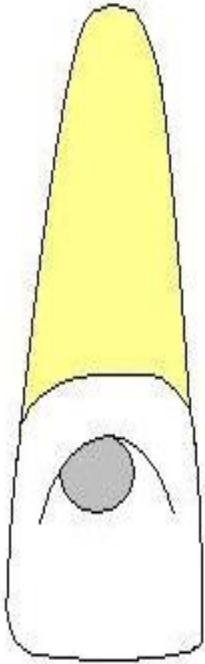
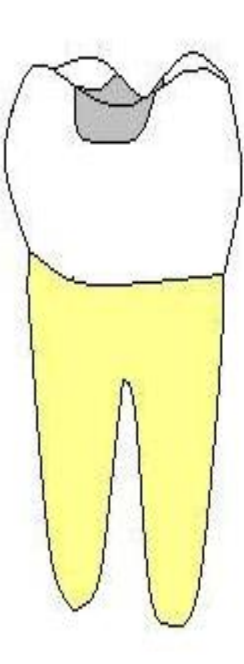
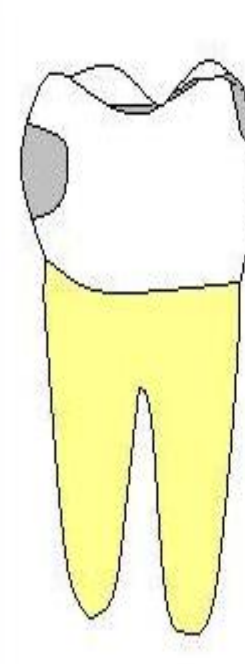
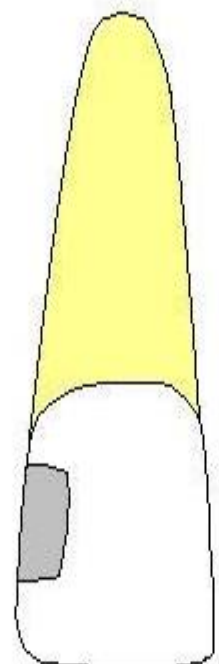
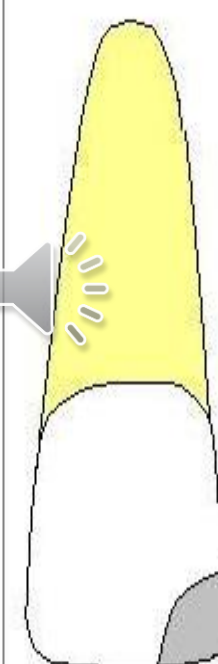
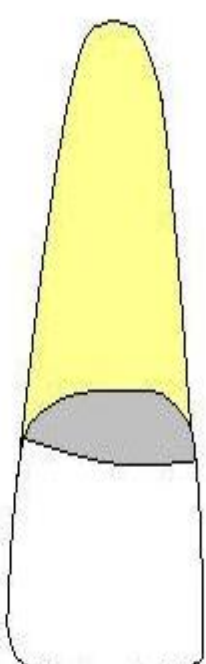
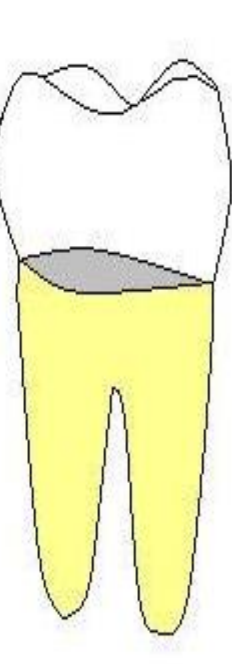
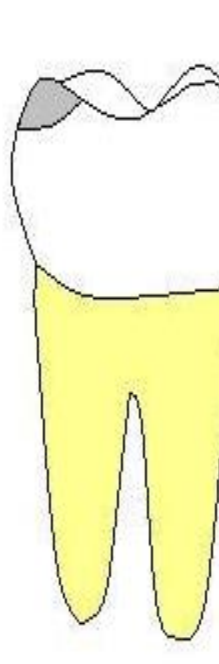
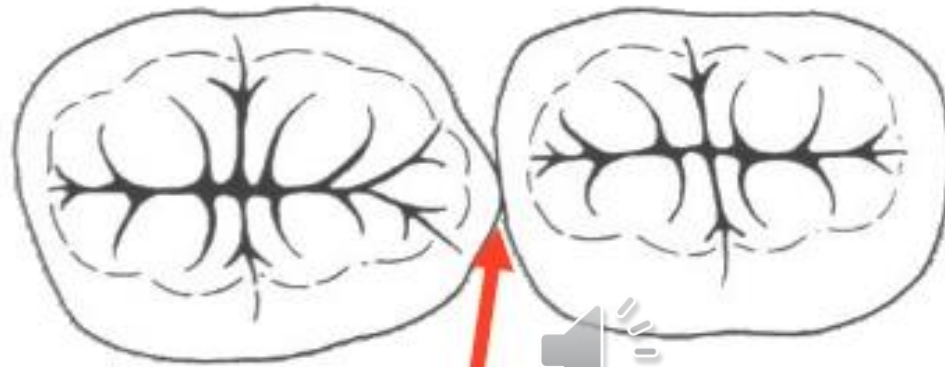


