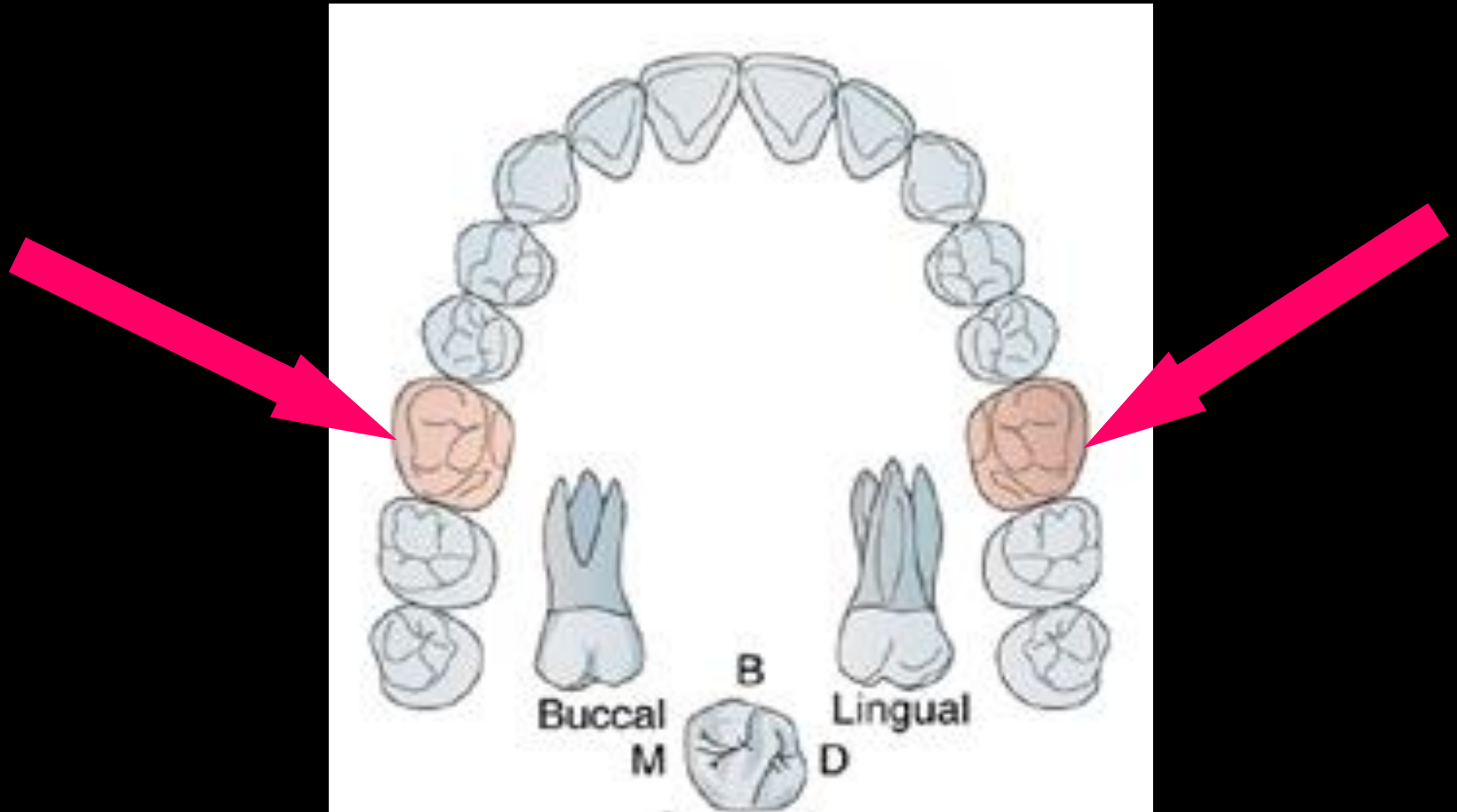


Maxillary permanent 1ST Molar



No. of surfaces:

It has five surfaces



BUCCAL



PALATAL



MESIAL



DISTAL

No. of roots:

It has 3 roots

OCCLUSAL

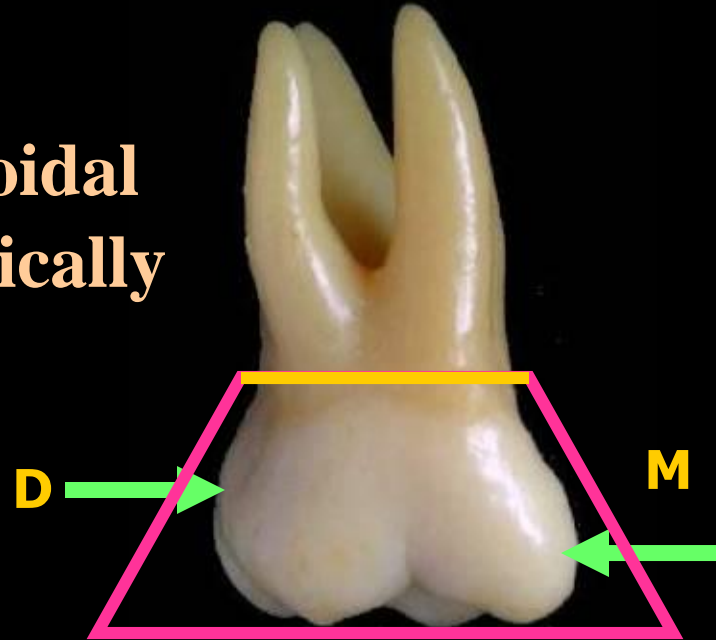


BUCCAL ASPECT

The geometric outline: Trapezoidal with small uneven side present cervically

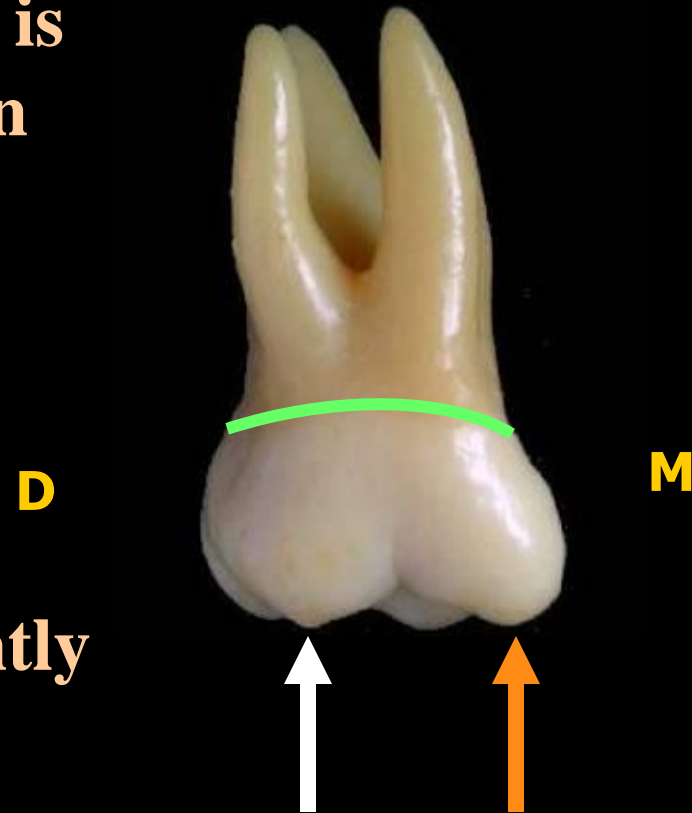
Mesial outline: Nearly straight till the contact area at the junction of the occlusal and middle 1/3

Distal outline: Convex till the contact area at the middle 1/3



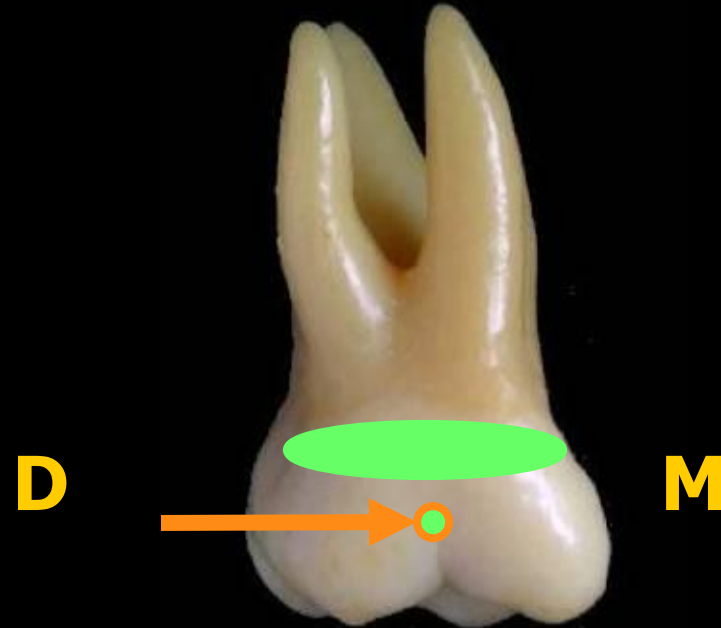
Occlusal outline: Mesio-buccal cusp is broader, shorter and less sharp than disto-buccal cusp

Cervical outline: Irregular and slightly convex toward the root



Anatomical landmarks:

- * Convex buccal surface.
- * Buccal groove may terminate by buccal pit.
- * Cervical ridge.



