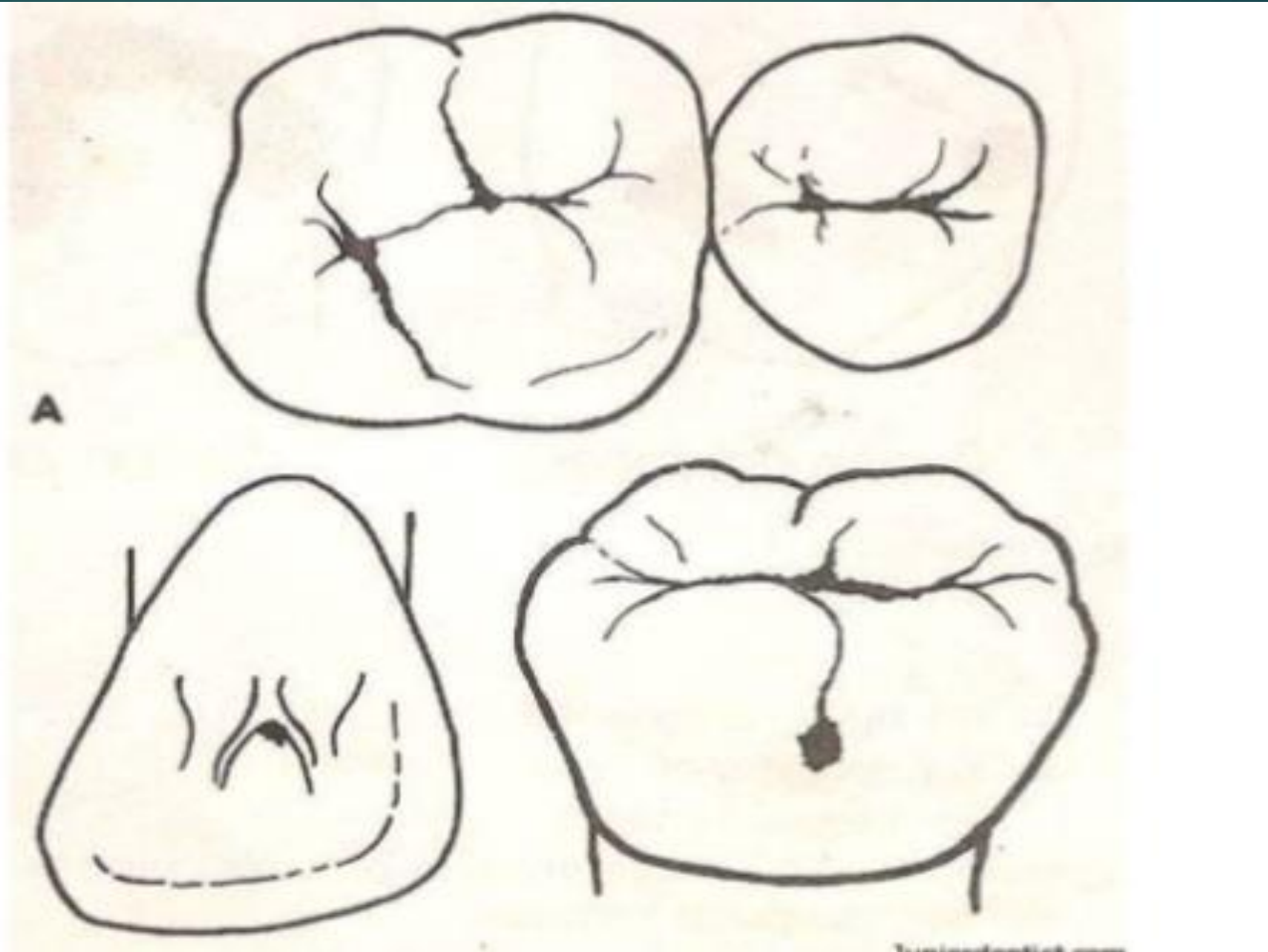


Clinical technique for CLI amalgam restorations

DEFINITION-

- Class I Restoration-All pit and fissure restorations are Class I, and they are assigned to three groups.
- A)Restorations on Occlusal Surface of Premolars and Molars.
- B)Restorations on Occlusal Two-Thirds of the Facial and Lingual Surfaces of Molars.
- C)Restorations on lingual Surface of Maxillary Incisors.



