



## **Maxillary second premolar**

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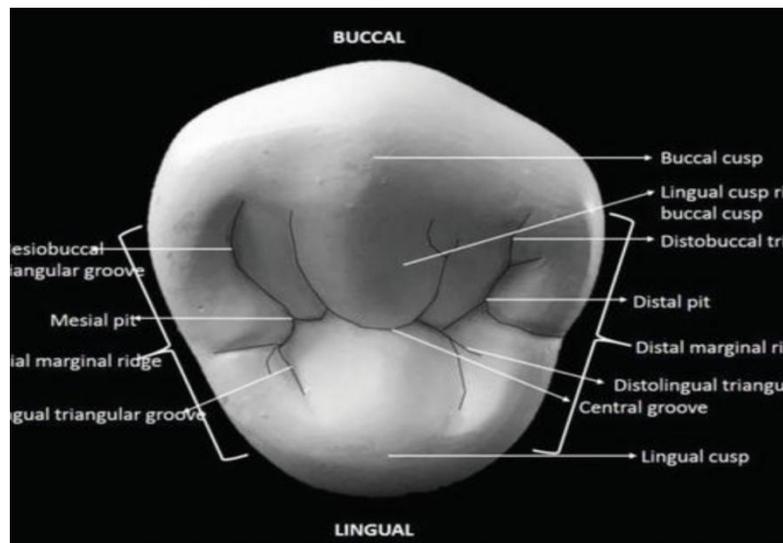
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**Maxillary second premolar** :is the fifth tooth from the median line in the maxilla. They are also called bicuspid because each premolar has two cusps buccal cusp and lingual cusp.

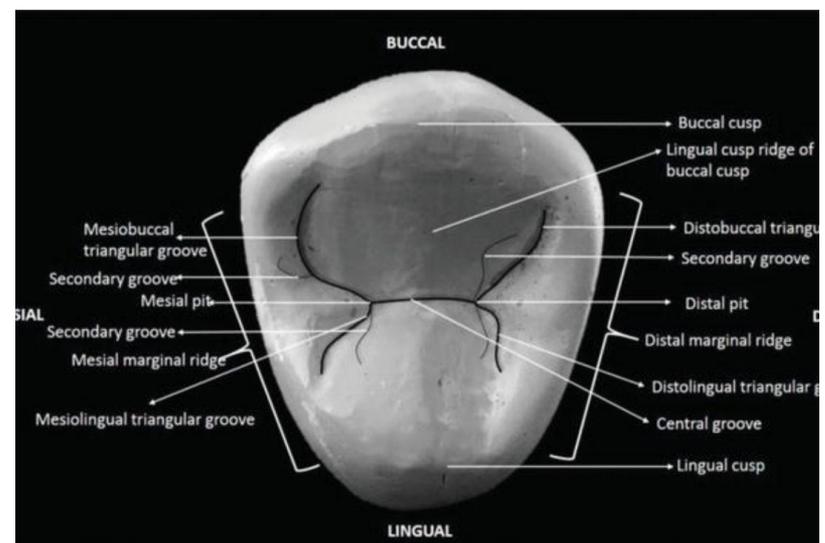


## The outline form of all aspects is similar to the maxillary first premolar with following variations:

1. The maxillary second premolar is less angular.
2. The occlusal surface is more rounded or oval in shape and it is not so smooth as that of the first premolar showing more of wrinkled appearance.
3. The central developmental groove is shorter and more irregular with more supplemental grooves on the occlusal surface.



