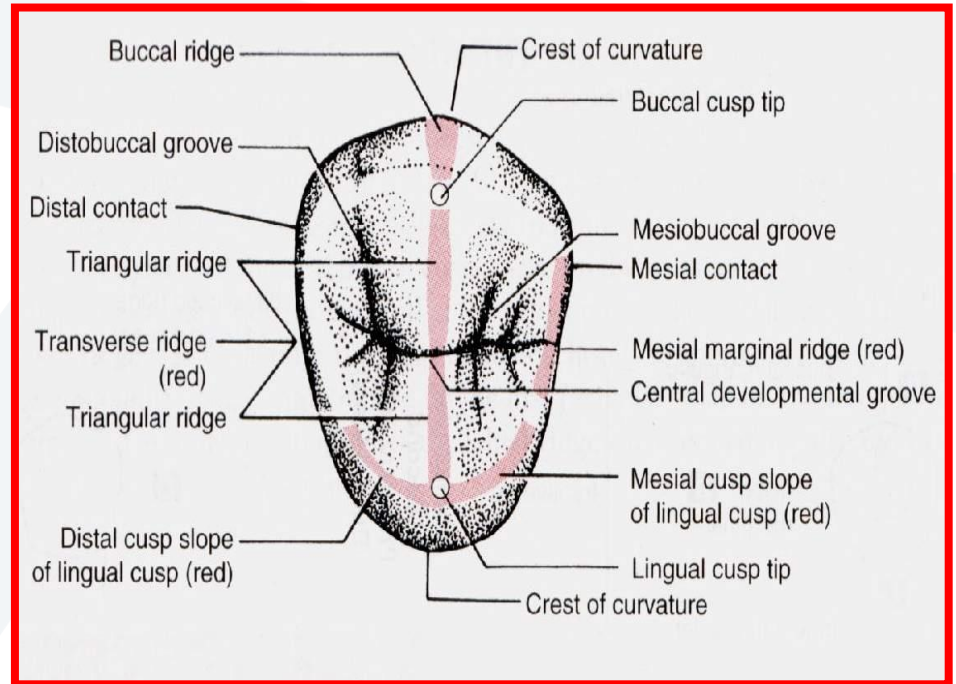
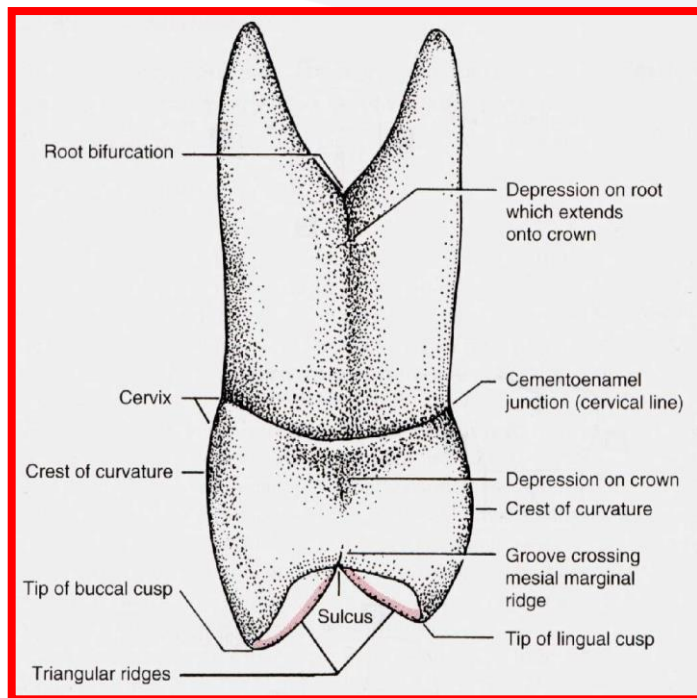
Distal aspect
Ten Typical specimens



