MAXILLARY PREMOLARS

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2/17/2006

INTRODUCTION

They appear in the aesthetic zone
High masticatory efficiency
Abutments
Contribute to occlusion group function

MAXILLARY FIRST PREMOLAR

Average time of eruption: 10 – 12 years
Average time of calcification: 12 – 13 years
Average length: 20.6 mm

MAXILLARY SECOND PREMOLAR

Average time of eruption: 10 – 12 years
Average time of calcification: 12 – 14 years
Average length: 21.5 mm

NERVE SUPPLY

Anterior superior alveolar nerve.
Middle superior alveolar nerve.
Greater palatine nerve.

NERVE SUPPLY

ANTHESESIA

Infiltration

ANTHESESIA

Anterior superior alveolar nerve block.

ANTHESESIA

Middle superior alveolar nerve block.
ANESTHESIA
- Maxillary nerve block
  The high-tuberosity approach
  The greater palatine canal approach

MAXILLARY FIRST PREMOLAR
- Access cavity is ovoid in BP dimension.
- Canal orifices lies below and slightly central to cusp tips.

MAXILLARY FIRST PREMOLAR
- Divergent roots require less occlusal access extension.
- Parallel roots require more occlusal access extension.

MAXILLARY FIRST PREMOLAR
- Distal curvature in the root is not uncommon.
- Apical foramen is usually close to the anatomical apex.
- The apical portion of the roots often tapers rapidly, ending in narrow and curved root tips.

Vertucci et al.
400 maxillary 1st premolars
69% two canals
26% one canal
5% three canals
Kartal et al.
300 maxillary 1st premolars
89.64% two canals
8.66% one canal
1.66% three canals

“Furcation grooves on the palatal aspect of the buccal roots of 35 maxillary first premolars, randomly selected, were assessed and found to exist in 97% of the sample”

Eberhardt et al. 1992

“A computed tomographic study of the distances between the maxillary sinus floor and the apices of maxillary posterior teeth" Apex of MB root of 2nd molar was closest to the sinus floor (1.97mm) but farthest from buccal bony surface (4.45mm) Apex of B root of 1st premolar was closest to the adjacent lateral bony surface (1.63mm) but farthest from the floor of the sinus (7.05mm)

Similar to first premolar in coronal morphology but it is narrower BP and wider MD. Canal orifice located centrally and it appears as a slit more than as single ovoid opening.
MAXILLARY SECOND PREMOLAR
- Distal curvature in the root is not uncommon.
- Apical foramen is usually close to the anatomic apex.

Vertucci et al.  
- 75% one foramen  
- 24% two foramina  
- 1% three foramina

Karat et al.  
- 48.66% one canal  
- 50.64% two canals  
- 0.66% three canals

CINICAL CASES
THANK YOU

ANY QUESTION?