**maxillary first premolar**



**maxillary second premolar**

**4. The buccal and lingual cusps are nearly in the same length but the lingual cusps is shorter.**

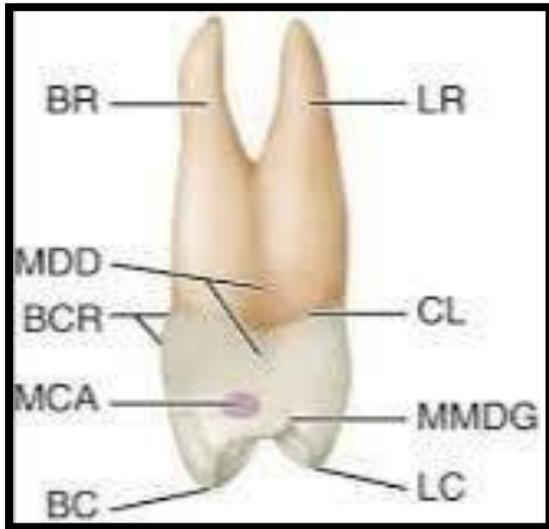


**maxillary first premolar**



**maxillary second premolar**

**5. There is no marked developmental groove crossing the mesial marginal ridge.**



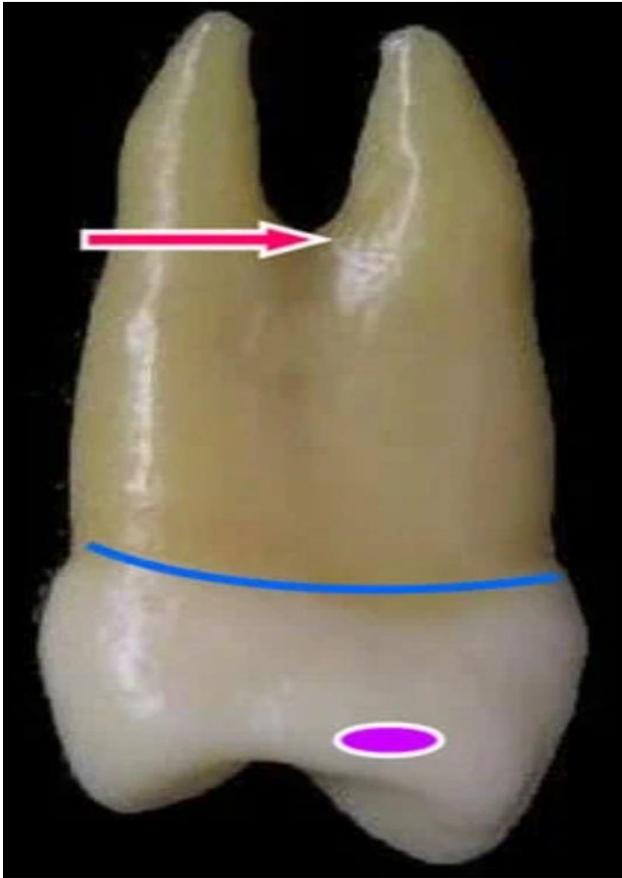
**maxillary first premolar**



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**6. The mesial contact area in the center of the crown bucco-lingually while the distal contact area is more-off the center and toward the buccal surface.**

## 7. The tooth has usually one root.



**maxillary first premolar**



**maxillary second premolar**

It is smallest premolar in human dentition , it resemble both the mandibular Canine and the mandibular 2<sup>nd</sup> premolar in function and has some of the characteristics of each of them .



## **Principal identifying feature :**

1. Marked lingual inclination of the crown.
2. Two cusps : buccal and lingual , the buccal cusp is larger ,and the lingual cusp is like a more developed cingulum
3. Circular occlusal outline .
4. Single rounded root.

## The buccal aspect

### Geometrical outline

.Trapezoid in shape

-The short side **cervically**.

-The long side **occlusally**.