- Anatomical variation

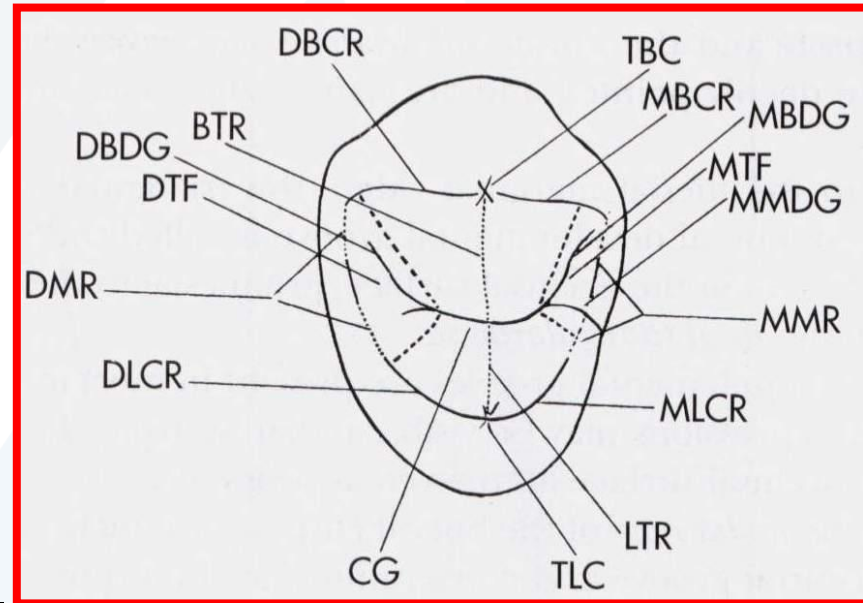


Some landmarks on the maxillary Right first Premolar:



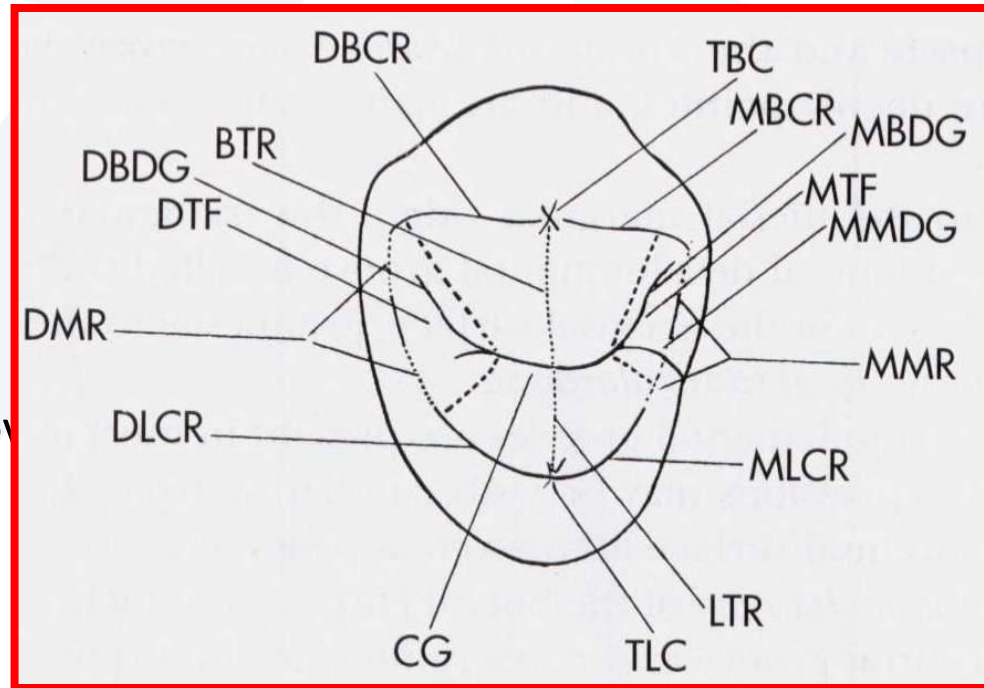
Anatomical landmarks

- **TBC**: Tip of buccal cusp.
- **MBCR**: Mesio buccal cusp ridge.
- **MBDG**: Mesio buccal development groove.
- **MTF**: Mesial triangular fossa.
- **MMDG**: Mesial Marginal development groove.
- **MMR**: Mesial Marginal ridge.
- **MLCR**: Mesiolingual cusp ridge.
- **LTR**: Lingual triangular ridge.