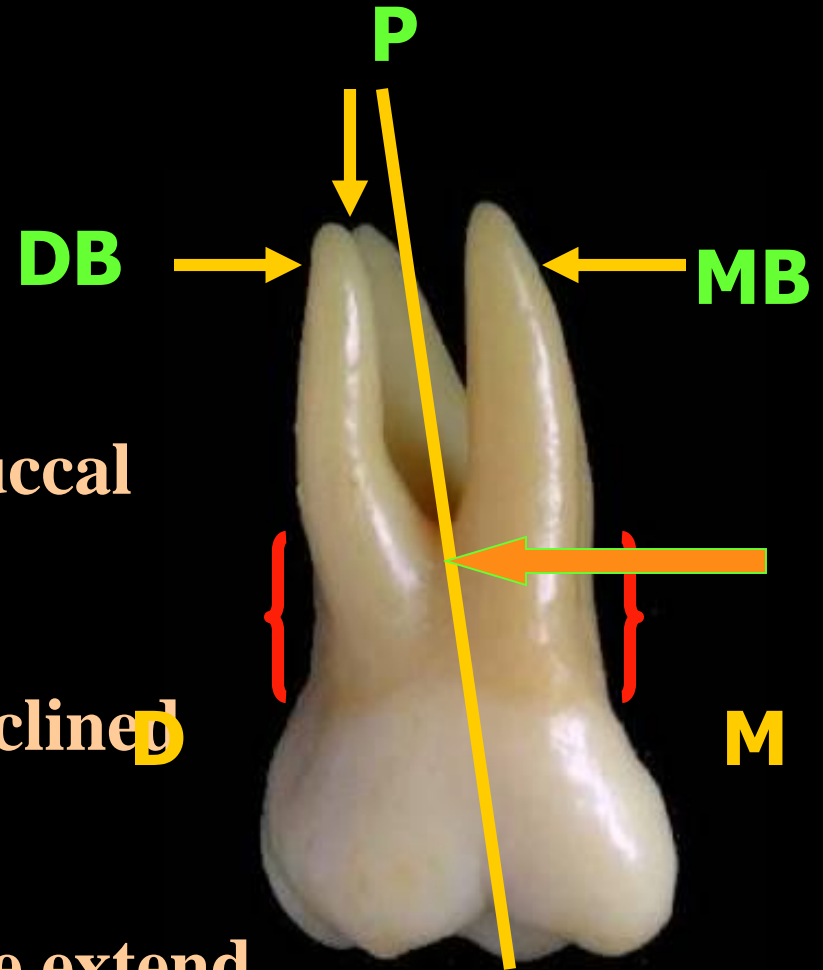
The Roots:

* Root trunk: 4 millimeters

* 3 roots are seen from the buccal aspect.


* The axis of the roots are inclined distally

* Deep developmental groove extend on root trunk

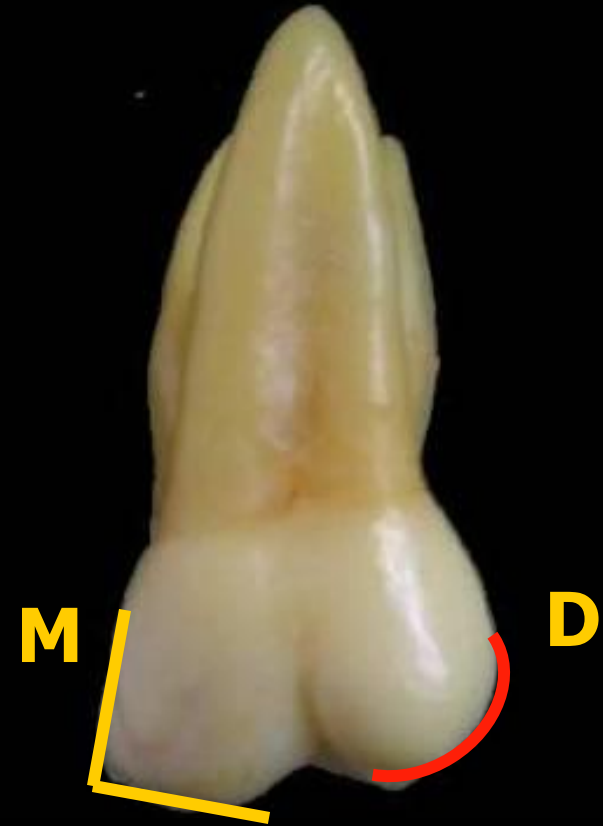


LINGUAL ASPECT

* No lingual convergence

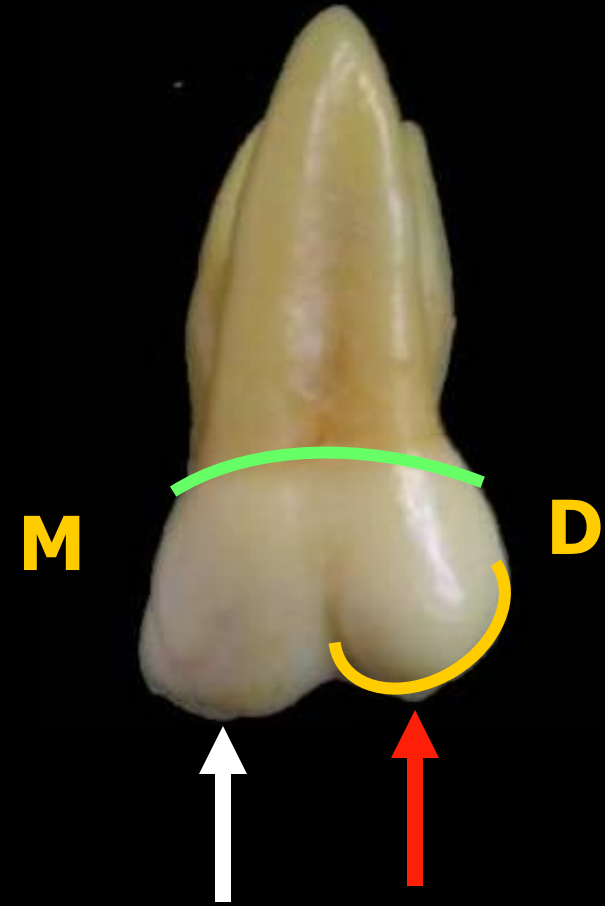
Mesial outline: Nearly straight and form  with the mesial slope of the ML cusp

Distal outline: Convex and form semicircle with the distal slope of the DL cusp



Occlusal outline: ML cusp is the largest and longest cusp. DL cusp is spheroidal

Cervical outline: Irregular and slightly convex toward the root

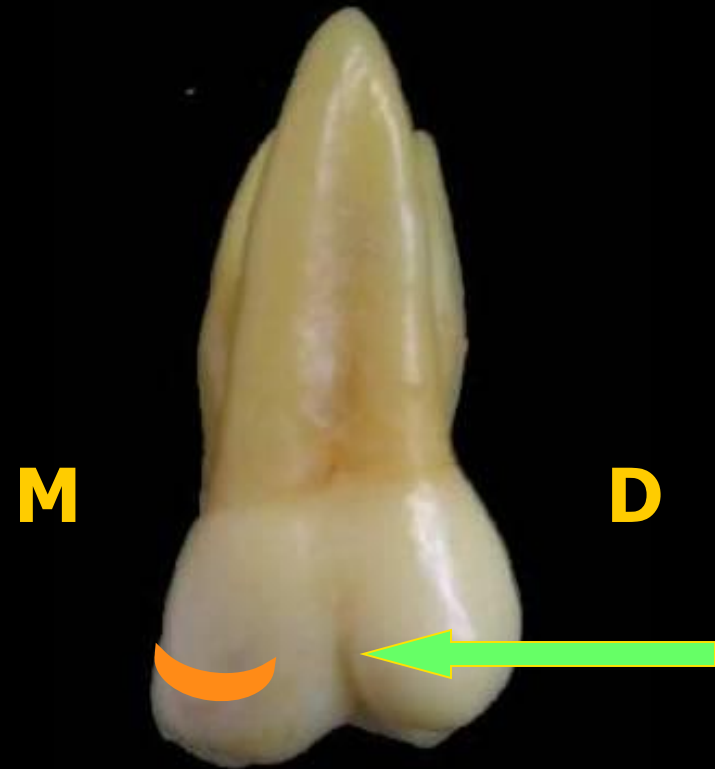


Anatomical landmarks:

*Convex lingual surface.

*Cusp of carabelli in 60 % of the lingual surface of ML cusp

*Lingual developmental groove.