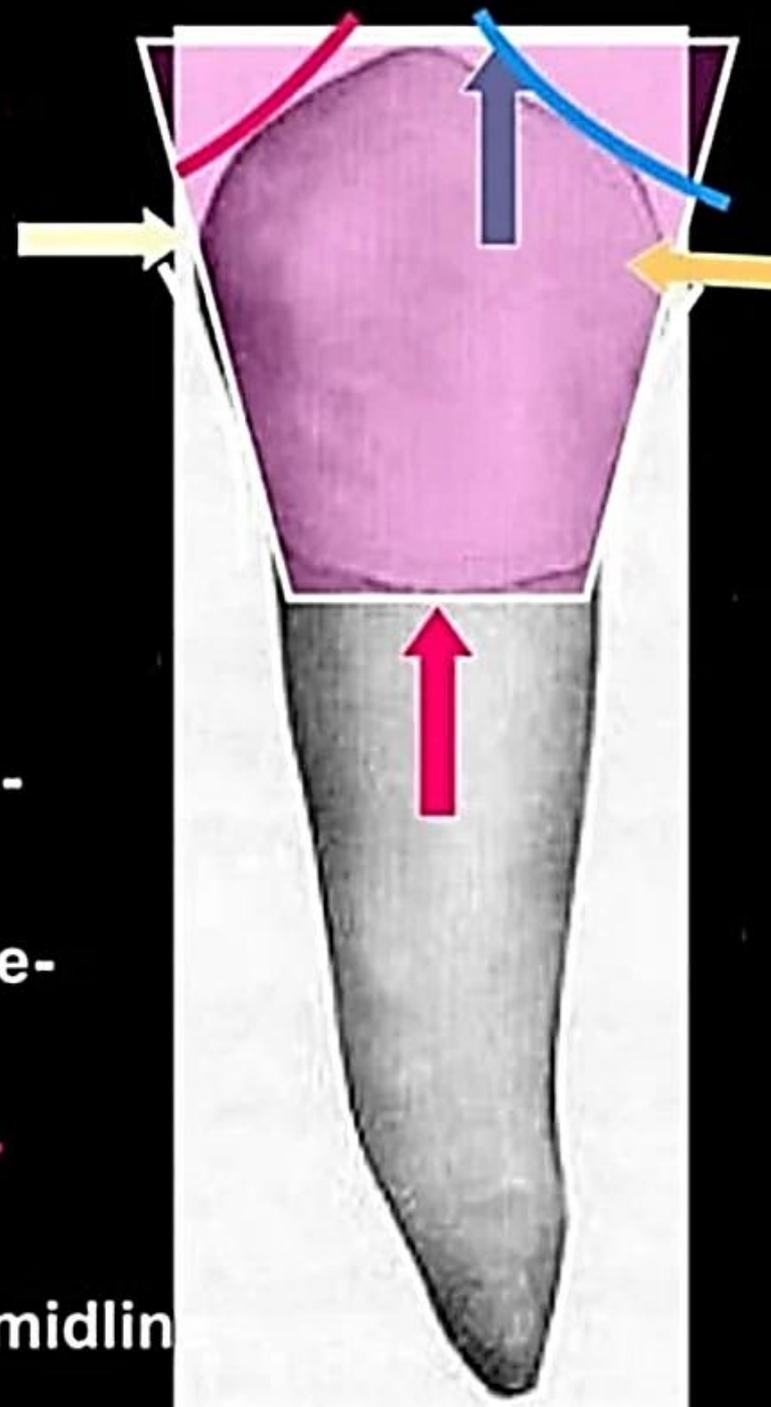
### The outline

Mesial outline is slightly concave till-  
.the mesial contact area

The distal outline is slightly concave-  
.till the distal contact area

The mesial slope is shorter than the-  
.distal slope

.The buccal cusp tip is mesial to the midline



## Surface anatomy

### The elevations

.The cervical ridge-

.The buccal ridge-

### The depressions

Two **developmental grooves** mesial  
.and distal to the buccal ridge

### The root

The root is cone shape with distal-  
.inclination of the apical 3<sup>rd</sup>

.The root is shorter than that of the canine-



## Lingual aspect

Similar to the buccal aspect but in a reverse manner and with more lingual convergence