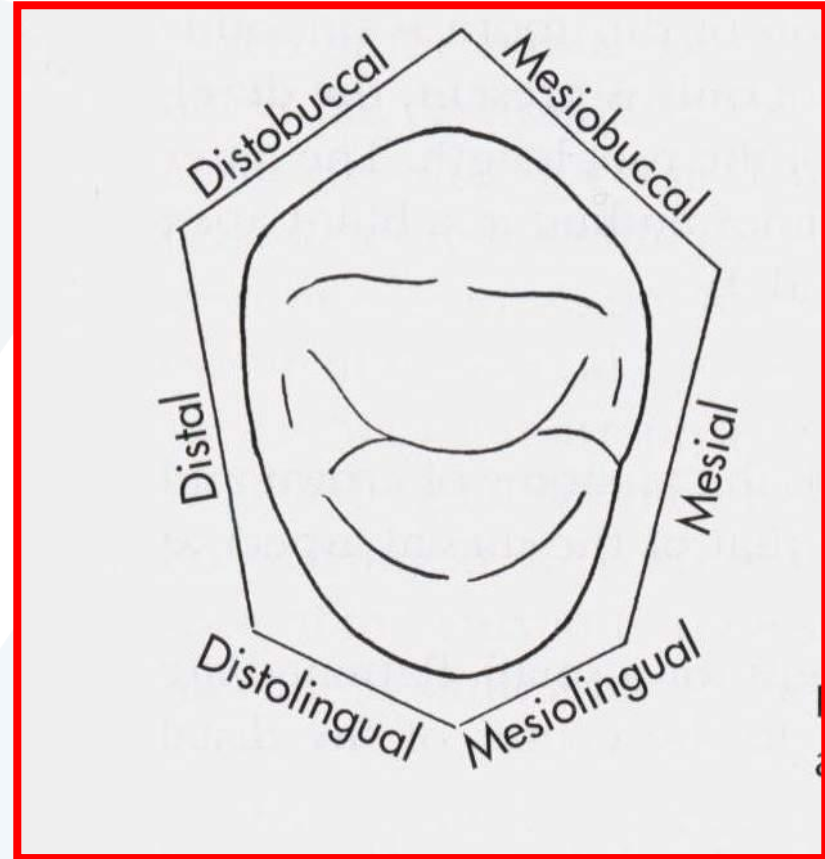
Anatomical landmarks

- **TLC**: Tip of lingual Cusp .
- **CG**: Central Groove.
- **DLCR** :Distolingual cusp ridge.
- **DMR** :Distal Marginal ridge.
- **DTF**: Distal triangular fossa .
- **DPDG**: Distobuccal Development groove
- **BTR**: Buccal triangular ridge.
- **DBCR** :Distobuccal cusp ridge.



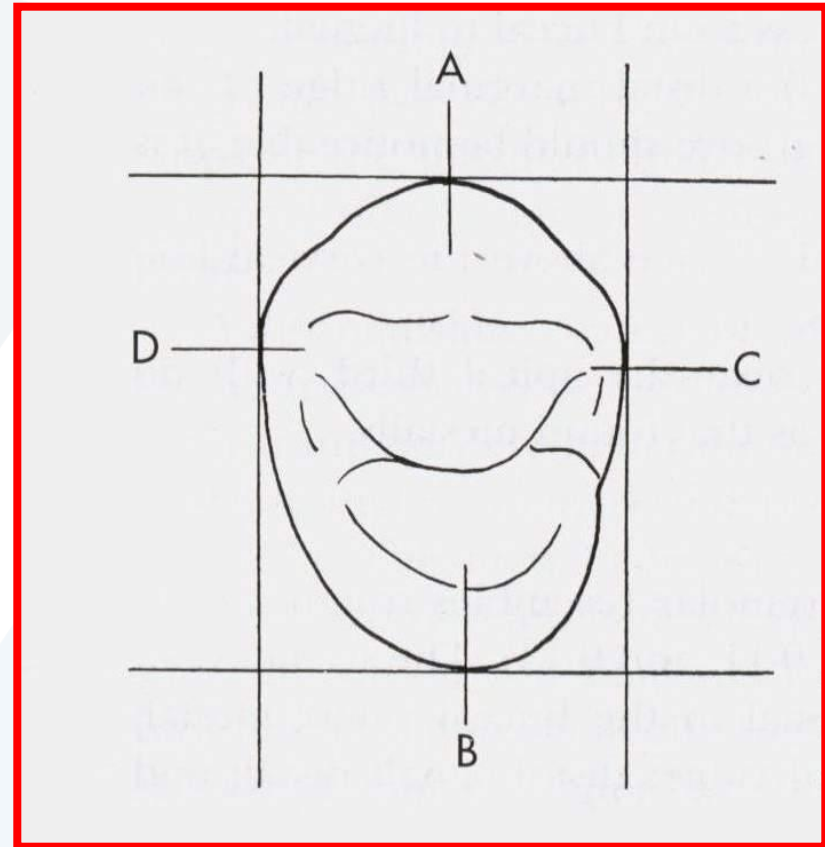
Occlusal aspect

- this aspect resembles a hexagonal figure.
- the crown is wider on the buccal than on the lingual.
- The buccolingual dimension of the crown is much greater than the mesiodistal dimension.



