

**Maxillary and
Mandibular Molar Access**


Remember the fish!



**ENDODONTIC LAB 724
LABORATORY SESSION IV
JANUARY 27, 2022**



SCHEDULE

- ▶ 8:00 – 8:15 Quiz
 - ▶ 8:15 – 8:45 Lecture: Mandibular Molar Access
 - ▶ 8:45 – 10:00 Lab Session, Man Molars
 - ▶ 10:00- 10:30 Lecture: Maxillary Molar Access
 - ▶ 10:30 – 11:45 Lab Session, Max Molars
 - ▶ 11:45-12:00 Review and prepare for next week
- 
- A series of several parallel white diagonal lines of varying lengths, located in the bottom right corner of the slide.

PREPARATION FOR NEXT WEEK

Mounted mandibular premolar

Have it looked at by instructor prior to mounting
(B-L pre-op image)

Next week's theme: Winter Sports Day

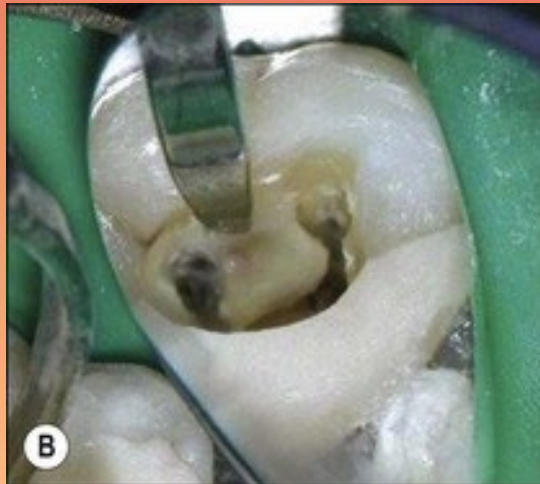
Several thin, white, parallel diagonal lines are located in the bottom right corner of the slide, extending from the middle towards the bottom right edge.

TIPS FROM LAST WEEK

- ▶ Access shapes were great Halfway access is a small version of access shape
- ▶ Remember tooth narrows at the CEJ (premolars)
use root surface to determine centrality
- ▶ Unroof pulp chamber



Not unroofed. Safe ended or GG to
open up entire chamber



RCS INTERNAL ANATOMY

Laws of:

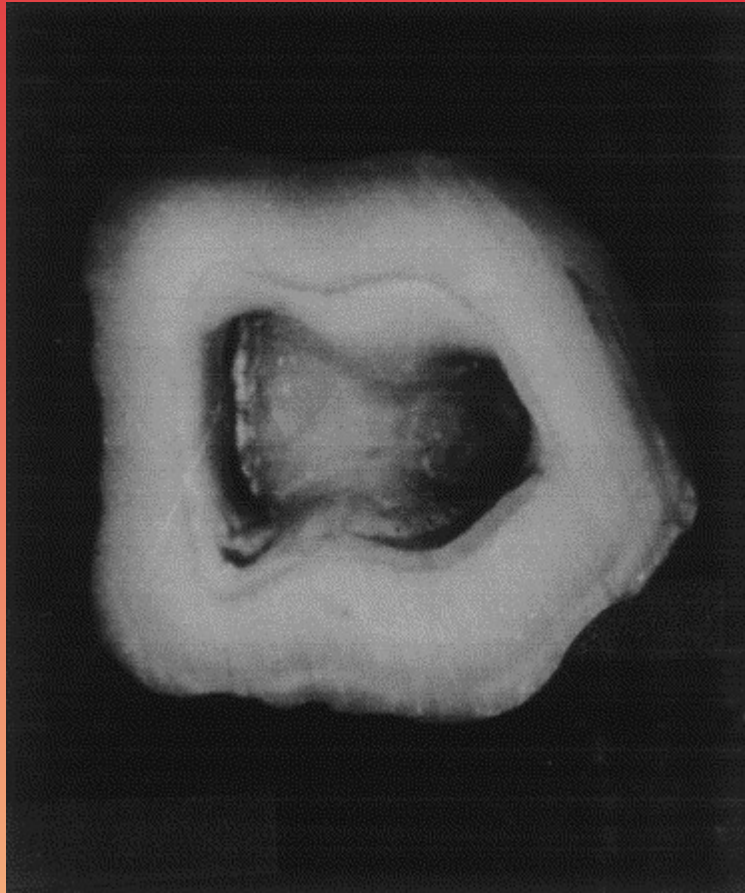
- ◉ Centrality- The floor of the pulp chamber is always located in the center of the tooth at the level of the CEJ
- ◉ Concentricity-The walls of the pulp chamber are always concentric to the external surface of the tooth at the level of the CEJ

Fig 1



Law of concentricity

Fig 2



Law of concentricity

RCS INTERNAL ANATOMY

Law of:

Symmetry- In all teeth except maxillary molars the canals will be located symmetrically in relation to a M-D line bisecting the tooth at the level of the CEJ