MESIAL ASPECT

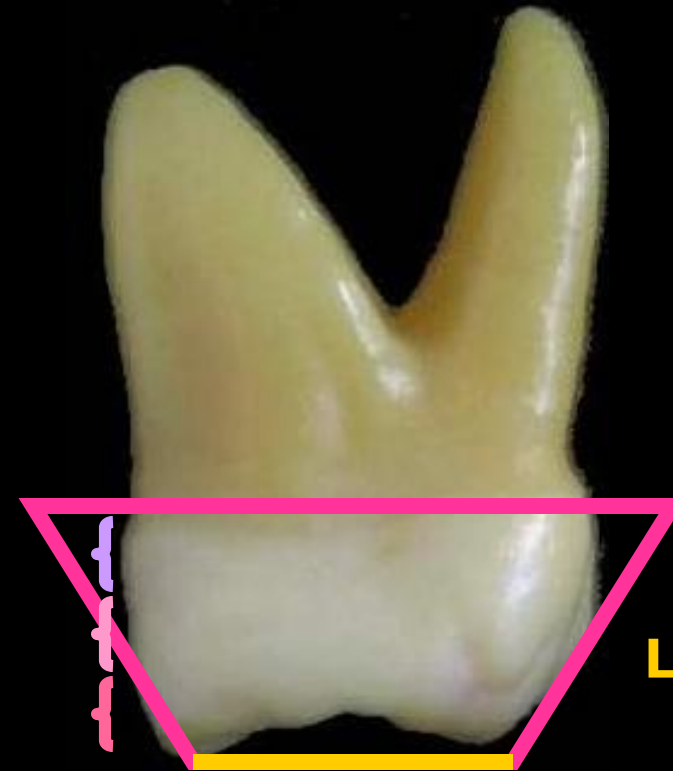
The geometric outline:

Trapezoidal with small uneven side occlusally

Buccal outline: * Convex at cervical 1/3 denoting cervical ridge

* Concave at the middle 1/3 denoting the termination of buccal developmental groove

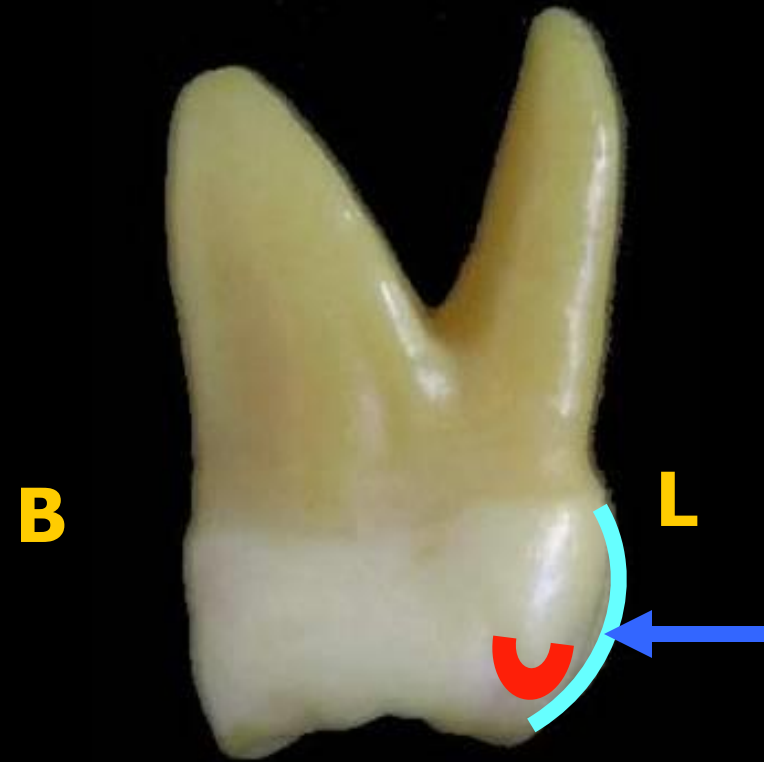
* Convex at the occlusal 1/3 representing circumscribed MB cusp



Lingual outline:

* Convex with the crest of curvature at the middle 1/3.

* The lingual outline dips inward to illustrate the **tubercle**.



Occlusal outline:

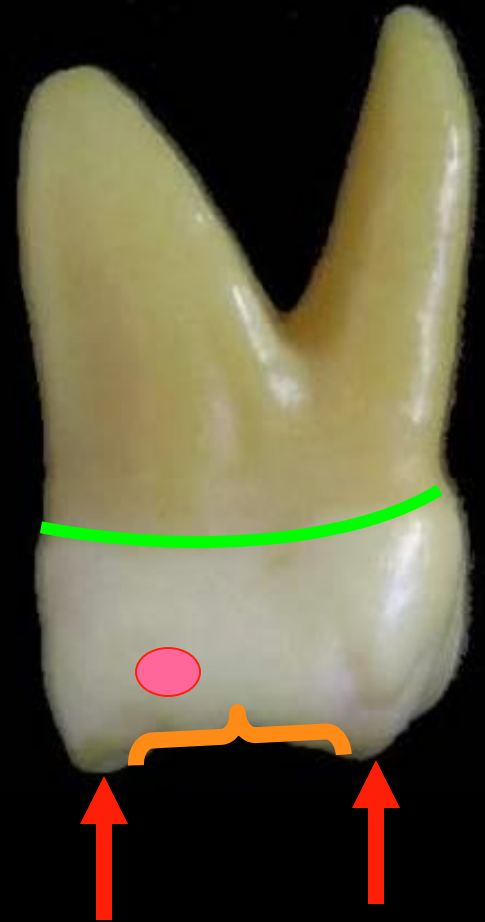
- * Represented by **ML**, **MB** cusps
- * Irregular **MMR** which curve cervically.

Cervical outline:

Irregular and convex occlusally

Anatomical landmarks

Mesial **contact area** at the junction between middle and occlusal 1/3, buccal to the center



DISTAL ASPECT



- * Distal Convergence
- * Convex distal surface
- * Distal MR curved cervically

MESIAL ASPECT

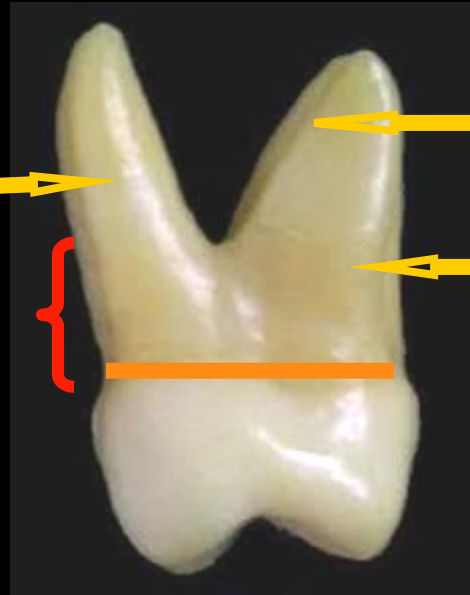


- * Wider mesial surface
- * Flat mesial surface
- * Mesial marginal ridge less curved

Continue



DISTAL ASPECT

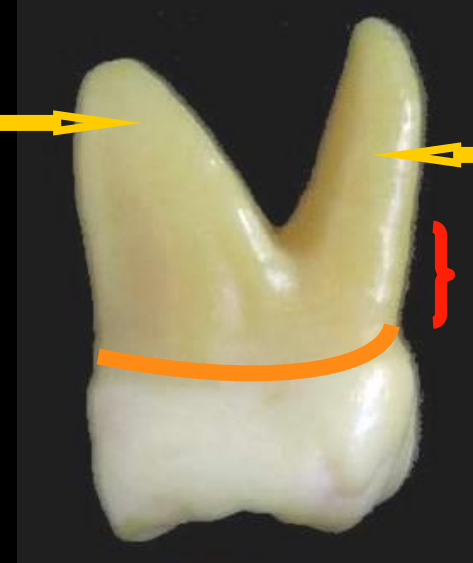


*Straight cervical line

*Root trunk = **5mm**

***3** roots are seen

MESIAL ASPECT



*Cervical line convex occlusally

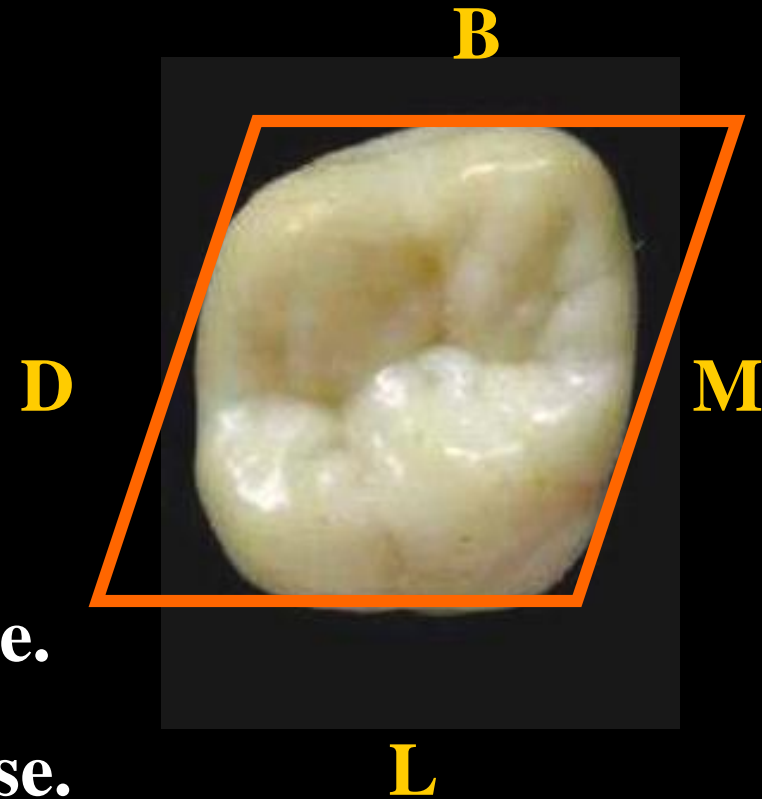
*Root trunk = **3mm**

***2** roots are seen

OCCLUSAL ASPECT

The geometric outline:
Rhomboidal

- Note:** * Disto-buccal convergence.
* ML, BD angles are obtuse.
* MB, DL angles are acute