Principles of CL I cavity preparation

1- outline form : ►

IDEAL OUTLINE FORM

- Eliminating a weak wall of enamel by joining two outlines that come close together i.e. $<0.5\text{mm}$ apart.
- Extending the outline form to include enamel undermined by caries.
- Using enameloplasty on the terminal ends of shallow fissures to conserve tooth structure.
- Establishing an optimal, conservative depth of the pulpal wall.

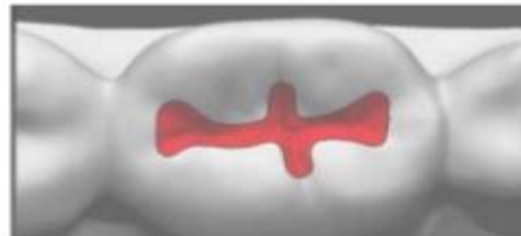
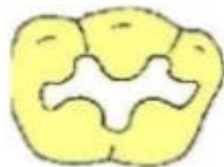
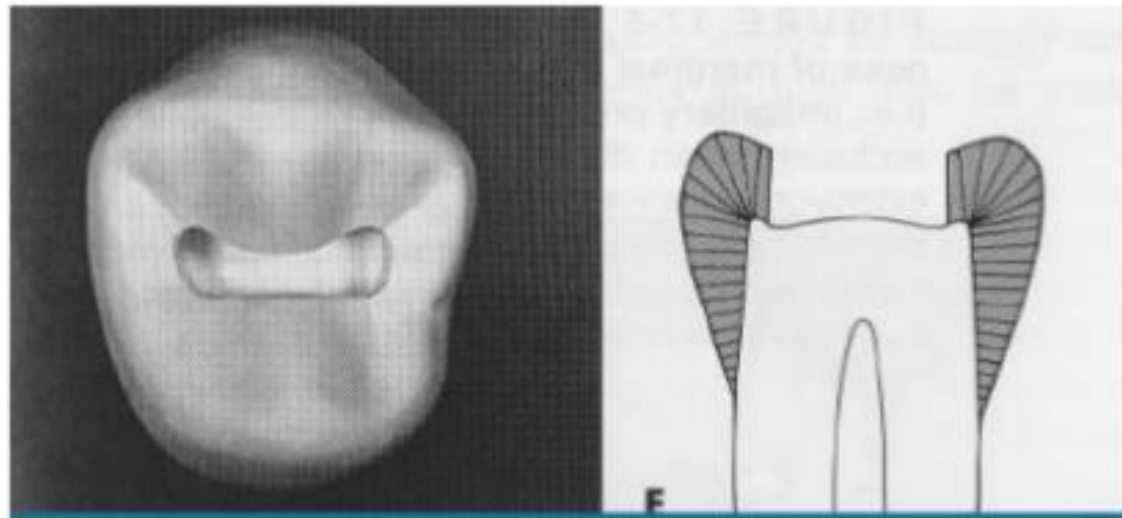





FIGURE 17-8 Enameloplasty. A, Developmental fault at terminal end of fissure. B, Fine-grit diamond stone in position to remove fault. C, Smooth surface after enameloplasty. D, Cavosurface angle should not exceed 100 degrees, and marginal-amalgam angle should not be less than 80 degrees. Enamel external surface (*e*) before enameloplasty.




2- extension

Conservative of tooth structure is the basis for all ►
cavity preparation in order to preserve the strength of
the tooth.





Eliminates defective tooth structure and eliminates areas (pit ,fissures) which are susceptible to recurrent caries and facilitates oral hygiene procedures **(extension for prevention)** ▶



Bucco-lingual extension

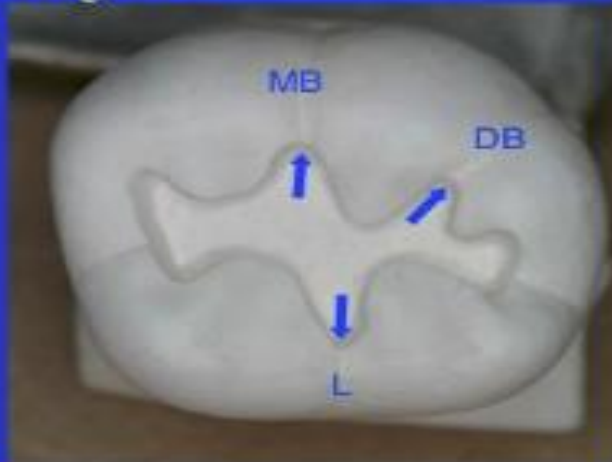
BUCCO-LINGUAL EXTENSION

PRINCIPLE

- extends far enough up B & L grooves to terminate on gentle contours

RATIONALE

- margin in sharp anatomy difficult to finish & keep clean



Mesio-distal extension

MESIO-DISTAL EXTENSION

PRINCIPLE

- stop short of marginal ridge crests

RATIONALE

- preserve strength of marginal ridge (resistance form)



