

- Grooves: MLDG; mesial dev'tal and distal (crescent-shaped) dev'tal grooves
- Fossae: mesial fossa (linear in form and more sulcate) and distal fossa (more circular)
- Pits: mesial and distal dev'tal pits with accessory supplemental grooves
- snake's eye appearance

Mandibular Second Premolar

- has two types; 3-cusps type (develops from 5 lobes) and 2-cusps type (develops from 4 lobes)
- larger than first PM, monorooted – longer and larger than first PM

Buccal Aspect

- crown outline is trapezoidal
- shorter buccal cusps and less pointed than buccal cusp of first PM
- higher contact areas

Lingual Aspect

- crown outline is trapezoidal
- lingual lobes well developed than first PM, exhibiting a well-developed lingual cusp/s
- 3 cusps type: presents 2 lingual cusps: Mesiolingual and Distolingual cusp separated by a short lingual DG.
- 2 cusps type: single lingual cusp, no groove
- root is wide, smooth convex for most of its length

Mesial Aspect

- crown outline is rhomboidal
- crown and root wider buccolingually
- buccal cusp tip not centered
- MRs at right angles to the RAL
- no lingual groove on mesial
- apex of root more blunt

Distal Aspect

- crown outline is rhomboidal
- more occlusal surface is visible
- DMR more cervically located than MMR
- crown tipped distally to the long axes of the root

Occlusal Aspect

3-cusps Type

- occlusal outline appears square
- buccal cusp largest, mesiolingual, distolingual –smallest
- Ridges: cusp ridges, BTR, MLTR, DLTR, MMR, DMR
- Grooves: Mesial dev'tal groove, distal dev'tal groove, lingual dev'tal groove (Y-shaped grooves)
- Pits: central pit, mesial dev'tal pit, distal dev'tal pit
- Fossae: mesial triangular fossa, distal TF,

2-cusps type

- occlusal appears rounded
- one buccal cusp and one well developed lingual cusp
- Ridges: cusp ridges; BTR, LTR. MMR, DMR
- Grooves: central dev'tal groove (crescent-shaped)
- Fossa: mesial and distal fossa (circular)
- Pits: mesial and distal dev'tal pits

MAXILLARY MOLARS

- non succedaneous teeth
- develops from 4 lobes; 2 buccal lobes and 2 lingual lobes

-root: 2 buccal and 1 lingual

Maxillary First Molar

- located at the center of a fully developed adult jaw anteroposteriorly; “cornerstones” of the dental arches
- 4 well-developed , functioning cusps (ML, MB, DL, DB)
- 3 well developed, separated roots (MB, DB, Lingual)

Buccal Aspect

- crown outline is trapezoidal
- MB cusp: broader, slopes meet at an obtuse angle
- DB cusp : sharper cusp, smaller, may be as long and often longer than MB
- BDG divides the two cusps, ends in a buccal pit
- mesial outline nearly straight, distal outline is convex
- MCA – 2/3 distance from CEJ to tip of MB cusp
DCA – middle of the middle third
- root axes inclined distally, roots originate from a common root base (trunk)
- MB root apex in line with the tip of the MB cusp
- deep dev'tal groove on the root trunk

Lingual Aspect

- crown outline is trapezoidal
- ML cusp- boarder, larger, longest, MD width is about 3/5 of the MD crown diameter
- a 5th cusp is attached to the ML cusp, approx. 2mm from cusp ridge- Cusp of Parallel, outlined by the fifth cusp groove
- DL cusp- spheroidal and smooth; separated from the ML cusp by the lingual dev'tal groove
- lingual root is conical, largest, apex in line lingual groove

Mesial Aspect

- crown outline is trapezoidal
- MMR is irregular with some tubercles - MCA is above the MMR (junction of middle and occlusal 3rd)
- buccal outline is slightly convex
- cusps tip is more clearly centered and within the confines of the root base.
- buccolingual measurement is greater mesially than distally
- MB root is broad and flattened with blunt apex
- point of bifurcation is near the CEJ
- lingual root is longer , narrower and is banana-shaped, apex is rounded

Distal Aspect

- crown outline is trapezoidal
- crown taper distally on the buccal surface, less BL measurement than M
- DMR dips sharply cervically, no tubercles
- cusp tips within the confines of the root trunk
- DB root is narrower than MB
- bifurcation is more apical apical

Occlusal Aspect

- crown outline is rhomboidal; wider mesially than distally and wider lingually than buccally
- four major cusps- arrange accdg to size: ML, MB, DL, DB, fifth cusp
- 3 primary cusps (ML, MB and DB) forms the Maxillary Molar Primary Cusp Triangle (Cope Osborn Theory)
- DL and 5th cusp – considered as secondary cusp
- Ridges: cusps ridges, MRs; MBTR, DTR and MTR of ML cusp, DBTR, DLTR, Transverse ridge, Oblique R (formed by the DBTR and DTR of ML cusp)