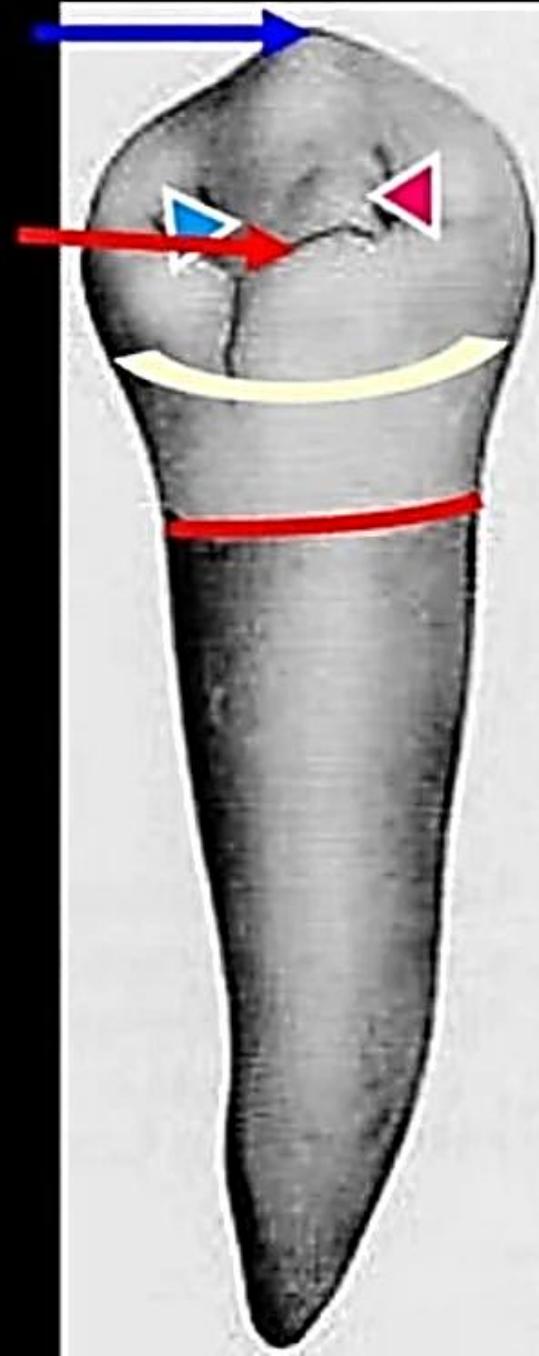
The lingual cusp is  $\frac{2}{3}$  the buccal-cusp

The short lingual cusp can be called well developed cingulum

The mesial and the distal triangular-fossae can be seen

The lingual surface is spheroid-

Cervical line is slightly convex or-even straight



A characteristic feature of the-  
lingual surface is the mesiolingual  
developmental groove