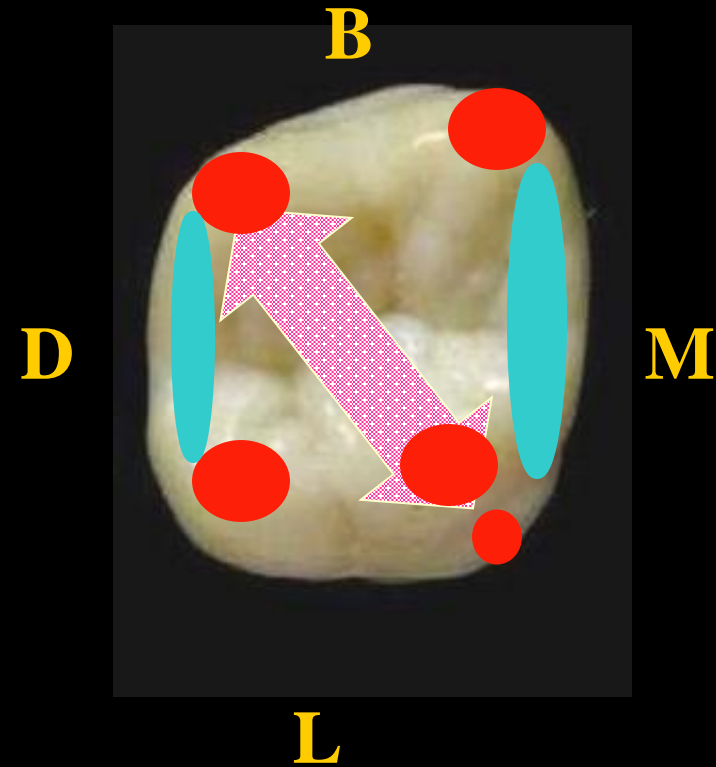
Anatomical landmarks:

Elevations:

* **4 cusps** with 4 triangular ridges and tubercle

* **Oblique ridge** between ML,DB
triangular ridge

* **MMR** and **DMR**



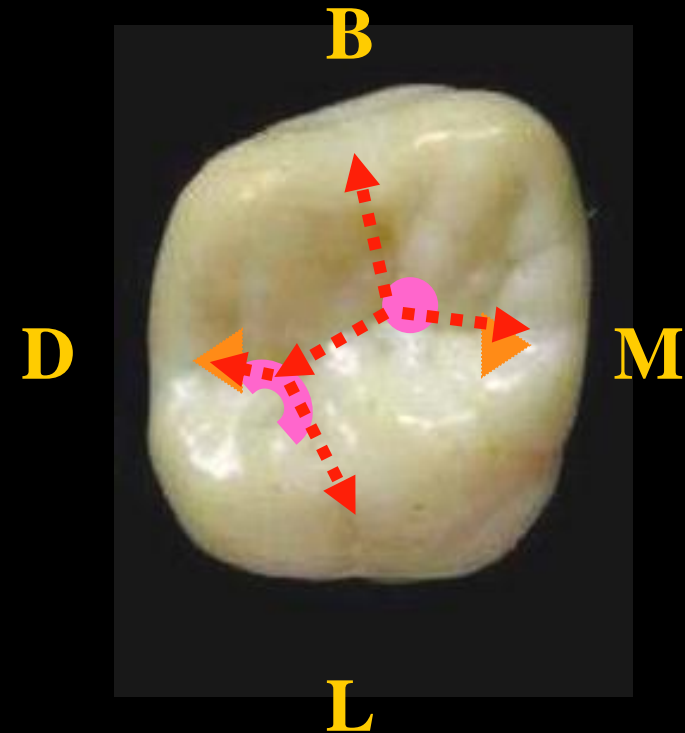
Anatomical landmarks:

Depression:

*2 major fossae (central and distal)

*2 Minor fossae (mesial and distal triangular fossae)

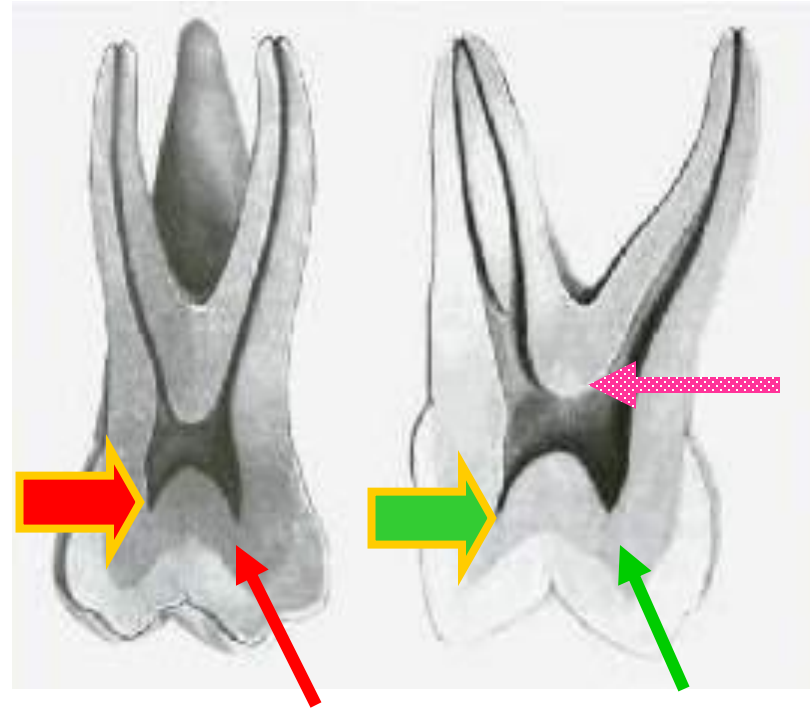
*Developmental grooves (Buccal, Central, transverse groove of oblique ridge, Distal oblique groove and Lingual groove)



☺ Pulp cavity

▶ Pulp Chamber:

- The pulp chamber is broader **Bucco-lingually** than **mesio-distally**.
- There is pulp horn beneath each cusp
- The floor is apical to the cervical line.



☺ Pulp cavity

▶ Root Canals:

-3 main root canals.

-**MB** root may have 2 root canal

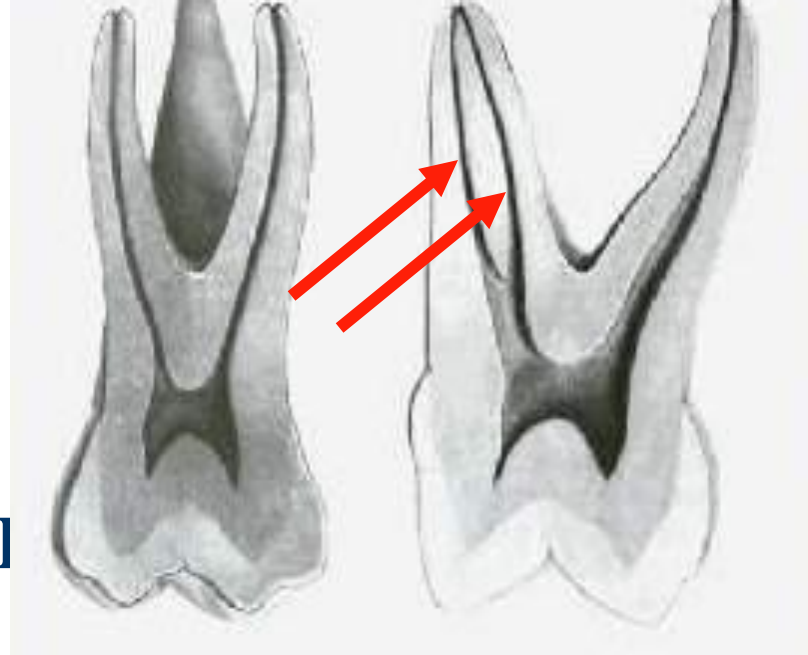
Note:

Cervical cross section: Rhomboidal

Mid root section: MB root canal (Oval- Kidney)

DB root canal (Round-Oval)

P root canal (Round- Oval)



Enumerate the names of the following elevations and depression?