Occlusal aspect

- The distance from the buccal crest (A) to the mesial crest (C) is slightly longer than the distance from the buccal crest to the distal crest (D) .
- The distance from the mesial crest (C) to the lingual crest (B) is much shorter than the distance from the distal crest (D) to the lingual crest (B).



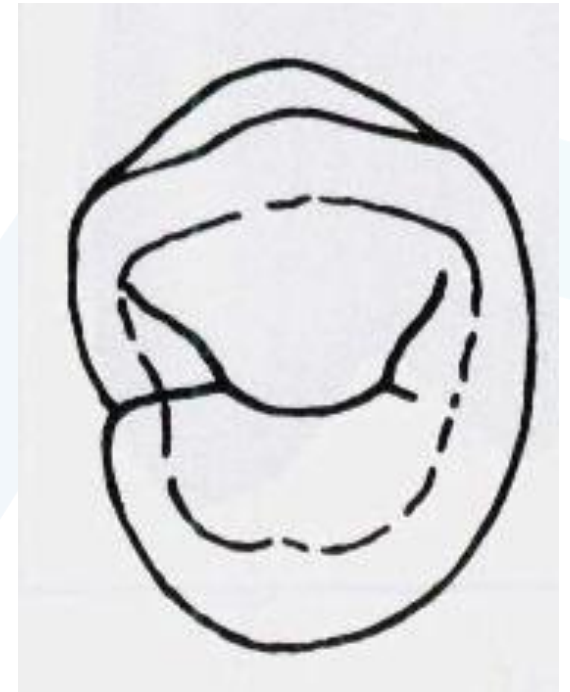
Occlusal aspect

- A well-defined **developmental groove** divides the surface evenly buccolingually..it is located at the bottom of the central sulcus , extending from a point just mesial to the distal marginal ridge to the mesial marginal ridge ,where it joins the mesial marginal developmental groove.This latter groove crosses the mesial marginal ridge and ends on the mesial surface of the crown .



Occlusal aspect

- Two collateral developmental grooves join the central groove just inside the mesial and the distal marginal ridges. these grooves are called **mesiobuccal developmental groove** and **distobuccal developmental groove**. The junctions of the grooves are deeply pointed and are named the **mesial and distal developmental pits**.



Occlusal aspect

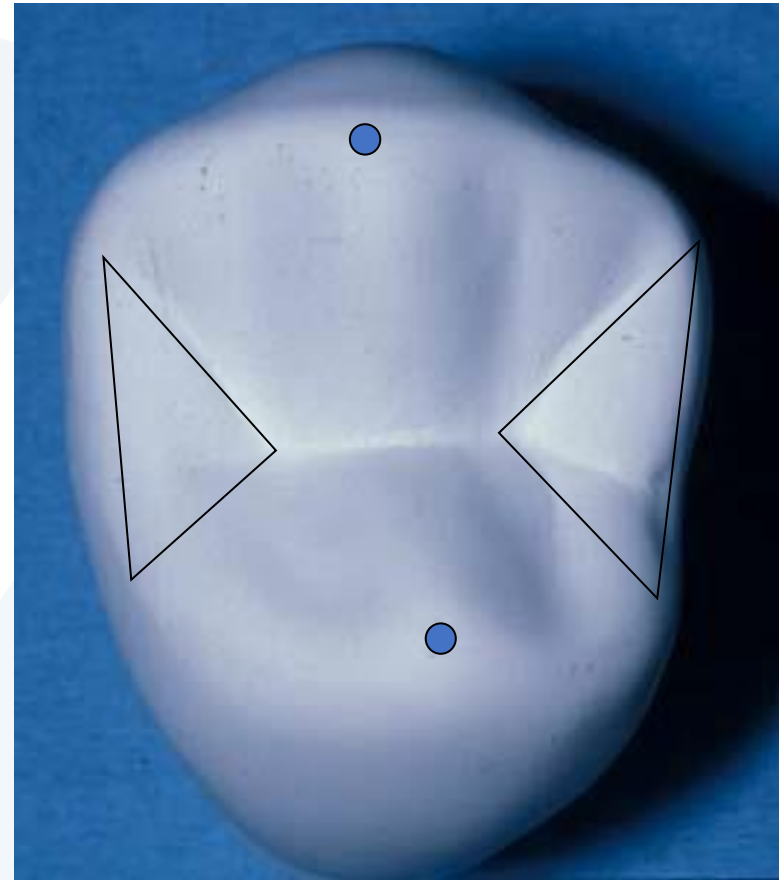


- Mesial marginal groove evident crossing mesial marginal ridge .