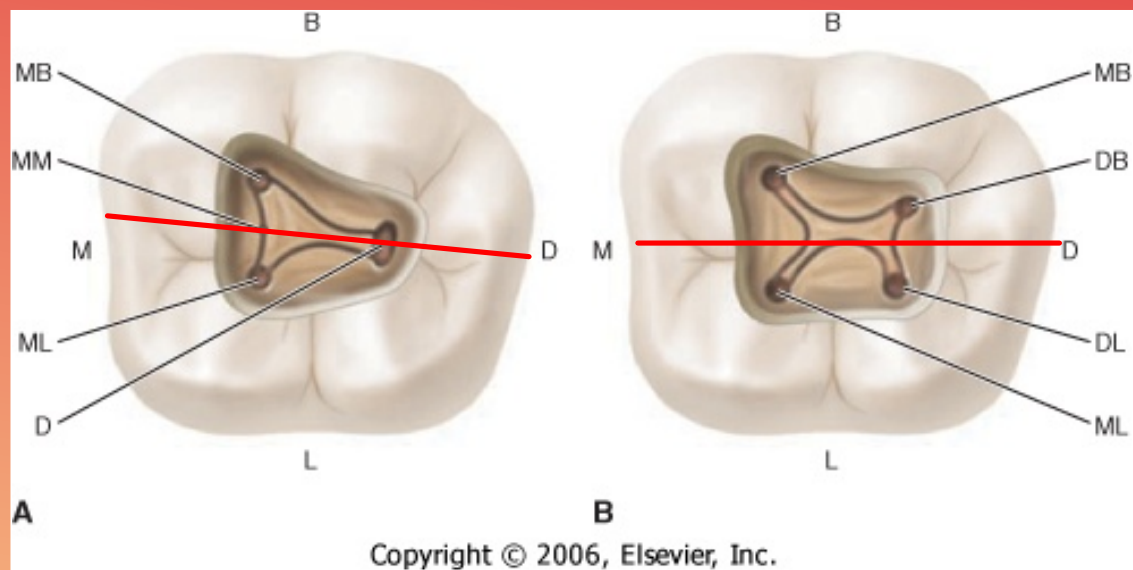


Fig 9

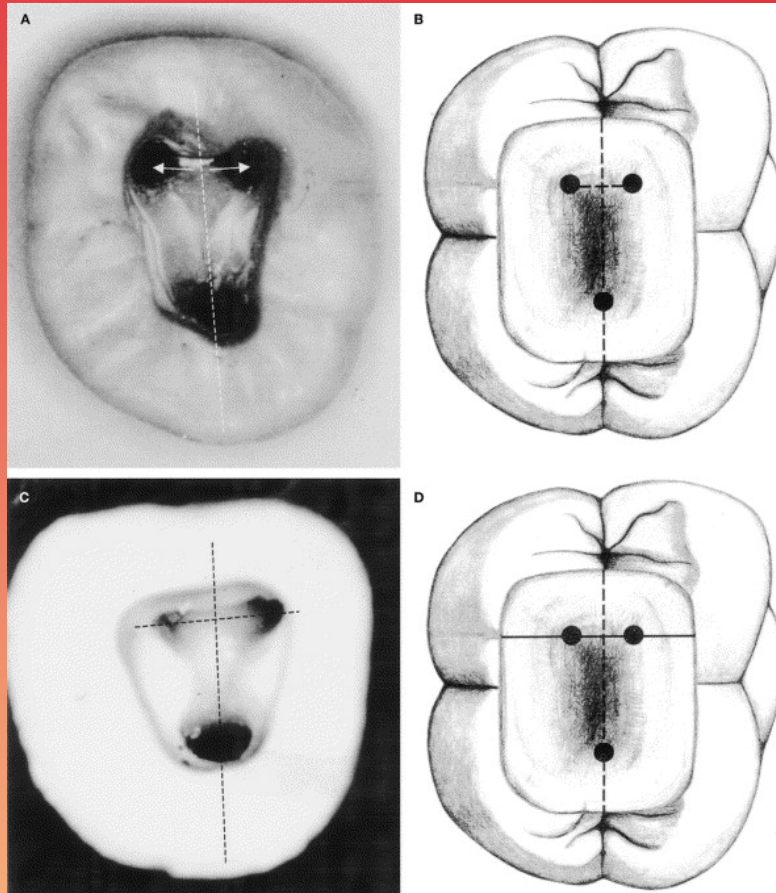


Fig 10