G.V. Black

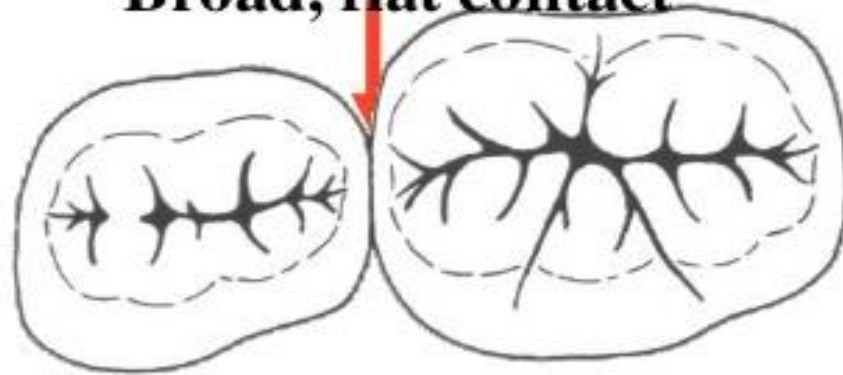
L	B/L	B/L	F	F	F/L	B/L	B/L
							
Class I		Class II	Class III	Class IV	Class V		Class VI

Contact Area

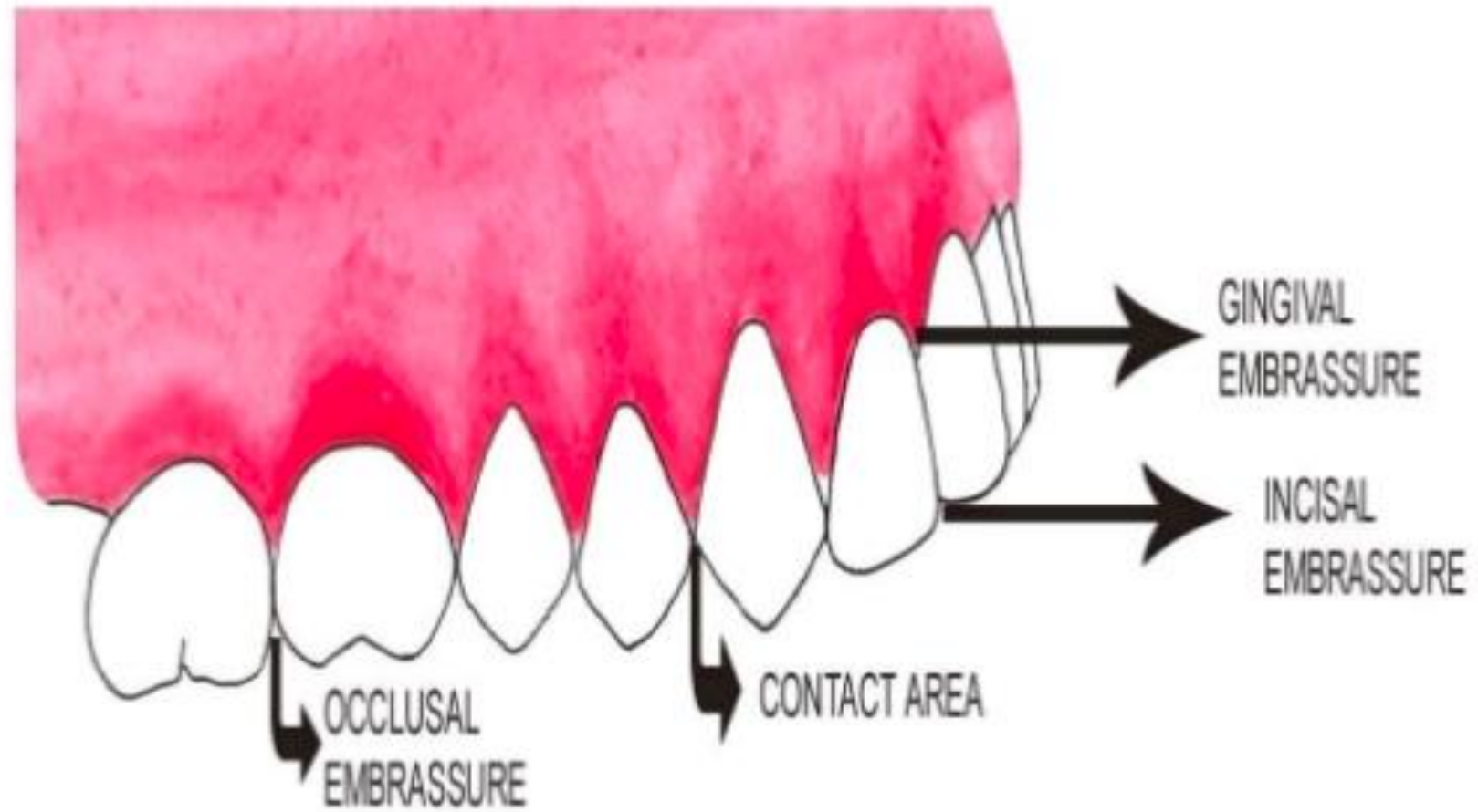


Point contact

Broad, flat contact



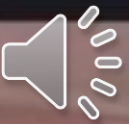
- ❏ Embrasure – spaces between the teeth that are occlusal to the contact areas. They allow for the passage of food around the teeth so that food is not forced into the contact area between the teeth.
- ❏ Diastema – spaces between the teeth.
- ❏ Primate spaces – spaces that occur in primary dentition as the maxilla and mandible grow which allows for the larger permanent teeth to erupt.