1-DMR

2-Oblique ridge

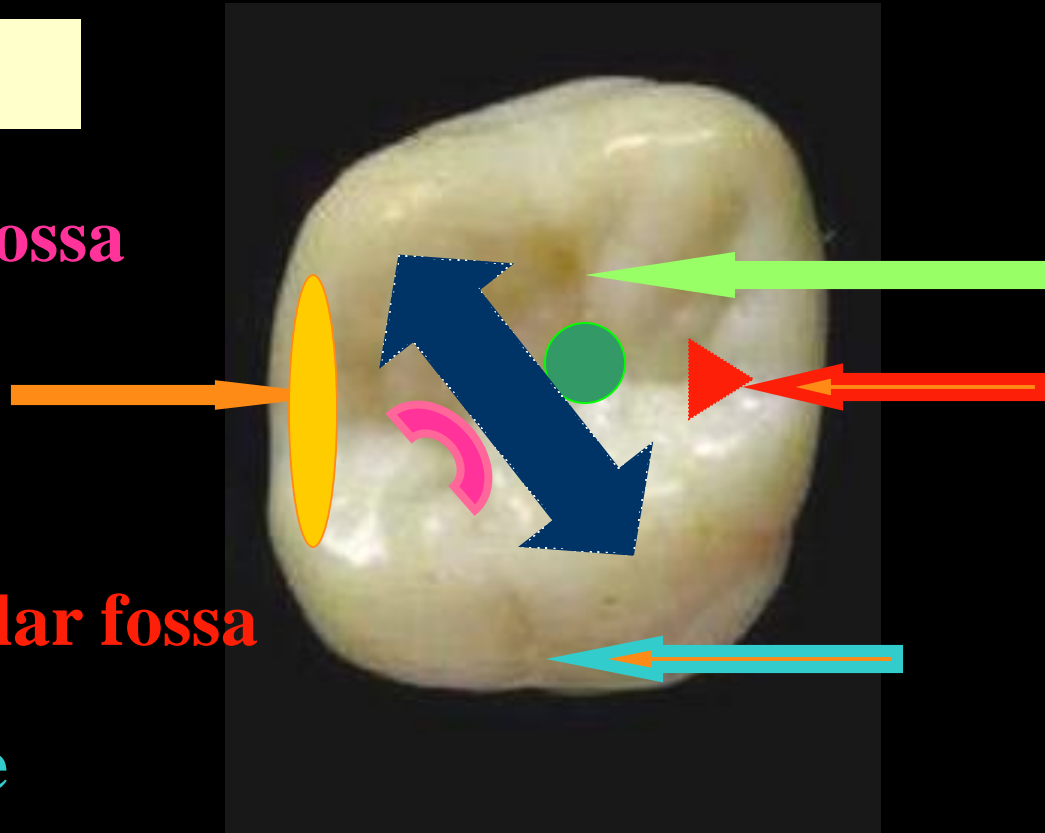
3-Distal linear fossa

4- Central fossa

5- Buccal groove

6- Mesial triangular fossa

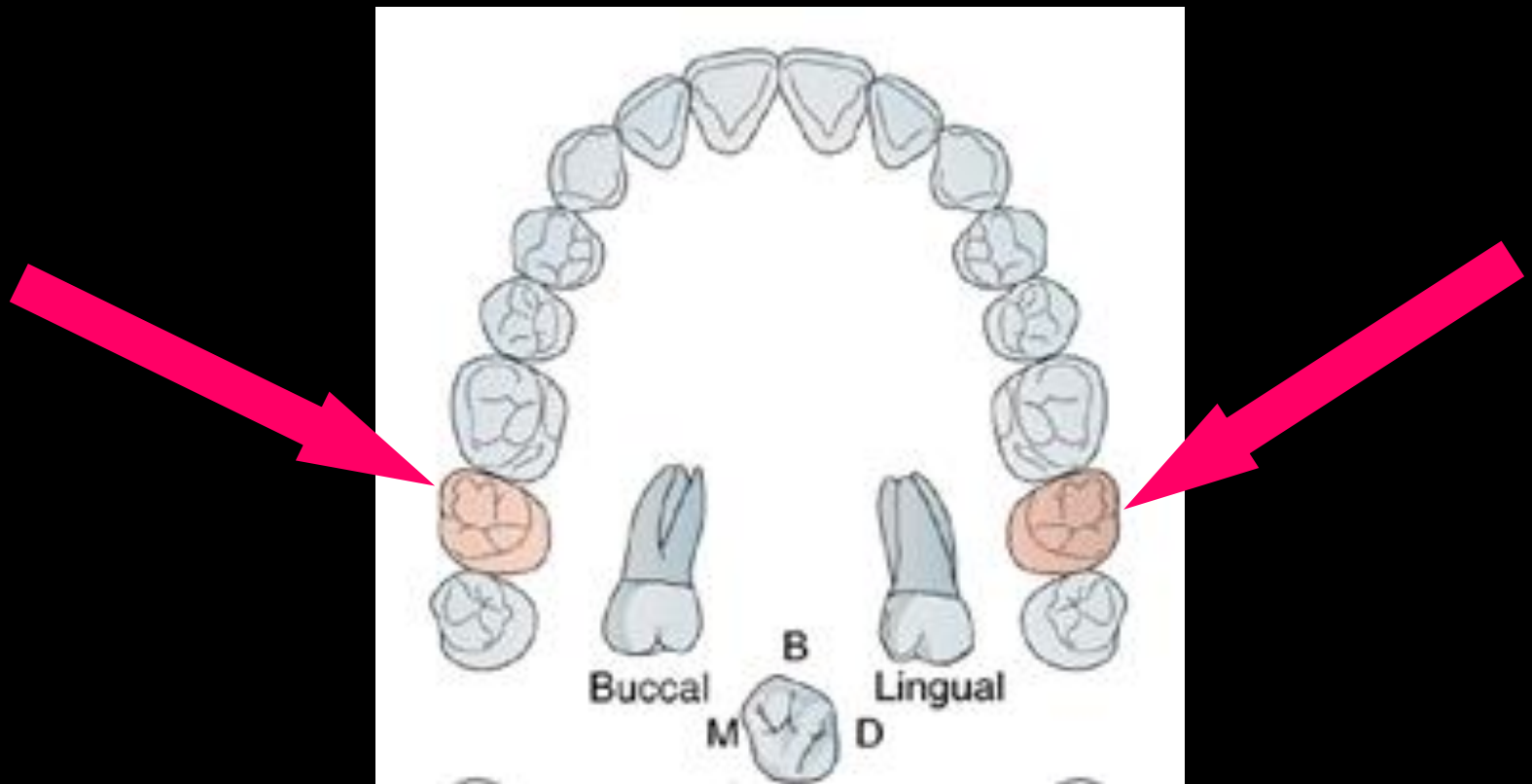
7- Lingual groove



***The greatest of all
faults is
to be conscious of
none***

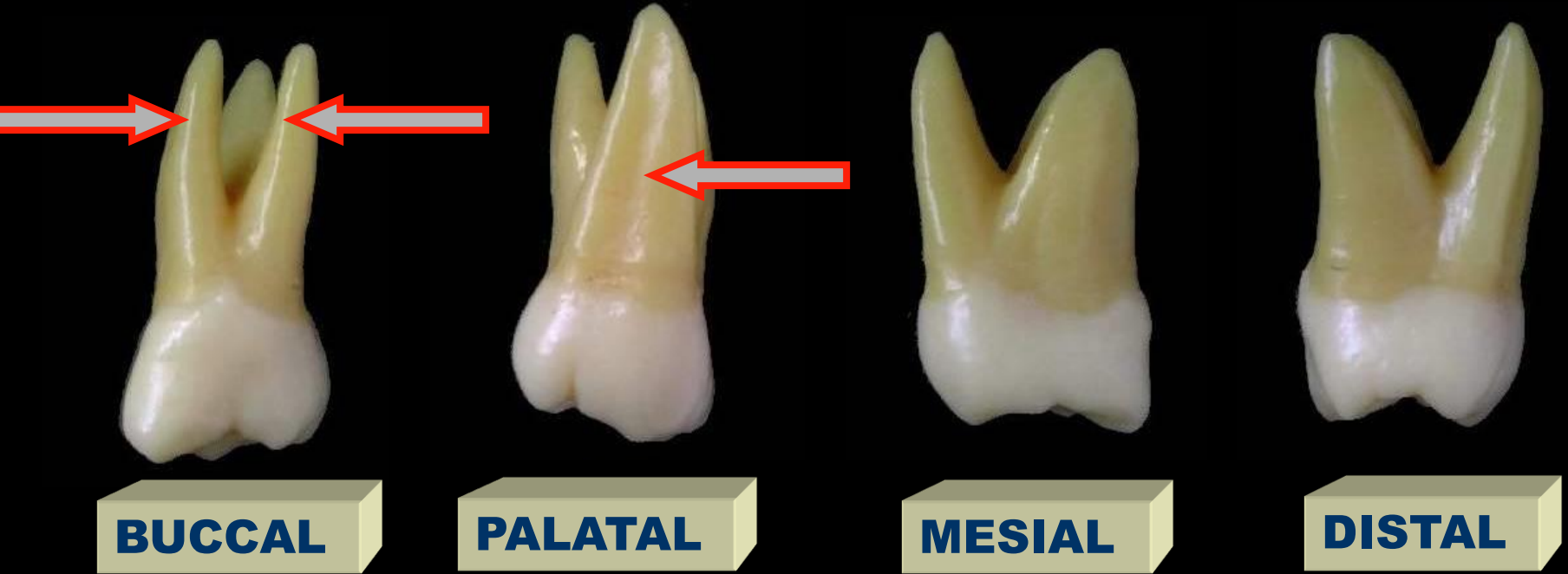


Maxillary permanent 2nd Molar



No. of surfaces:

It has five surfaces

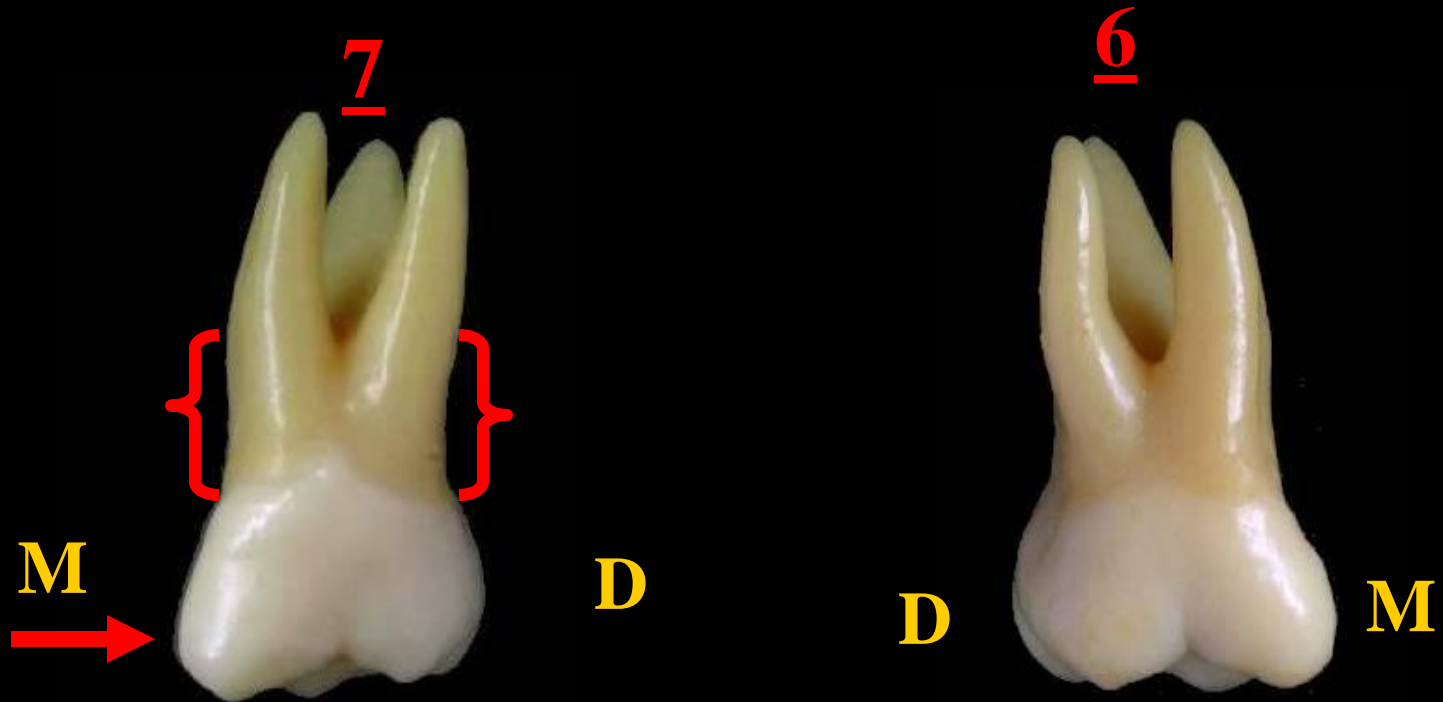


No. of roots:

