



# Tooth Morphology

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# **MAXILLARY SECOND PREMOLAR**



# CONTENTS

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- ▶ Chronological features of mandibular second premolar
- ▶ Various aspects of mandibular second premolar
- ▶ Identifying features of mandibular second premolar
- ▶ To carve permanent mandibular second premolar



# Maxillary Second Premolar

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- ▶ The maxillary second premolar supplements the maxillary first premolar in function
- ▶ It is less angular, giving a more rounded appearance to crown from all aspects
- ▶ It has a single root.



# Development

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- ▶ First Evidence of calcification-: 2-2 1/4.
- ▶ Enamel completed-:6-7 years
- ▶ Eruption-:10 – 12 years
- ▶ Root completed-: 12- 14 years



# Carving Dimensions

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- ▶ Cervico-Occlusal length- 8.5 mm
- ▶ Length of Root- 14.0 mm
- ▶ MD diameter-7.0 mm
- ▶ MD diameter at cervix- 5.0 mm
- ▶ BL diameter- 9.0 mm
- ▶ BL diameter at cervix- 8.0 mm
- ▶ Curvature of cervical line (M)- 1.0 mm
- ▶ Curvature of cervical line (D)- 0.0 mm

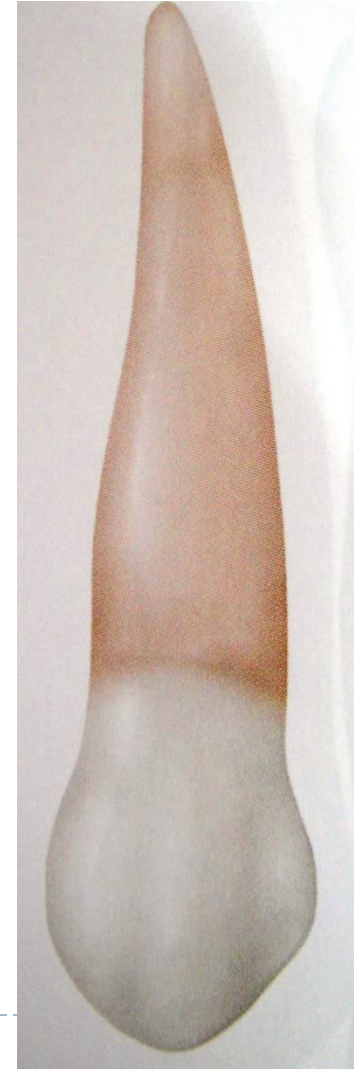
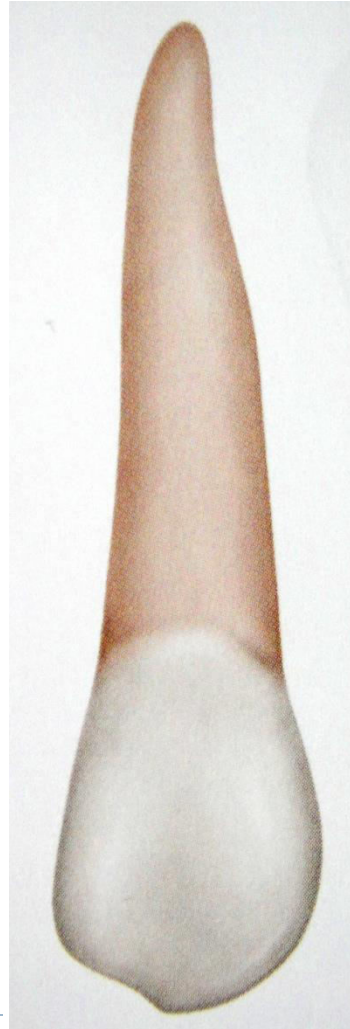
**Same as 1<sup>st</sup> PM except length of root**



# BUCCAL ASPECT

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- Cusp is not as long as that of 1st premolar & is less pointed.
- Mesial slope is shorter than the distal slope.
- The buccal ridge is not so prominent as compared to 1st premolar.



# LINGUAL ASPECT



- ▶ Little variation is seen except that the lingual cusp is longer, making the crown longer on the lingual side.



# MESIAL ASPECT

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- The cusps of 2<sup>nd</sup> premolar are shorter, with buccal & lingual cusps **nearly** of same length.
- Greater distance between cusp tips widens the occlusal surface.