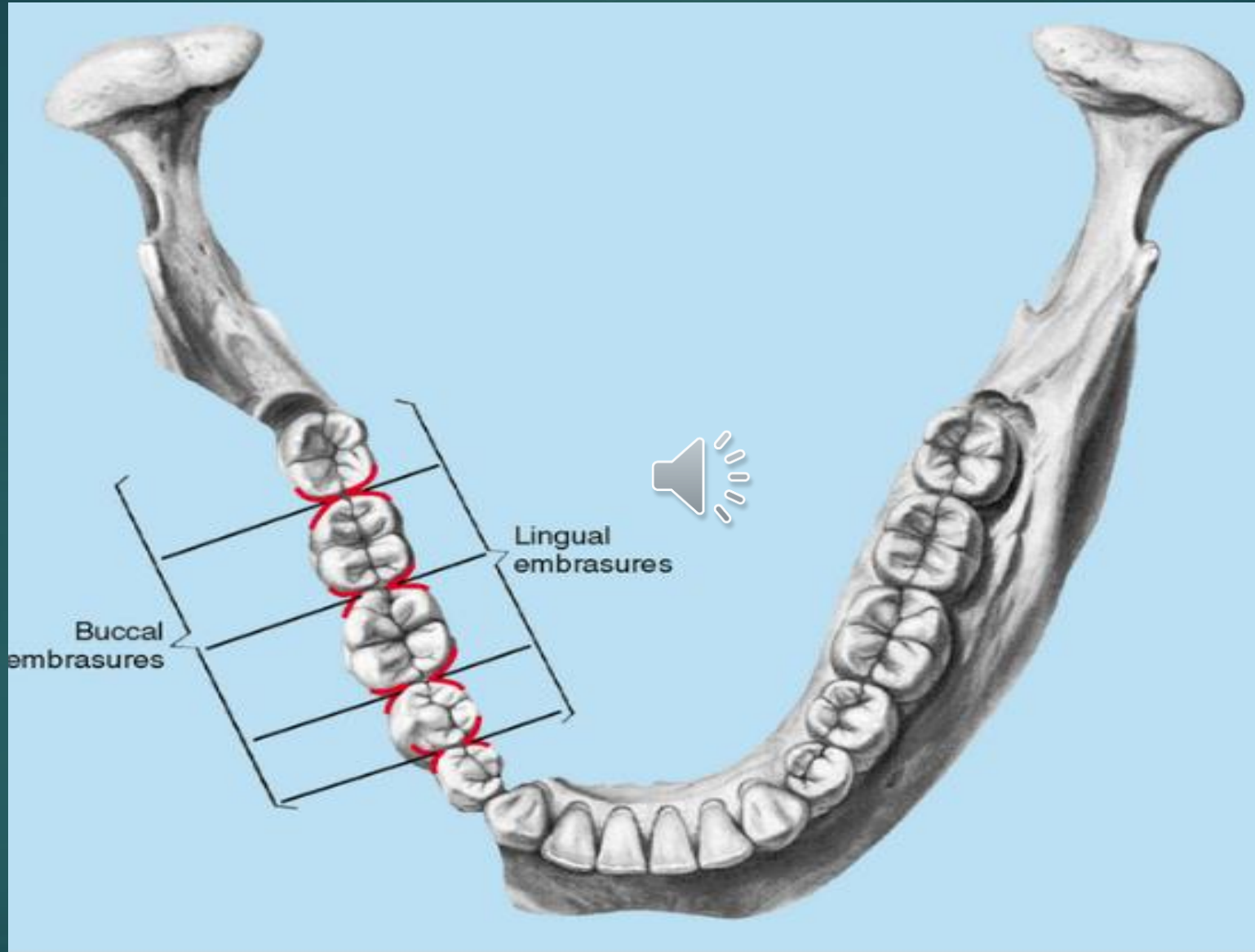




Before

After





Physiology of tooth form



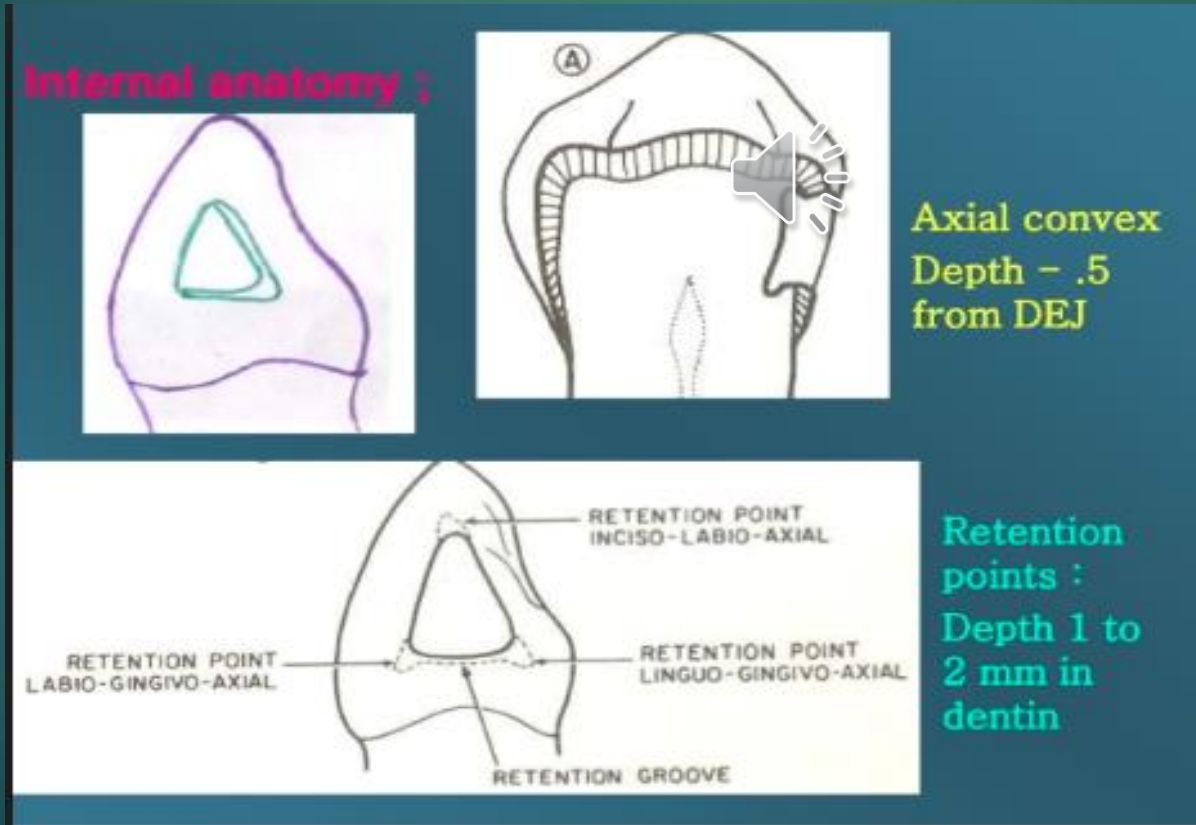
Contact area

Marginal ridge

Embrasure

CI III restoration

Defect in the proximal surface of anterior teeth with out incisal edge ►



Few indications exist for cl III :

1-the preparation is extensive with only minimal facial involvement ▶

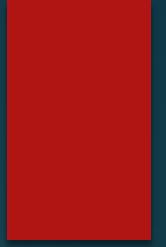
2-the gingival margin involves cementum ▶

3-moisture control is difficult ▶

For **esthetic** reasons , amalgam rarely done in proximal surface . ▶

Contra-indications

CI III amalgam usually are contraindication ►
esthetically important area because many patients
object to metal restorations that are visible.