It has 3 roots



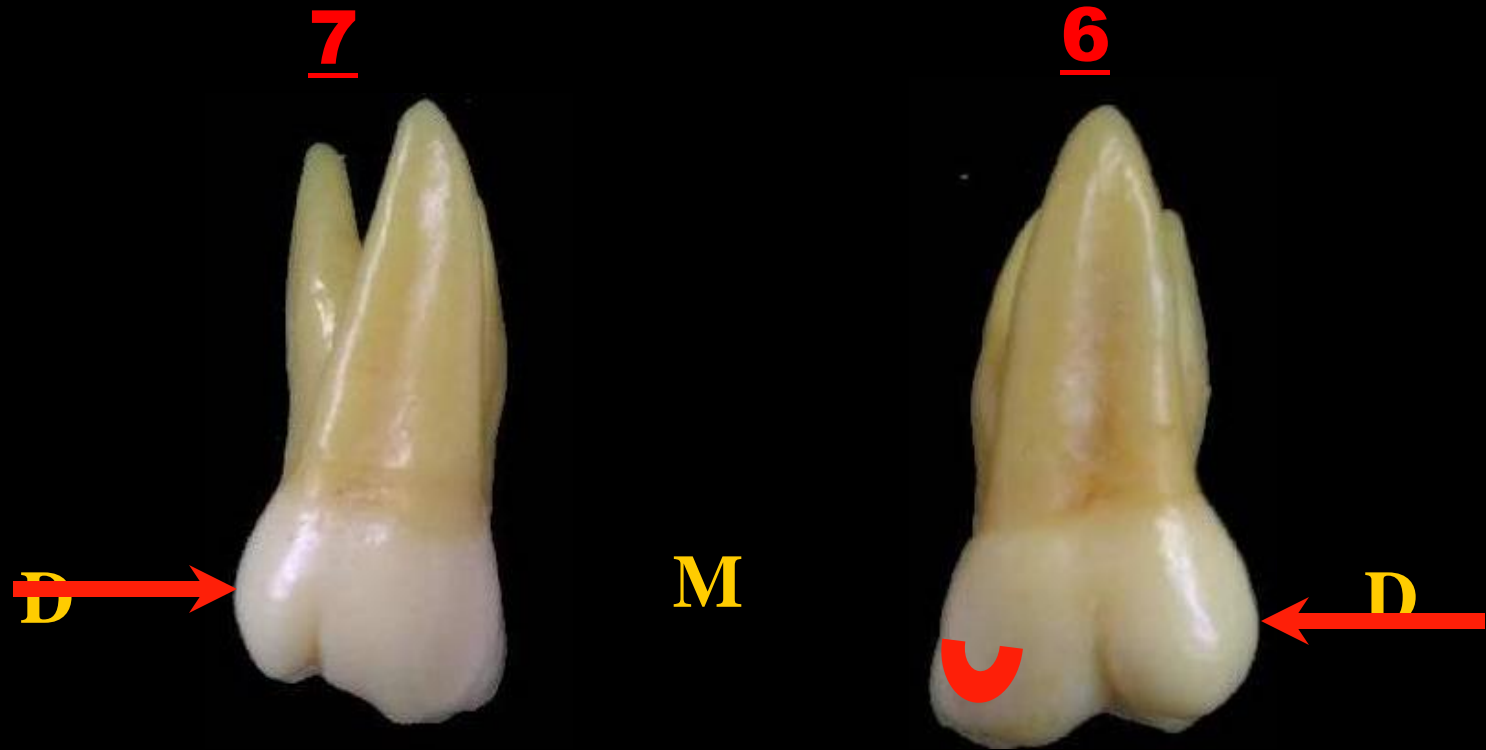
BUCCAL ASPECT



in 7 MB cusp is larger and longer than DB cusp

The root trunk is longer in 7

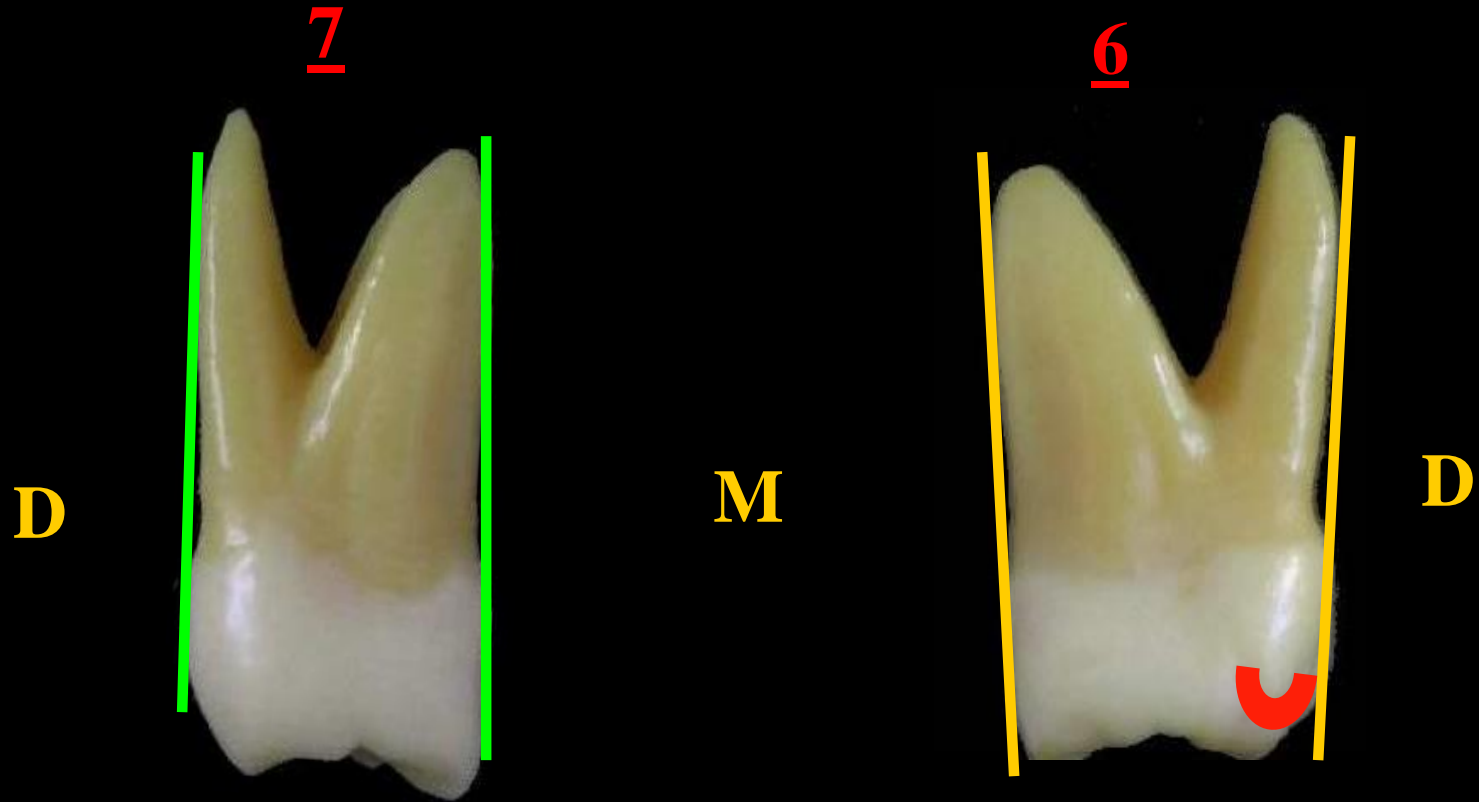
LINGUAL ASPECT



* **DL** cusp is smaller in 7. It may be missed (3 - cusp type)

* No cusp of carabelli in 7

MESIAL ASPECT



* No cusp of carabelli in 7

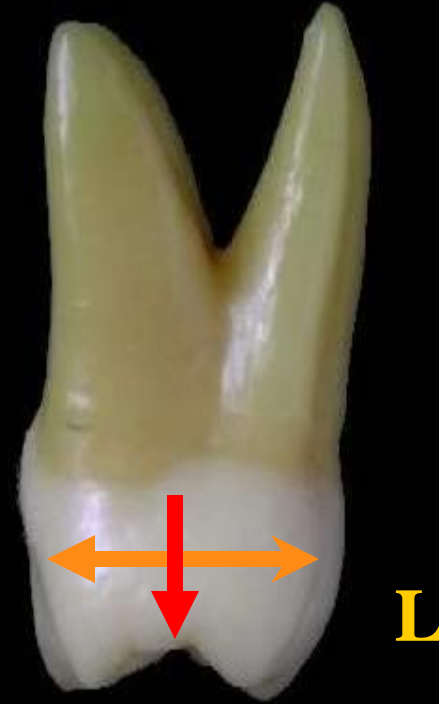
* MB and P roots in 7 are confined within the BL outlines of the crown