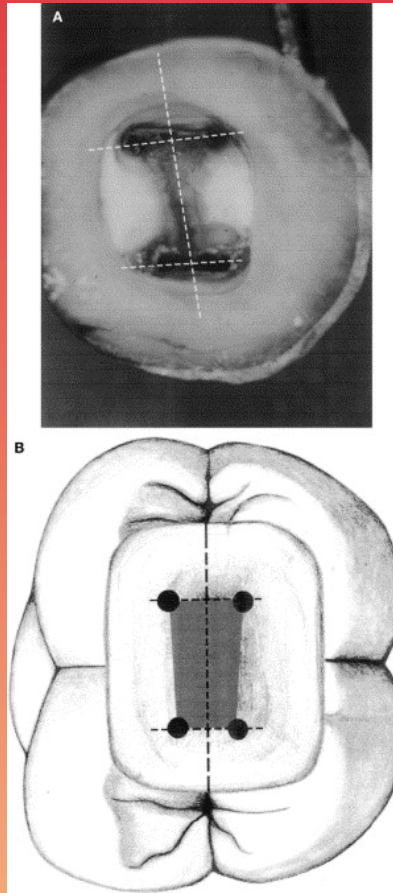
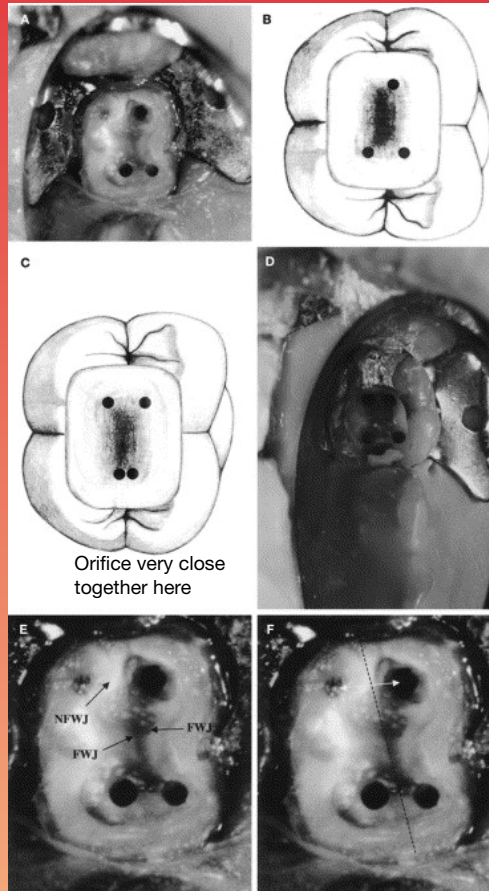
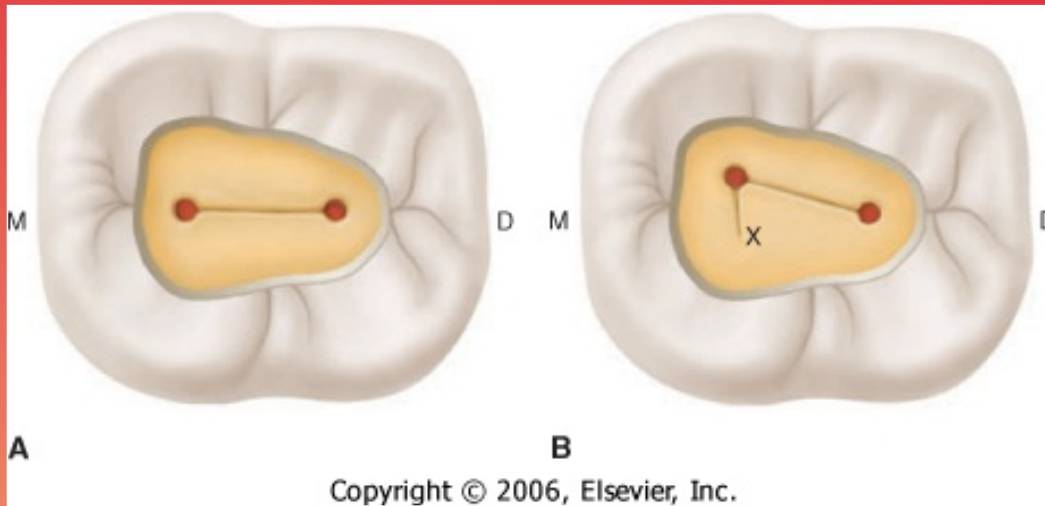