Advantages

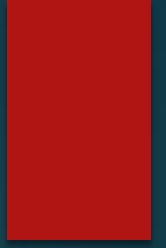
- 1-amalgam restoration are stronger than other cl III restoration ▶
- 2-they are generally easier to place ▶
- 3-less expensive ▶
- 4-amalgam restoration are usually easier to finish and polish ▶
with out damage to the adjacent surfaces.



Dis-advantage

1- metallic color ▶

2- less conservative cavity preparation when compared to that of esthetic restorative materials. ▶



Out-line form

1- included proximal surface ▶

2- may be needed dove-tail in additional retention for large restoration. ▶



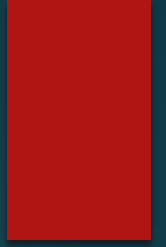
Resistance form

- 1- cavo-surface margins 90 degree ▶
- 2-removal unsupported enamel ▶
- 3-sufficient bulk of amalgam (minimal 1mm thickness) ▶
- 4-rounded internal line angles ▶
- 5- conserve disto-incisal tooth structures as possible ▶
to reduce the risk for fracture .

Retention form

1- box – like preparation form ▶

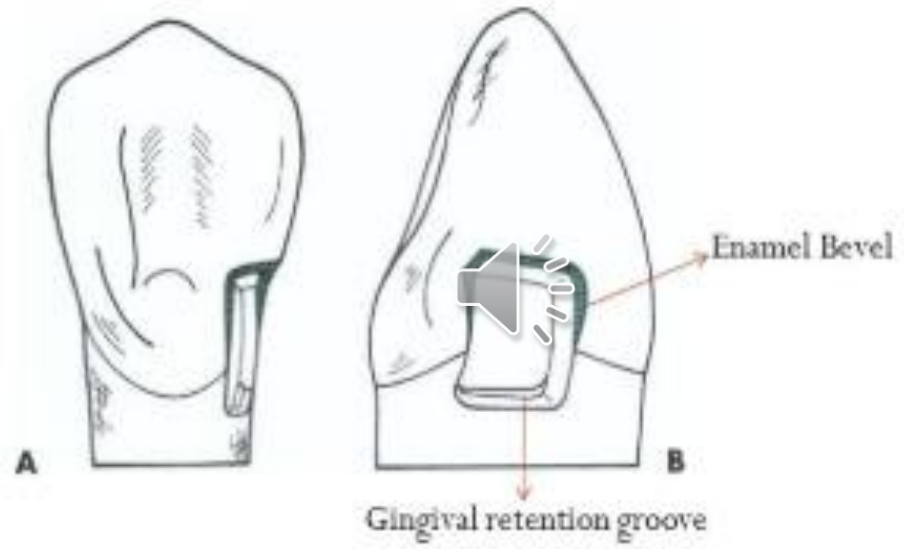
2- gingival groove , sometimes lingual ▶
dove-tail .