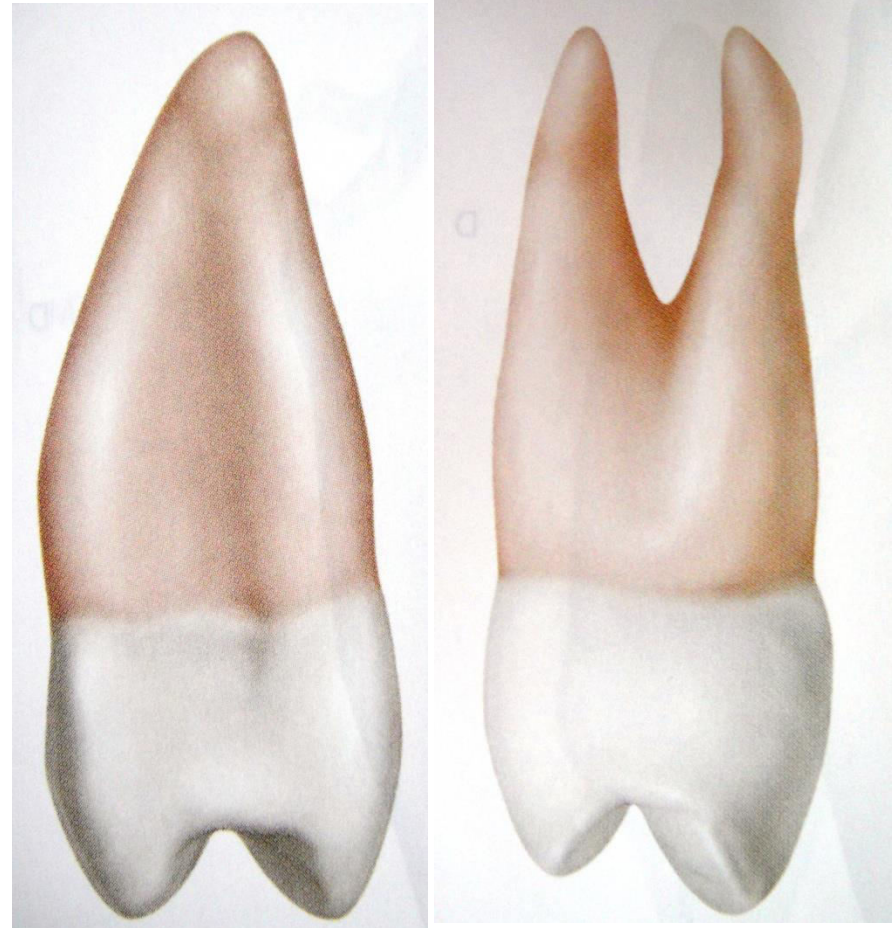


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- No developmental depression & developmental groove is evident as in 1<sup>st</sup> PM
  - Crown surface is convex



# DISTAL ASPECT

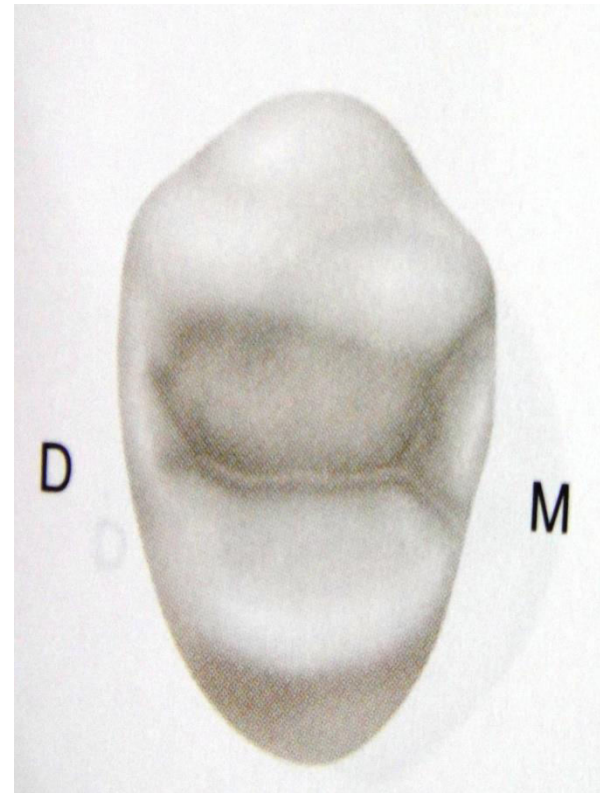
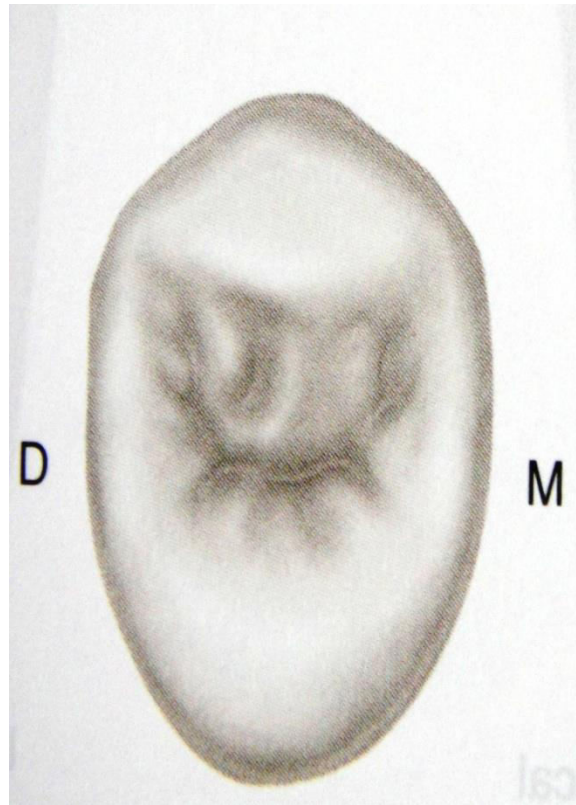
- ▶ The distal root depression is deeper than the mesial depression, opposite of that of Max. 1<sup>st</sup> PM, in which depression is on mesial surface of root