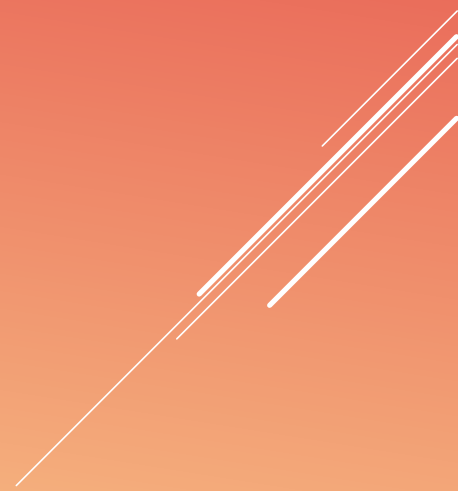
Fig 15



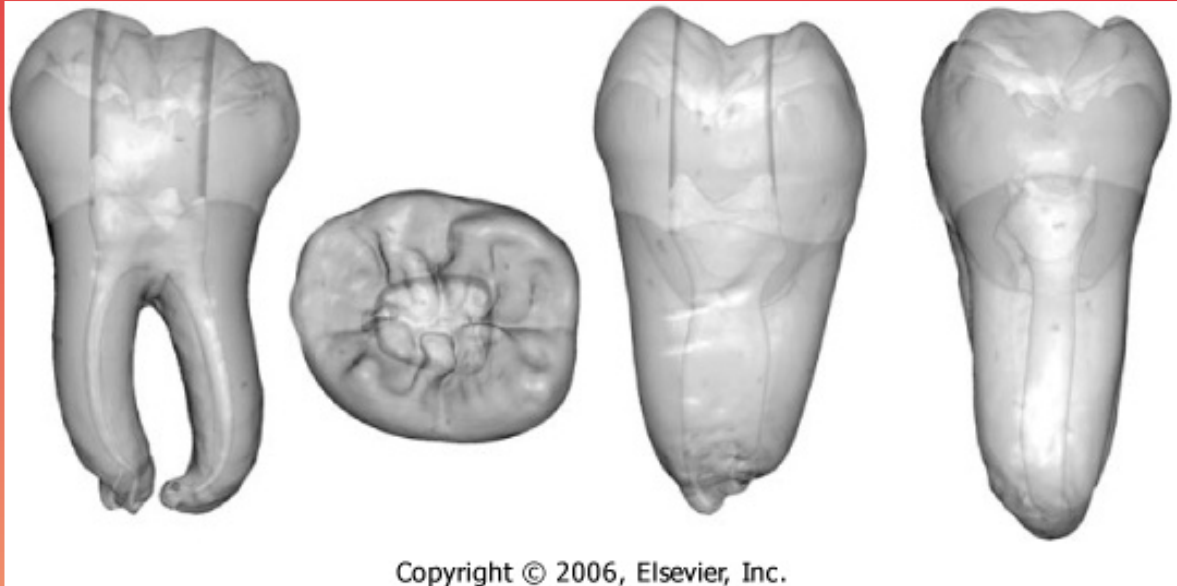


ASYMMETRY – MISSED CANAL

ACCESSING MANDIBULAR MOLARS



Walls kinda convergent



MANDIBULAR 1ST MOLAR

Rounded triangle, apex toward distal

Want axial wall and pulpal floor jct to have your orifice

MANDIBULAR 1ST MOLAR

- ▶ Frequently require endo
- ▶ 3 or 4 root canals, usually
- ▶ 2 roots, sometimes 3 (“radix entomolaris”)
On the lingual; on
buccal = paramolaris
- ▶ Concave roots with thin dentin adjacent to furcation

GG in coronal 3rd ;
helps create glide path

FIRST MOLAR ANATOMY

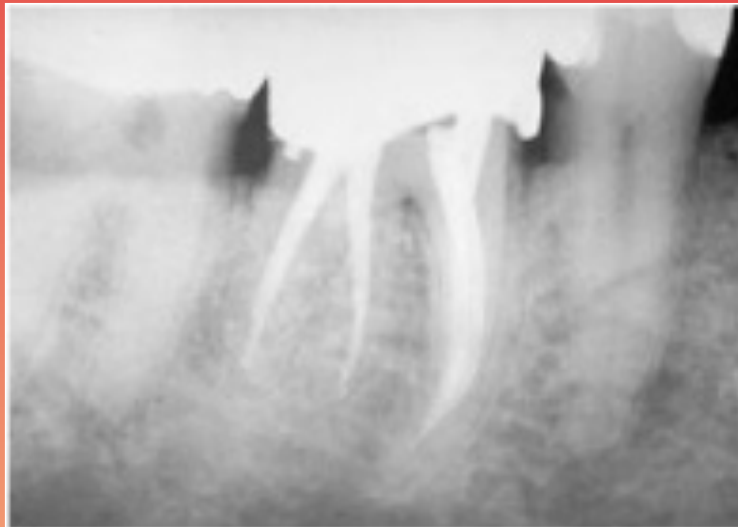
- ▶ 3 Canals 60%
- ▶ 4 Canals 30%
- ▶ 5 Canals up to 20% (middle mesial)
- ▶ 2 Canals, very rare



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MANDIBULAR 1ST MOLAR 4 CANALS

MANDIBULAR 1ST MOLAR 3 ROOTS (RADIX ENTOMOLARIS)



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MANDIBULAR 1ST MOLAR MID-MESIAL ROOT CANAL



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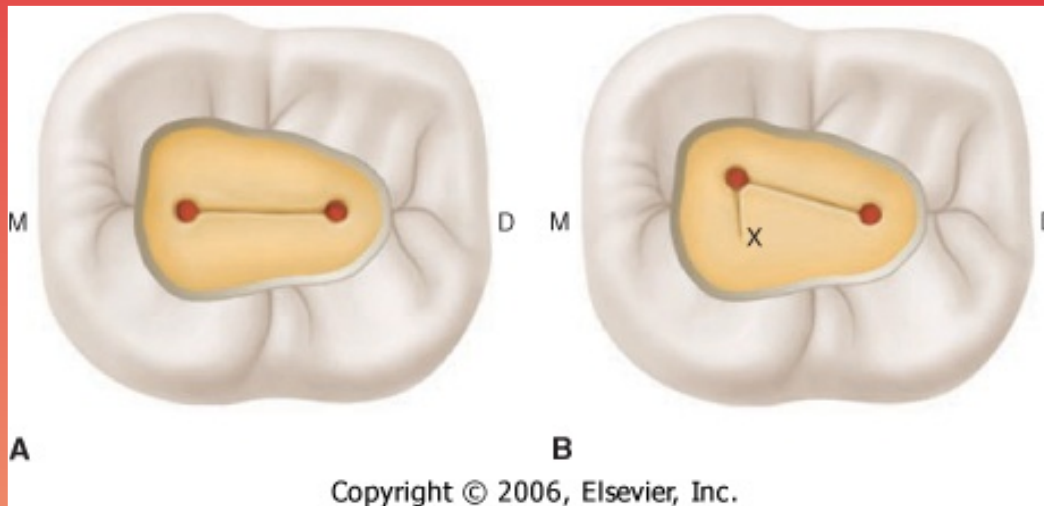