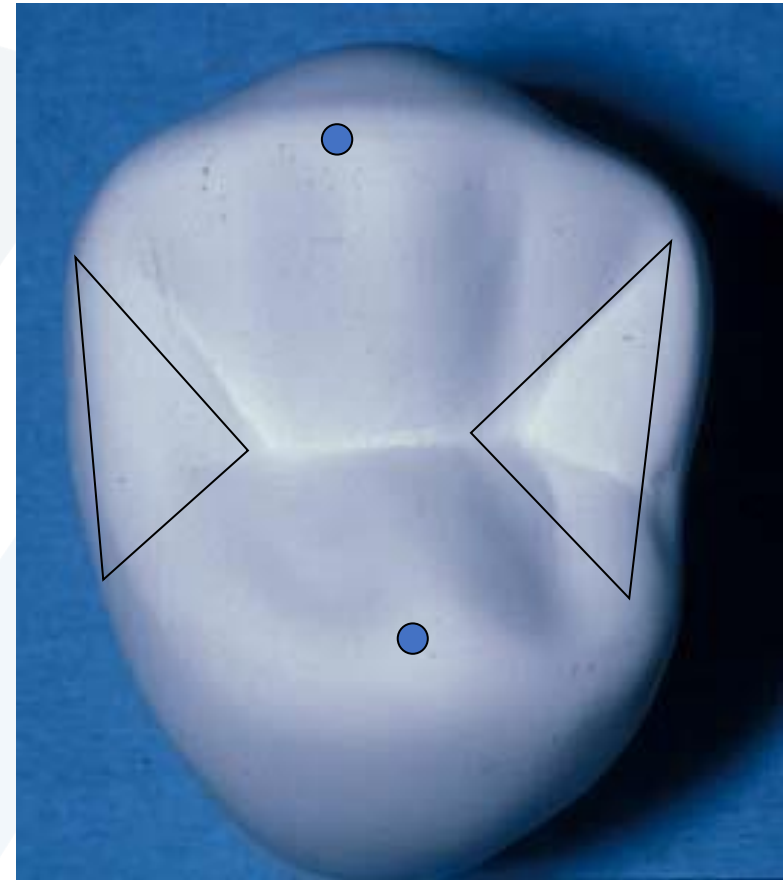
Occlusal aspect

- Buccal cusp tip offset slightly toward the distal .
- Lingual cusp is offset to the mesial .
- Two triangular grooves around each triangular ridge



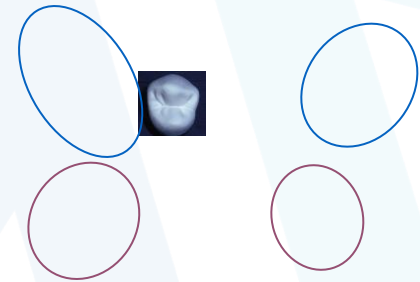
Occlusal aspect

- Just distal to the mesial marginal ridge, the triangular depression that harbors the mesiobuccal developmental groove is called the **mesial triangular fossa** .the depression just mesial to the distal marginal ridge ,is called the **distal triangular fossa** .



Occlusal aspect

- **Buccal triangular grooves** on the buccal cusp are deeper and better defined than **lingual triangular grooves**.



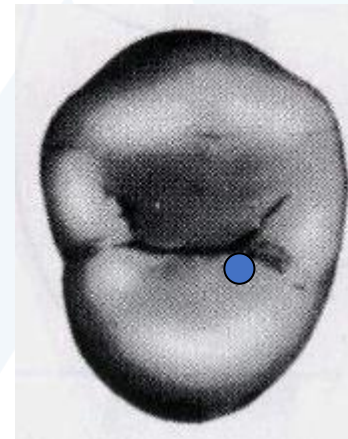
Occlusal aspect

- Distal displacement of buccal cusp and mesial displacement of lingual cusp give this tooth an angular appearance viewed from the occlusal aspect. no supplemental grooves are present in most cases .
- A minimum of occlusal grooves are present: central and triangular only.



Occlusal aspect

- Mesial and distal pits widely separated.



Incisal aspect, Ten Typical specimens

- Anatomical variation