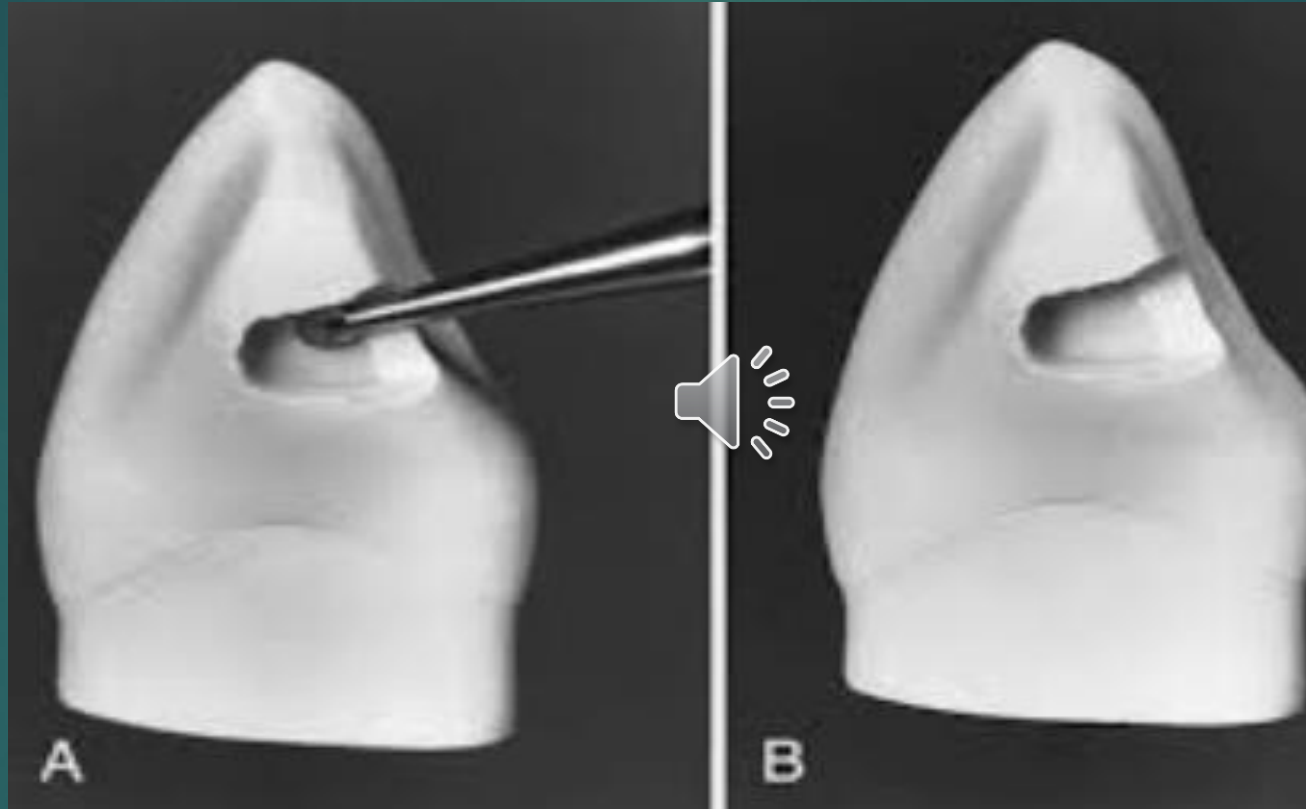


Notes

Initial axial depth 0.5 mm inside the DEJ or 0.75 mm axial depth when the gingival margin on the root surface,

Gingival retention groove: prepared by placing round bur in axio-facio-gingival point angle, it is positioned in the dentin to maintain 0.2 mm of dentin between groove and DEJ, the rotating bur is moved lingually along the axio-gingival line angle.





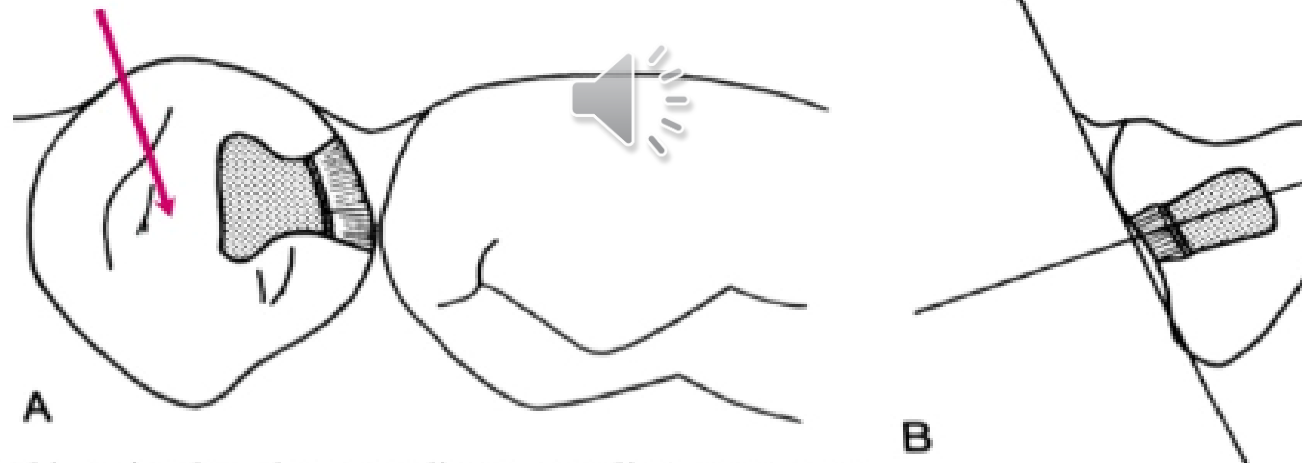
Incisal retention cove

Lingual dovetail

- 1- prepared only after initial preparation of the proximal portion has been completed. ▶
- 2- The lingual dovetail should be conservative, generally not extending beyond the mesio-distal midpoint of the lingual surface. ▶
- 3-Axial depth should be 1 mm. ▶

Class III Cavity - Cuspids

Dovetail is placed on lingual of maxillary cuspids and the facial of mandibular cuspids.



Proximal box is placed perpendicular to a line tangent to the surface on which the dovetail is placed.