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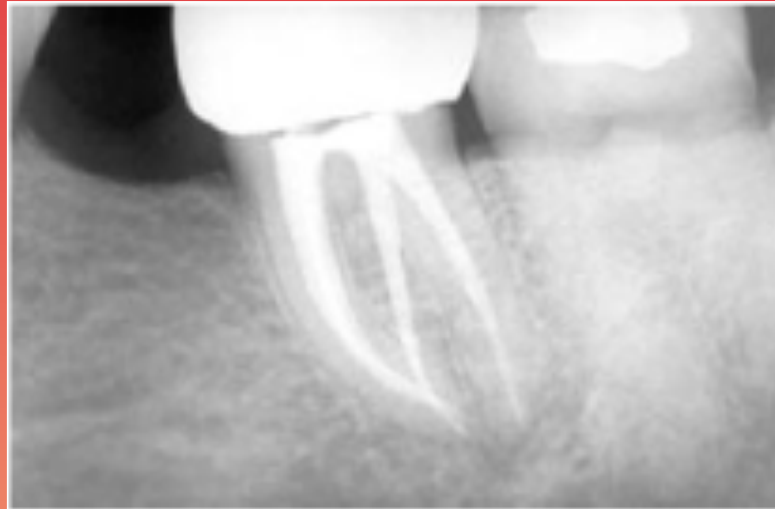
MANDIBULAR 2ND MOLAR

MANDIBULAR 2ND MOLARS

- ▶ Usually 2 roots and 3 root canals
- ▶ Variations
 - 1 root canal
 - ▶ 2 root Canals
 - ▶ 4 root Canals
 - ▶ C-shaped root canals



MANDIBULAR 2ND MOLAR



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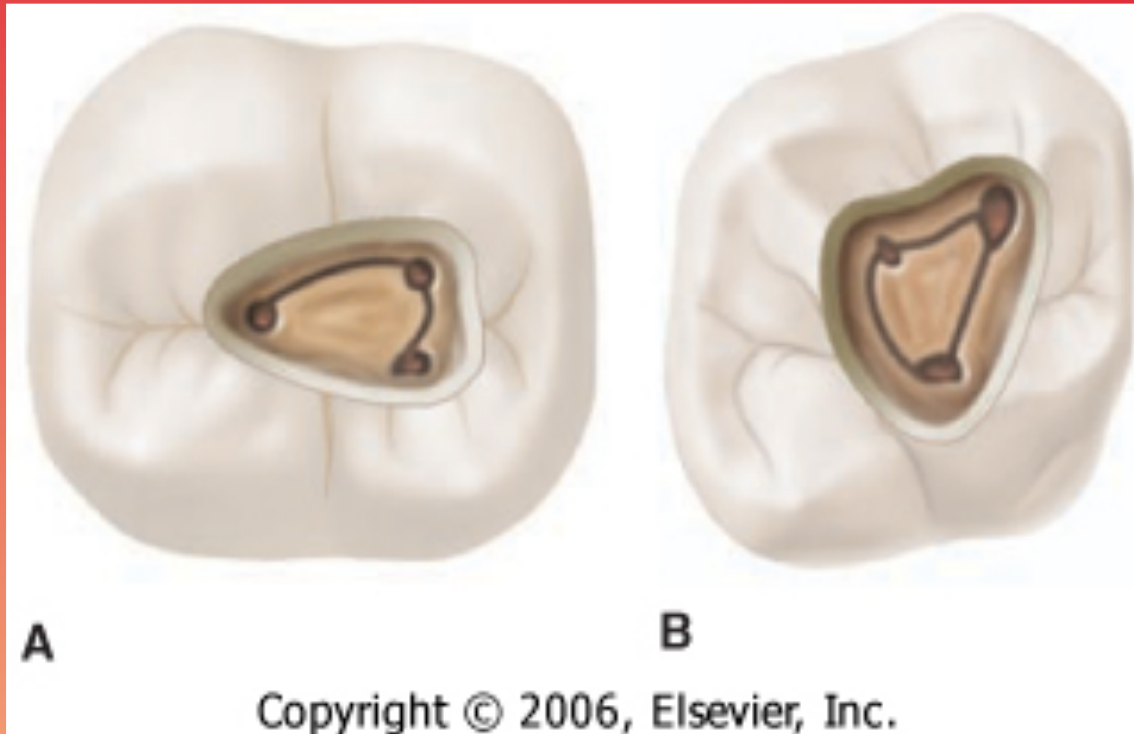
MANDIBULAR 2ND MOLAR