DISTAL ASPECT

* Distal Convergence

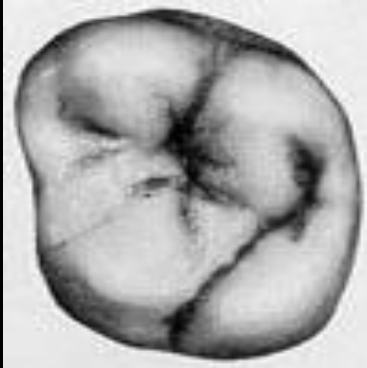
** Convex distal surface

*** Distal MR curved cervically **B**



OCCLUSAL ASPECT

B



M

L

4 cusp type

 outline typical to 6

Disto-lingual convergence

No tubercle of carabelli

B



D

M

L

3 cusp type

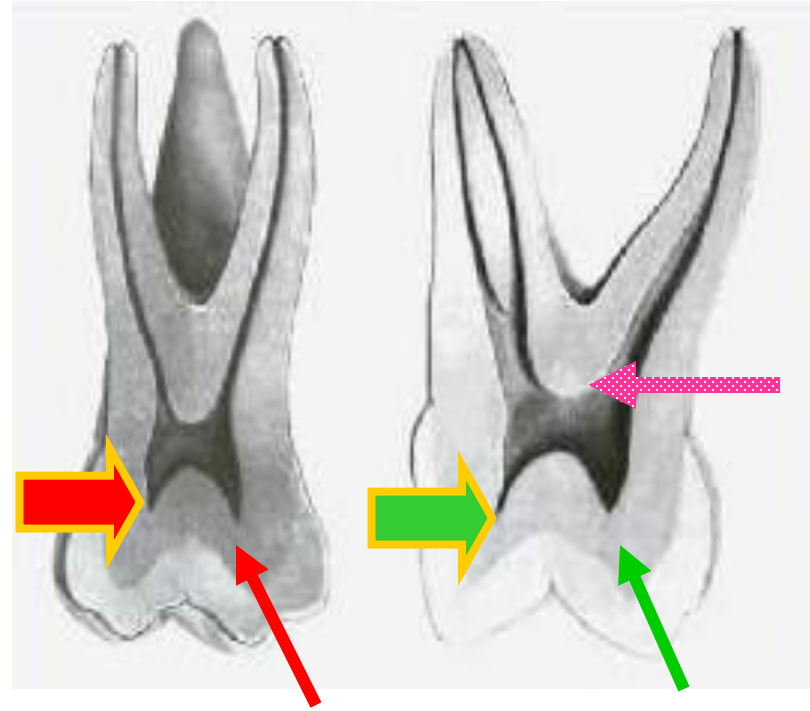
 shape typical to 8

**No disto-lingual cusp, No
lingual or distal oblique
grooves**

☺ Pulp cavity

▶ Pulp Chamber:

- The pulp chamber is broader **Bucco-lingually** than **mesio-distally**.
- There is pulp horn beneath each cusp
- The floor is apical to the cervical line.



☺ Pulp cavity

▶ Root Canals:

-3 main root canals.

-**MB** root may have 2 root canal

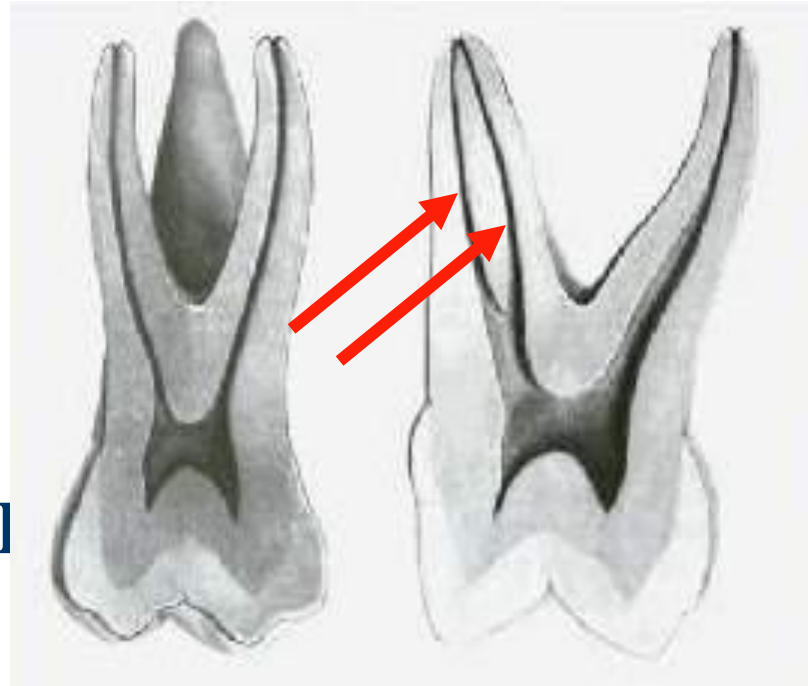
Note:

Cervical cross section: Rhomboidal

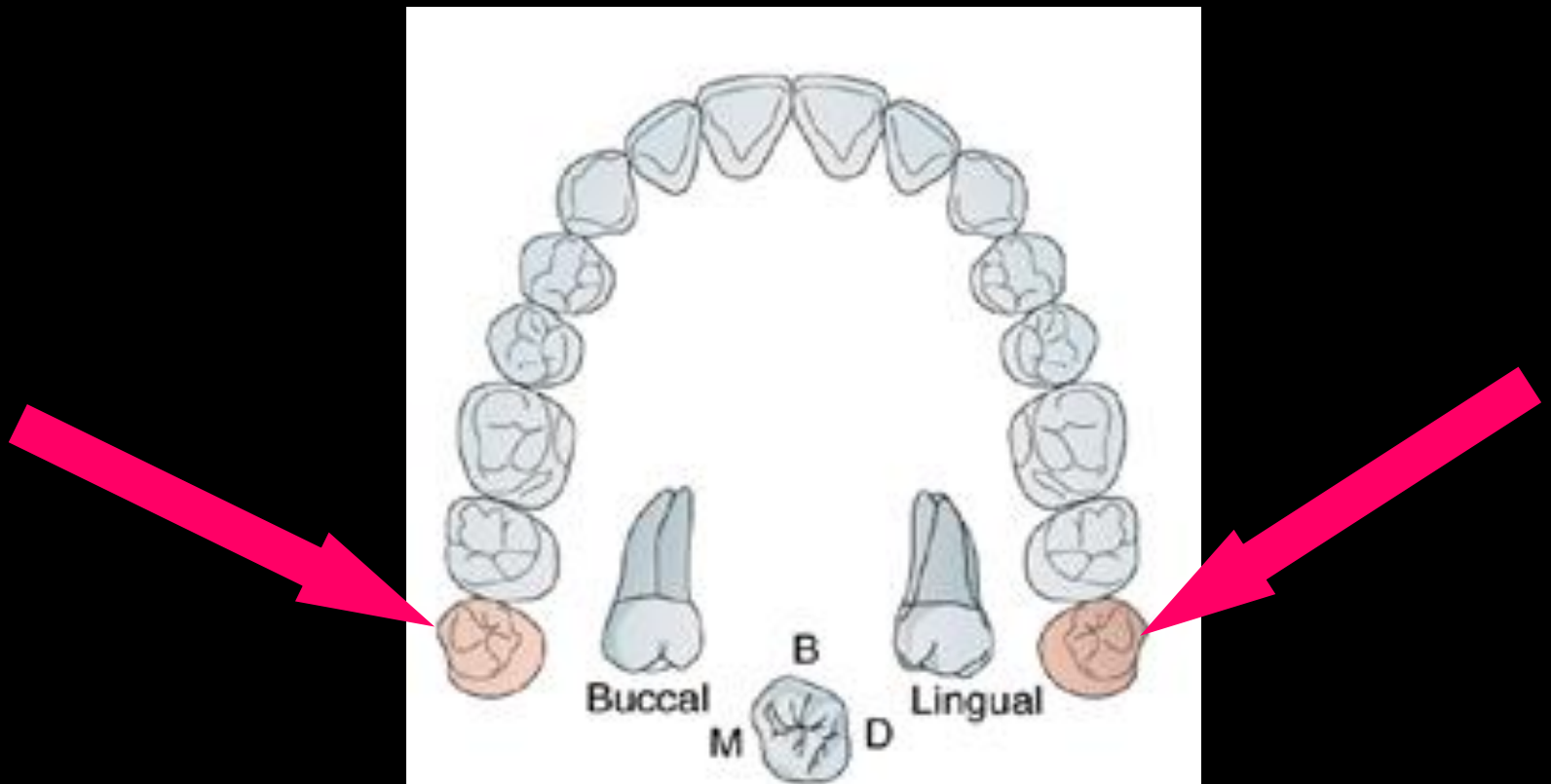
Mid root section: MB root canal (Oval- Kidney)

DB root canal (Round-Oval)

P root canal (Round- Oval)