Resistance and retention form

A-depth=1/2 mm into dentin (approx. 2mm measured at triangular ridges) ▶

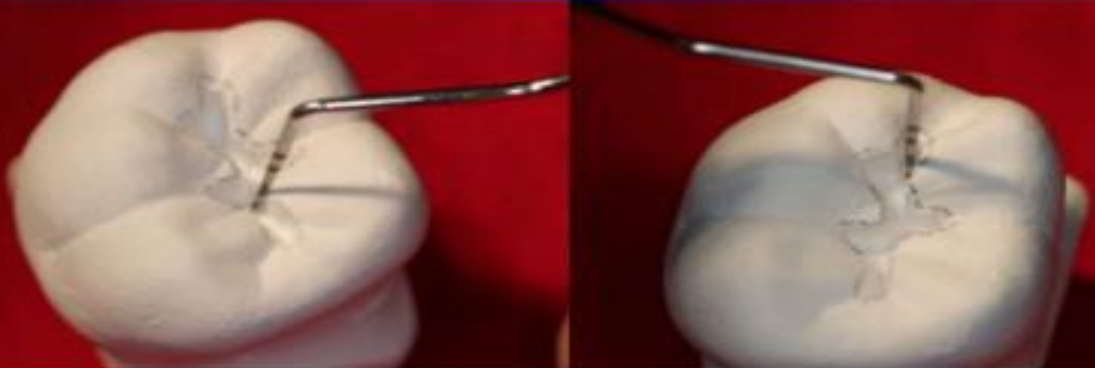
B-pulpal floor ▶

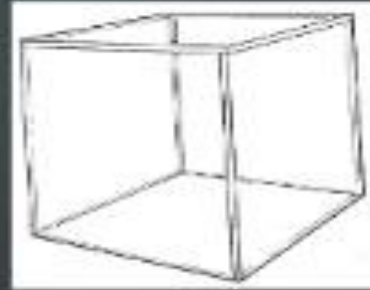
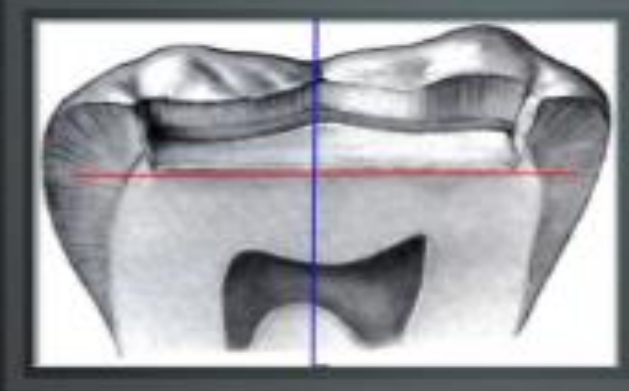
1- smooth and flat ▶

2- parallel to the occlusal plane ▶

OCCLUSAL DEPTH

PRINCIPLE	RATIONALE
<ul style="list-style-type: none">• 0.5mm into dentin• about 2 mm measured at triangular ridge	<ul style="list-style-type: none">• sufficient bulk of amalgam to prevent fracture• maximum thickness of dentin protecting pulp