## The mesial aspect

### Geometrical outline

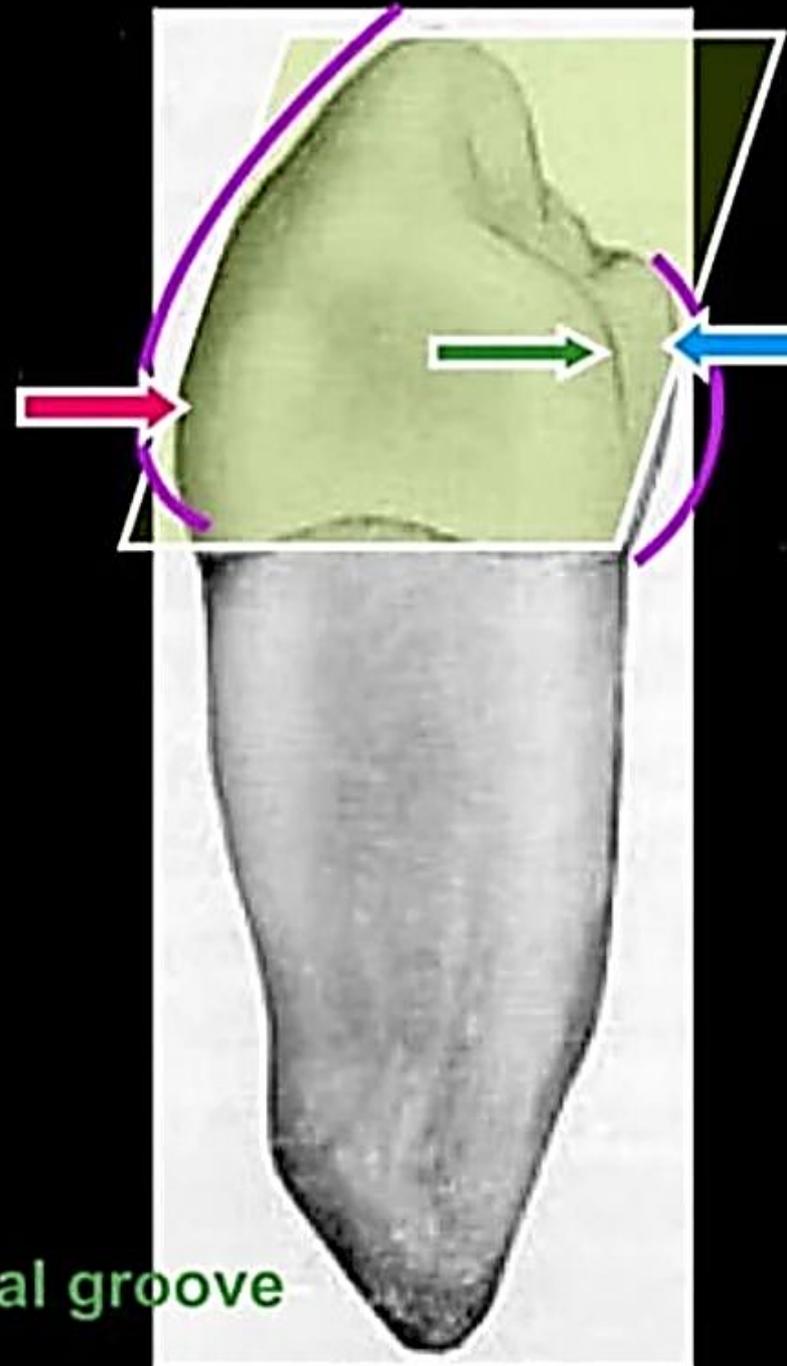
It is rhomboid in shape due to the .lingual inclination

### The outline

The buccal outline is convex-  
from the cervical line to the cusp  
tip (the maximum convexity at  
.cervical 3<sup>rd</sup>; the cervical ridge

The lingual outline is convex-  
(the maximum convexity at the  
.middle 3<sup>rd</sup>

.See the mesio-lingual developmental groove



The **lingual cusp** is 2/3 of the-  
.buccal cusp

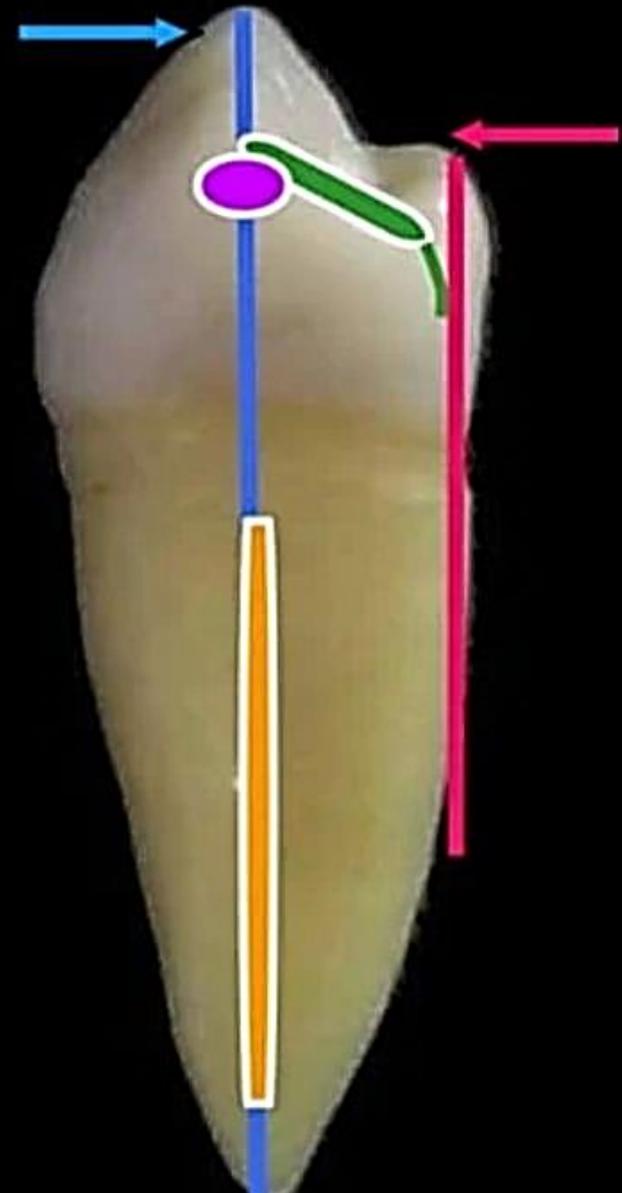
The **buccal cusp tip** is in line with the-  
root apex; where the **lingual cusp tip** is  
in line with the lingual border of the root  
(lingual inclination