# OCCLUSAL ASPECT

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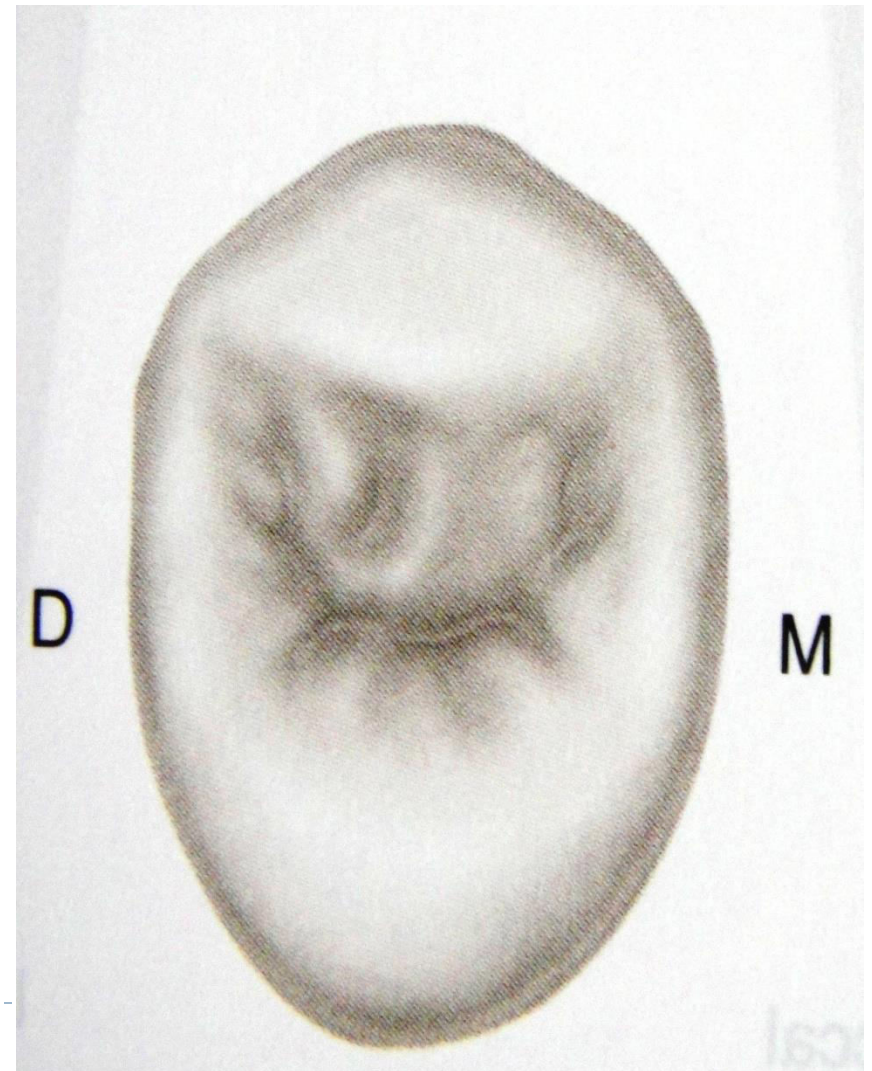
- Outline of crown is more rounded or oval, rather than angular.
- Central developmental groove is shorter & more irregular.





# OCCLUSAL ASPECT

- ▶ More supplemental grooves are present
- ▶ Irregular occlusal surface-wrinkled appearance.



# Summary

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- Various aspects of maxillary second premolar
- Identifying features of maxillary second premolar
- Differentiating features between right and left second maxillary premolar



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**Thank you**