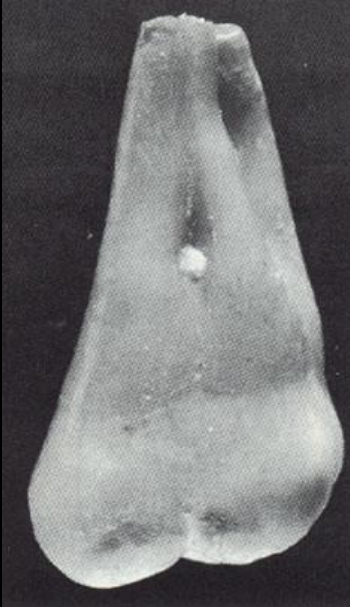
Maxillary permanent 3rd Molar



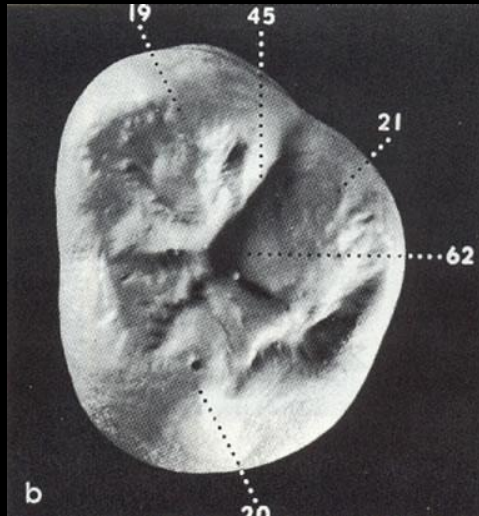
No. of surfaces:

It has five surfaces

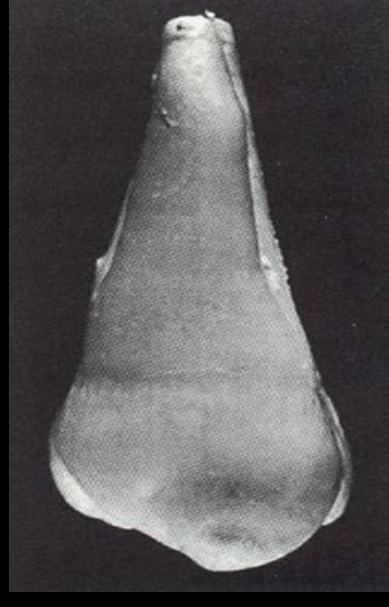
BUCCAL



OCCLUSAL



PALATAL



MESIAL



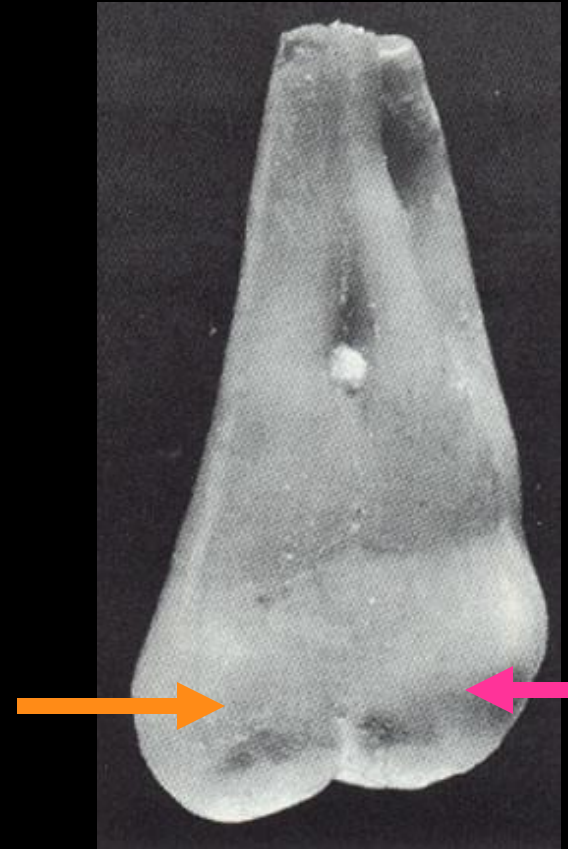
DISTAL



BUCCAL ASPECT

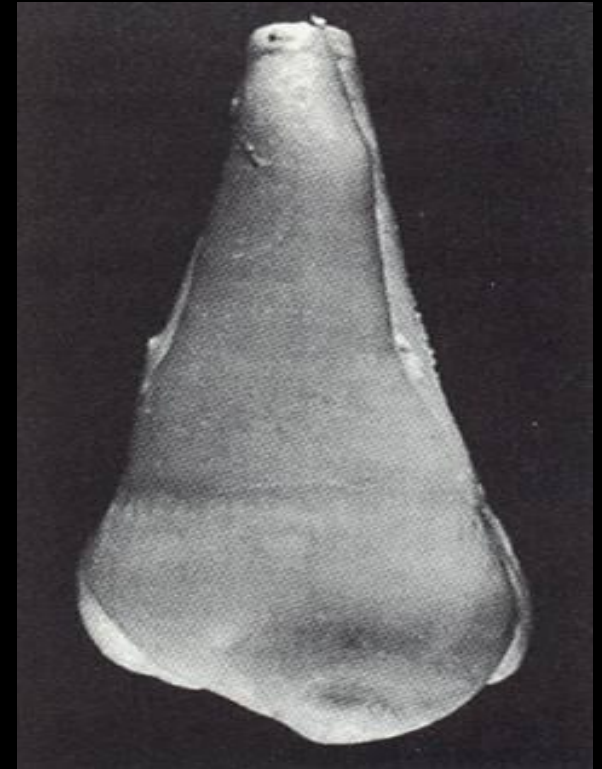
MB cusp is wider and longer than **DB** cusp

The roots are often fused making one large short root



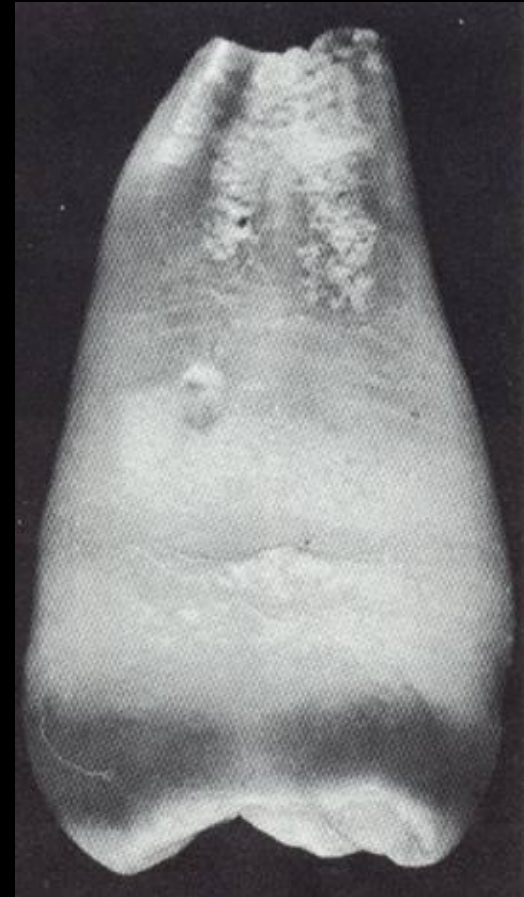
LINGUAL ASPECT

Usually one large lingual cusp
without lingual groove



MESIAL ASPECT

Characterized by fusion of the roots and the bifurcation in the apical 1/3

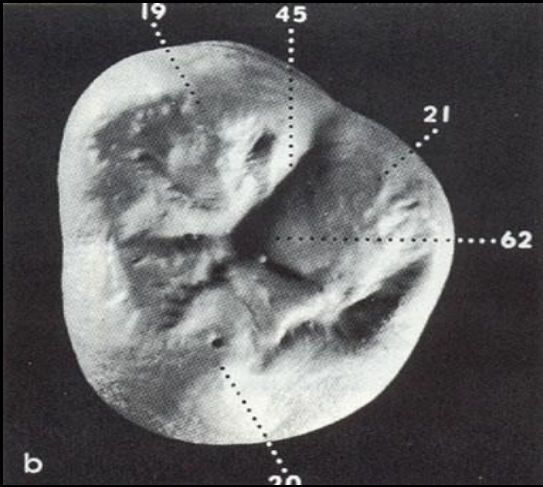


DISTAL ASPECT

- *Convex surface with **no** contact area
- *The distal surface short and narrow. So most of the occlusal surface is seen.



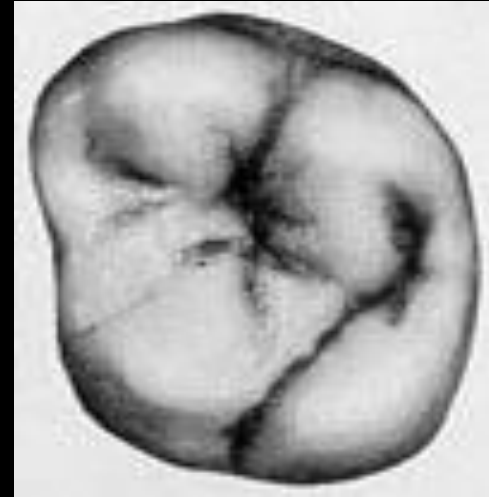
OCCLUSAL ASPECT



3 cusp type

♥ shape is typical to 7

No disto-lingual cusp, No lingual or distal oblique grooves



4 cusp type

◻ outline typical to 6

There are disto-lingual cusp, Lingual groove and oblique ridge.

OCCLUSAL ASPECT

Notes:

1- The occlusal surface of 8 has numerous supplemental grooves

2- The pulp cavity showed great variation in the size and shape

3- The pulp chamber of 8 is larger than other molars because it is younger than other molars by **9-11** years