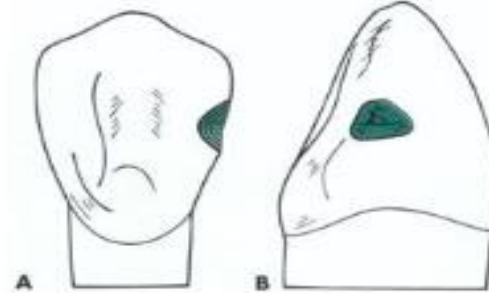
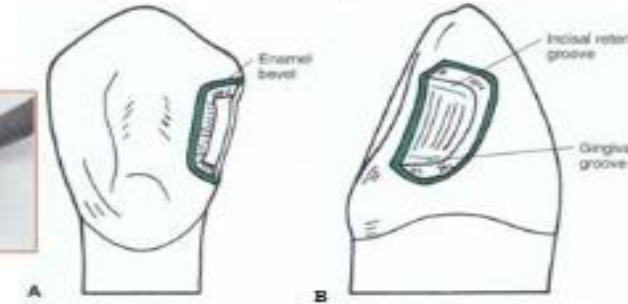
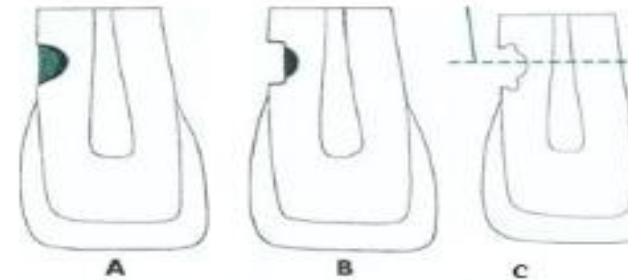
Class III Cavity preparation

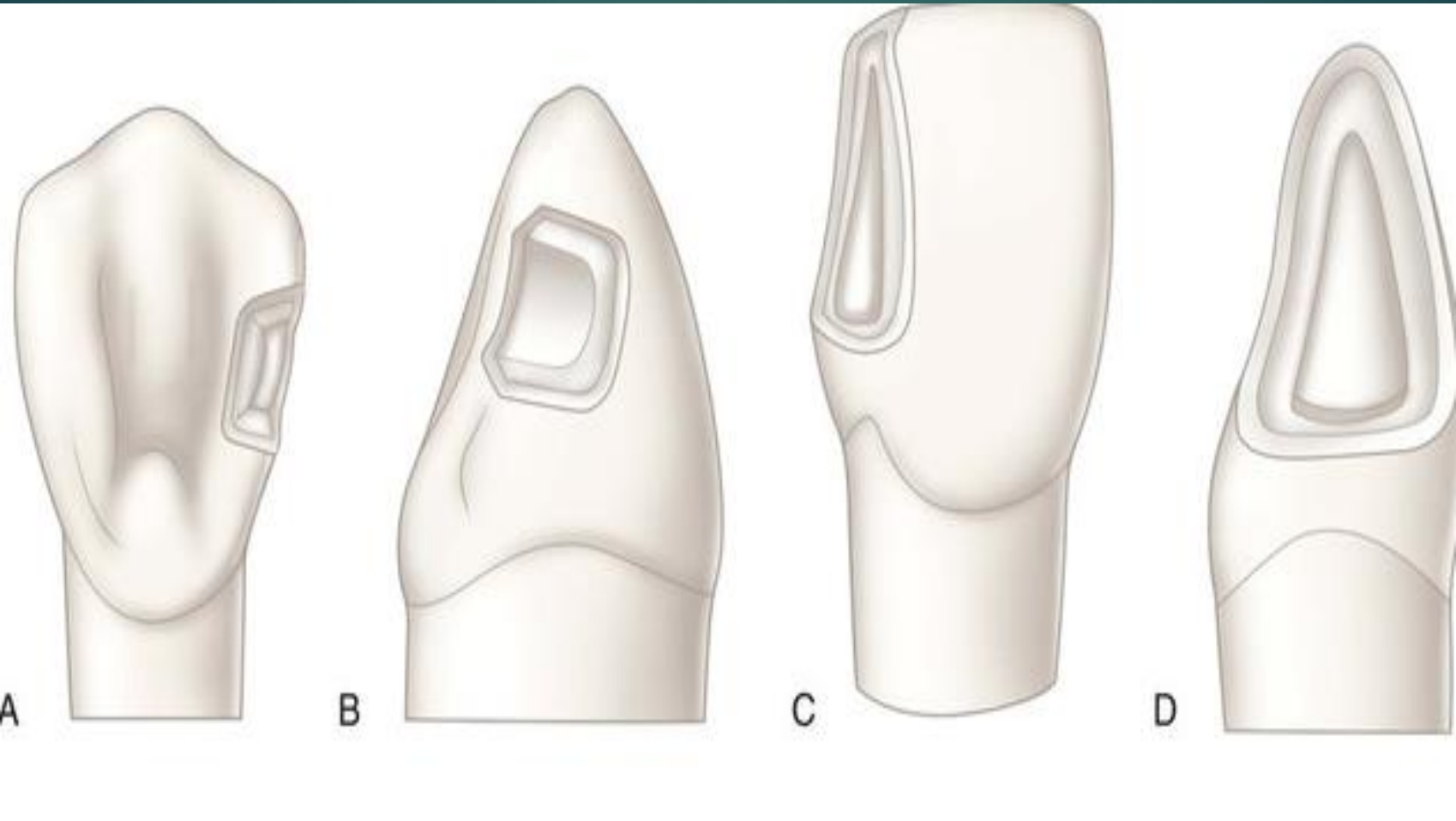
- Cavity Designs:

A. Conventional- when caries is entirely on root surface

B. Beveled Conventional- When the cavity is large & have enamel margins. Bevel is given at an angle of 45° to the cavosurface

C. Modified- When the carious lesion is small & easily accessible









After restoring with Composite Resin Material

CL IV cavity preparation

Definition of class III and IV cavity

Class III

located on the proximal surface of anterior teeth



Class IV

located on the proximal surface of anterior teeth and involve the incisal edge



Cavity preparation

Reason of beveling is the microretention

The end of enamel rods are more effectively etched producing deeper „microundercuts” than when only the sides of enamel rods are etched

The composite filling has stronger adhesion to the tooth structure

Better esthetic

Use diamond bur 45 degrees to the external tooth surface

Width should be 0,25-0,5mm

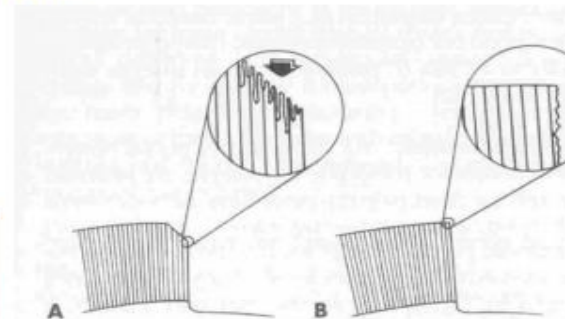


FIGURE 11-25 Ends of enamel rods (A) are more effectively etched, producing deeper microundercuts than when only the sides of enamel rods are etched (B).

Facial or lingual entry ?

Lingual approach is preferable

- * The facial enamel is conserved for enhanced aesthetics.
- * Some unsupported enamel may be left on the facial wall
- * Colour matching of the composite is not as critical



Indications for a facial approach include

- * The carious lesion is positioned facially
- * The teeth are irregularly aligned, making lingual access undesirable
- * An extensive carious lesion extends onto the facial surface



Instruments for cavity preparation

Preparation of the enamel

high speed turbine

micromotor (red)

water cooling is necessary



Preparation of the dentin

low speed (blue or green)

water cooling is not required



Bevel the enamel

45 degrees to the surface

micromotor (red)

(high speed turbine)

water cooling is necessary



Restorative technique

Isolation

- * relative isolation
- * absolute isolation

Place the rubber dam or cotton rolls

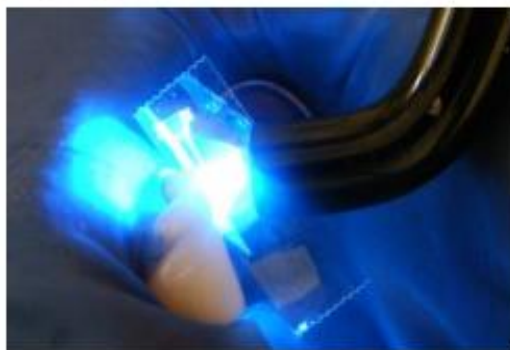


Etching Procedure



Etching and bonding

- * 37% phosphoric acid
- * etching time:
 - enamel: 30-40 sec
 - dentin: 15-20 sec
- * Rinse the acid- 30-40 sec, use exhauster!
- * Dry the tooth surface with air - 2-3 sec, but NOT OVERDRY!!!
- * Bond application with brush



- * With soft air
 - ✓ Thin the layer
 - ✓ Blow the bond into the dentin tubules and enamel micro-and macro-tags
 - ✓ Evaporate the solvent agent of the bond
- * Light cure with the polymerization lamp 20-40 sec

Restorative technique

Application of composite

- * Place 1st increment of composite
- * Usually dentin and opaque shade or enamel shade to form first the oral wall
- * Place 2nd increment of composite (usually dentin shade) to establish contact and internal bulk
Internal shades should be established at this time.
- * Place 3rd increment of composite
- * (usually enamel shade) to establish facial form and incisal form
- * Light Cure for 20-40 sec between the increments



Thank you ▶