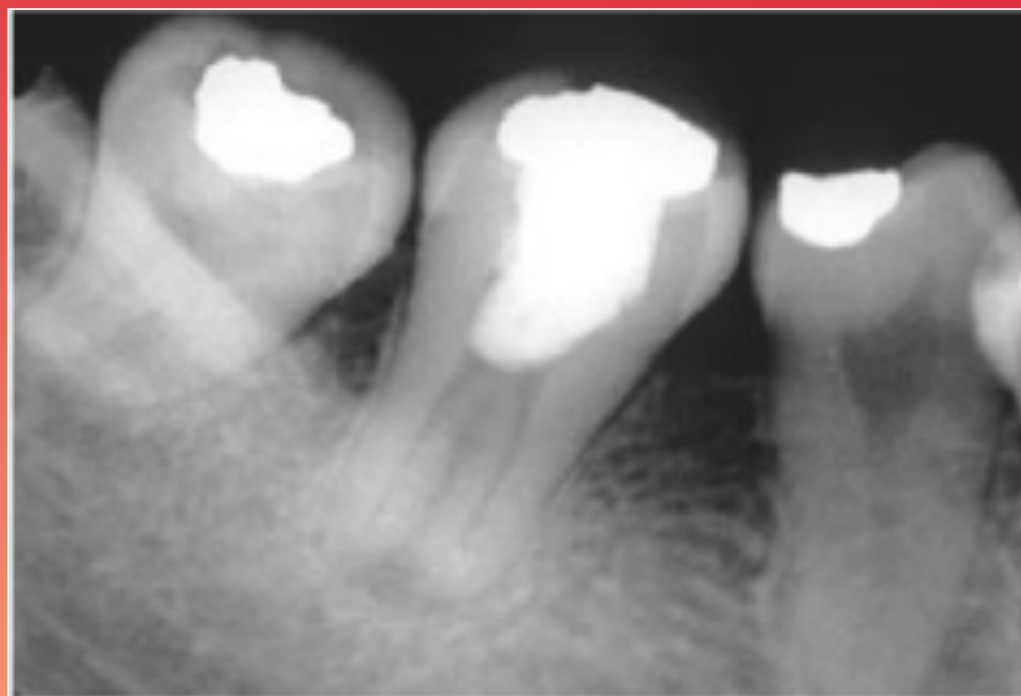
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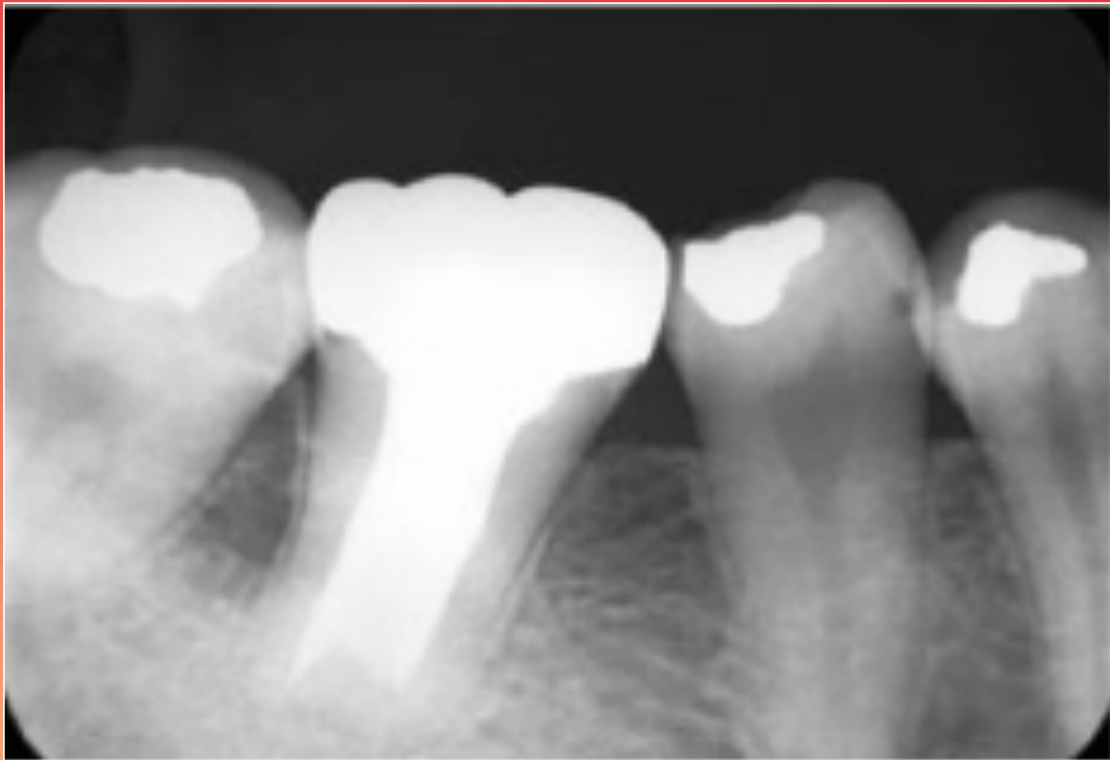
C-SHAPED ROOT CANAL SYSTEM