The **mesial marginal ridge** is sloping-  
.lingually

The **contact area** is in line with the-  
.buccal cusp tip

The root

It tapers to pointed apex and has-  
.deep developmental groove



## The distal aspect

:Similar to the mesial aspect but differs in-

The **distal marginal ridge** is straight and- 1  
.perpendicular to the long axis of the tooth

.No developmental groove- 2

The **contact area** is broader and more- 3  
.cervically

.The distal cervical line is less curved- 4



## The occlusal aspect

.It is diamond or round shape-

.The occlusal surface tapers lingually-

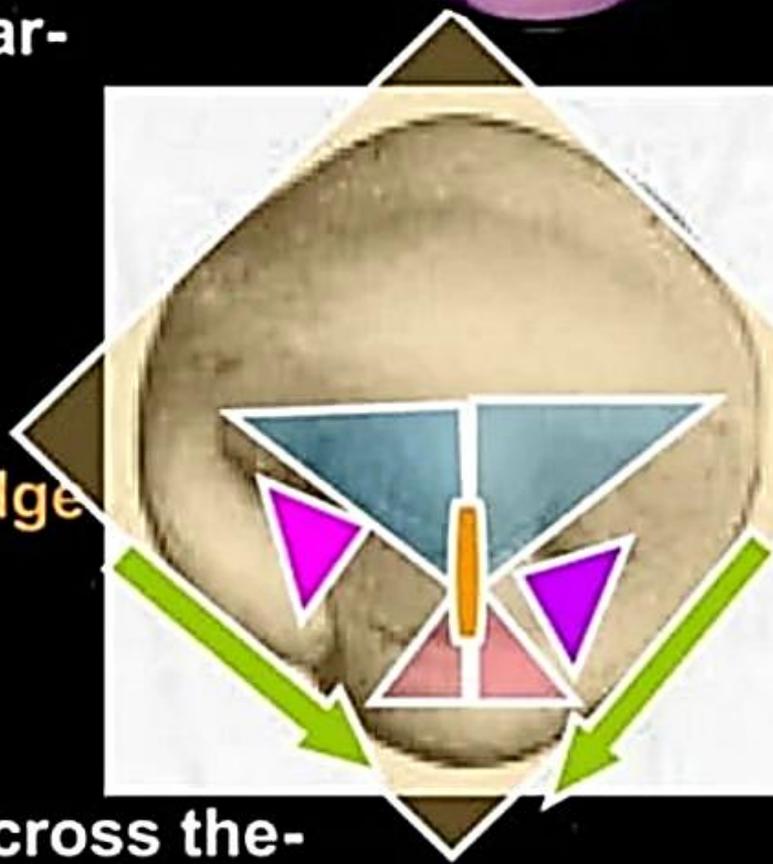
The buccal cusp has large triangular-  
.ridge

The small lingual cusp has small-  
.triangular ridge

The buccal and lingual triangular-  
.ridges connected by transverse ridge

.Mesial and distal triangular fossae-

Central developmental groove may cross the-  
.transverse ridge



**Thank  
you**