C-SHAPED ROOT CANAL SYSTEM



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Filled C shaped root


ACCESSING MANDIBULAR MOLARS

- ▶ Outline form
 - Triangular
 - ▶ Trapezoidal
 - ▶ Rectangular
 - ▶ Elliptical
- 

MANDIBULAR MOLAR ACCESS

- ▶ Goals
 - ▶ Locate orifices
 - ▶ Straight line access
 - ▶ Conserve tooth structure
- 

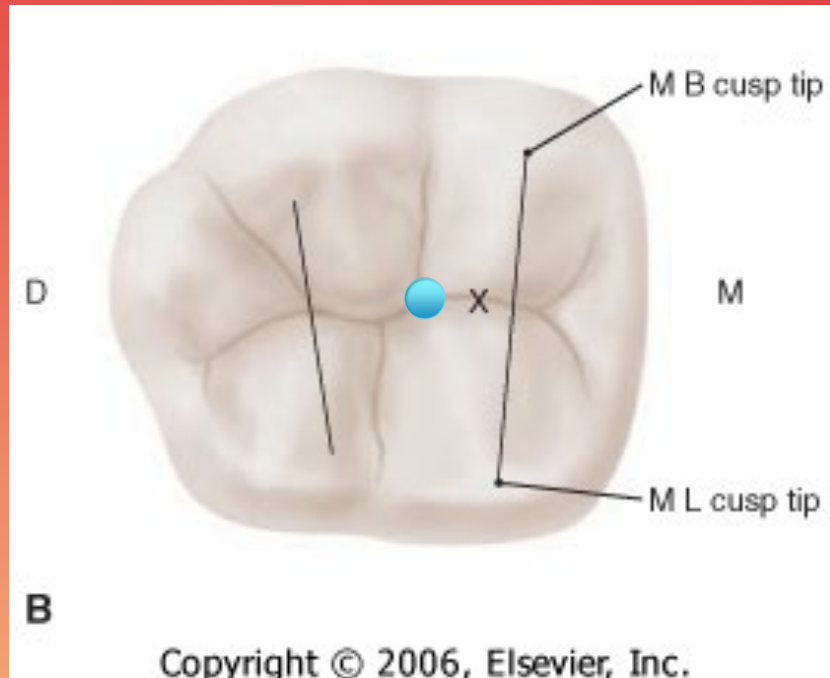
MOLAR ACCESS CONCEPTS

- ▶ Symmetry
 - ▶ Dentin Color – Pulpal floor
 - ▶ Follow the “dentin map”
 - ▶ Orifice Location – “Corners”
 - ▶ Occlusal outline form
- 

ACCESS PREPARATION

- ▶ MEASURE!!!
- ▶ Initial Access
 - ▶ In the middle!!
 - ▶ Distally do not need to extend distal to line between distal cusps
 - ▶ Between mesial cusps
 - ▶ Toward M/B
 - ▶ Should not encroach on mesial marginal ridge
- ▶ Depth- Average 6mm
- ▶ Locate pulp horns with Endo explorer

Halfway access = rounded triangle



MANDIBULAR MOLAR ACCESS

- ▶ Establish outline, unroof pulp chamber with #4 RB
- ▶ Locate orifices – endo explorer
 - ▶ Dentin color
 - ▶ Orifices located at the “corners” of the pulp chamber
 - ▶ Follow the “dentin map”

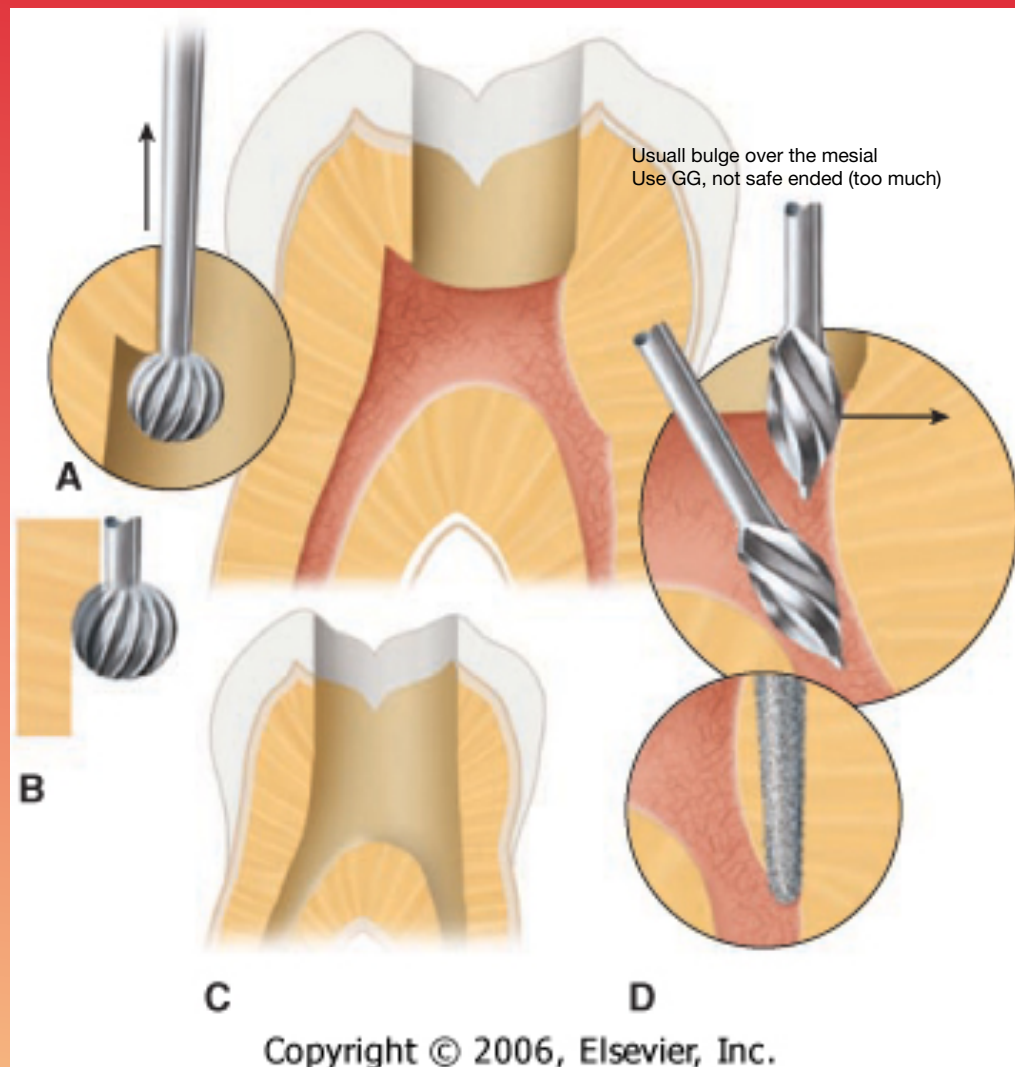
ACCESS PREPARATION

Smooth axial walls, 269 GK

- examine dentinal map
- re-eval symmetry

Open orifices

- Small files 10,15 and 20K files
 - Glide path
- Gates-Glidden drills #2, 3 and 4
 - Remove cervical bulge
 - Pressure AWAY from furcation



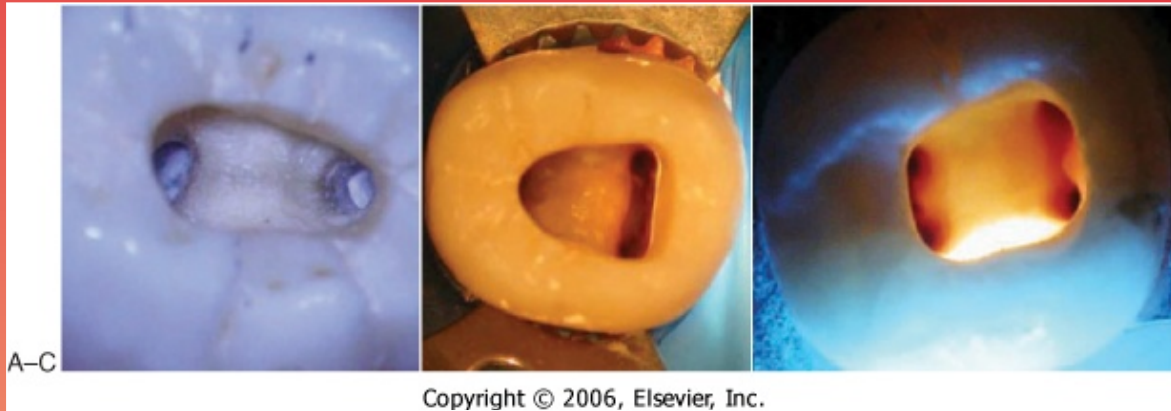
Pulp horn and cervical bulge removal



SLA MESIAL VS. DISTAL ROOTS

MANDIBULAR MOLAR ACCESS

- ▶ Occlusal outline form
 - ▶ Shape? Triangular? Trapezoidal?
 - ▶ Determined after complete preparation
 - ▶ Start triangular and alter as needed (trapezoidal)
 - ▶ Number of canals, location of orifices at “corners” of access
 - ▶ After smooth access walls



MANDIBULAR MOLARS – THINK SYMMETRY

Note symmetry and orifice location at the “corners” of the access

MANDIBULAR MOLAR ACCESS

Final access should:

- ▶ Be tapered
 - ▶ Have smooth walls
 - ▶ Have the orifices located at “corners”
- 
- A series of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, located in the lower right corner of the slide.





MANDIBULAR MOLAR ACCESS

- ▶ Demonstration, Section Instructor
- ▶ Access Plastic Tooth #30
- ▶ Access extracted mandibular molars
- ▶ Instructor evaluation at:
 - ▶ Halfway point access
 - ▶ Completion
 - ▶ Instructor and self assess

Gates Gliddens!!!

Measure twice...Cut once!!!

A series of several parallel diagonal lines in the bottom right corner, slanting upwards from left to right, with varying lengths and positions, creating a dynamic graphic element.

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