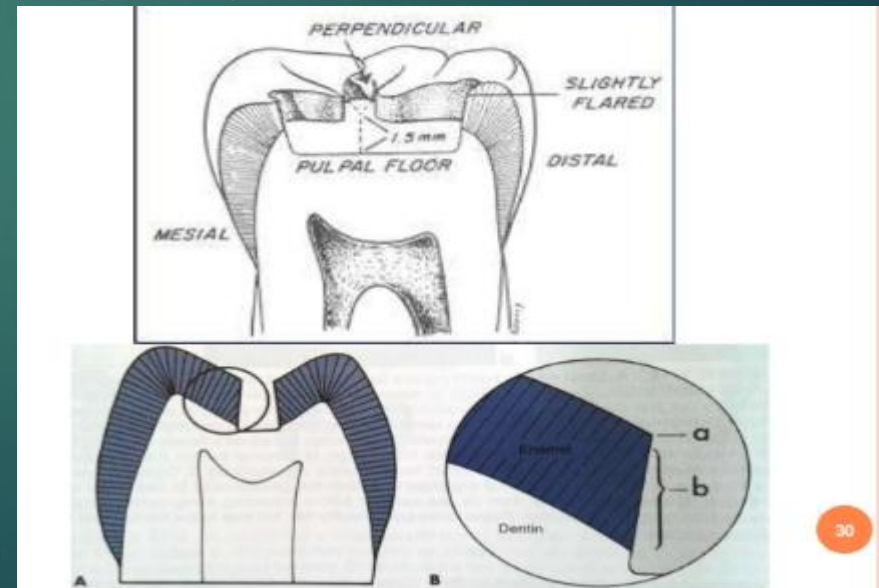




- The resistance form here consists chiefly of a pulpal wall parallel to the occlusal plane (perpendicular to the long axis of the tooth) with dentin walls at right angles to it., i.e. Boxing the preparation.

Buccal and lingual walls

- Smooth and curved mesio-distally ▶
- Smooth and straight pulpo-occlusally ▶
- Converge slightly pulpo-occlusally under cusps to provide mechanical lock or retention ▶
- Diverge slightly pulp-occlusally in buccal and lingual groove extension ▶



Cavity finish

A: pulpo-occlusal line angle is well defined (no point angles are present) and follows general configuration of cavosurface outline. ▶

B:cavo-surface margins 90-100 degree ▶

Sharp (well defined) easier to visualize and carve ▶

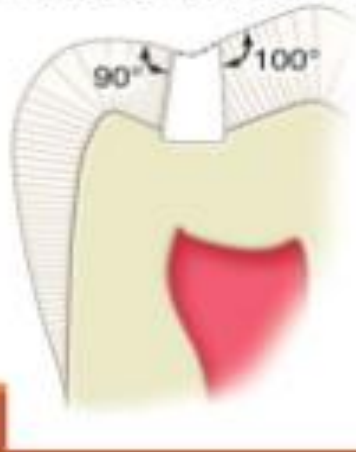
Sound (well supported) provides marginal integrity ▶

Summary

Class I preparations

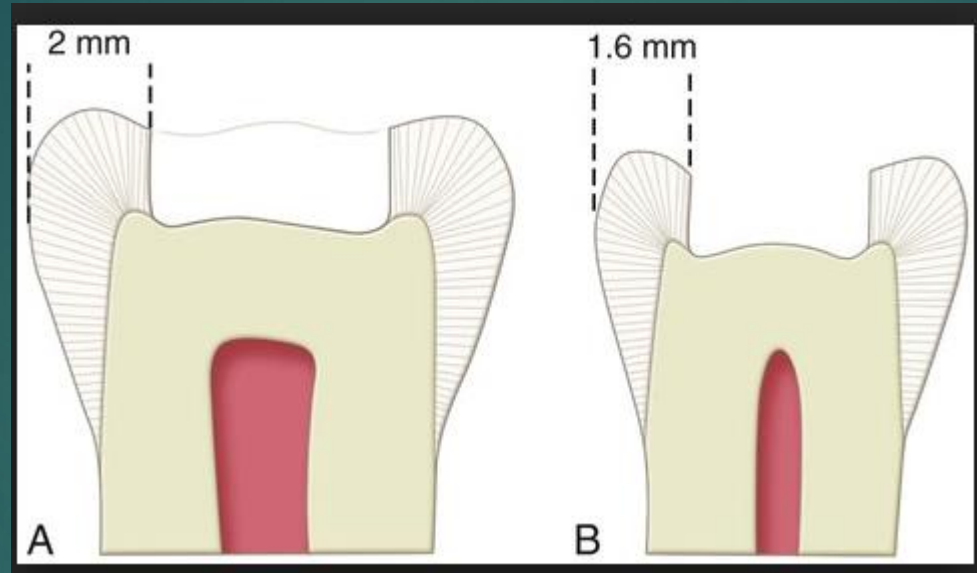
Cavosurface angles and margins

- Cavosurface angles are 90° - 110°
- Cavosurface margins are definite & free of irregularities



Cleanliness

cavity is free of debris and moisture , facilitates ►
adaptation of amalgam to the cavity and
improves the physical properties of the
restoration by elimination of void or foreign
material.



Mesio-distal extension, preserve of dentin
support marginal ridge of enamel
A:molar B:premolar

Buccal pit cavities :



OUTLINE FORM FOR PIT RESTORATIONS

Outline form for pit restoration
Round triangle oval

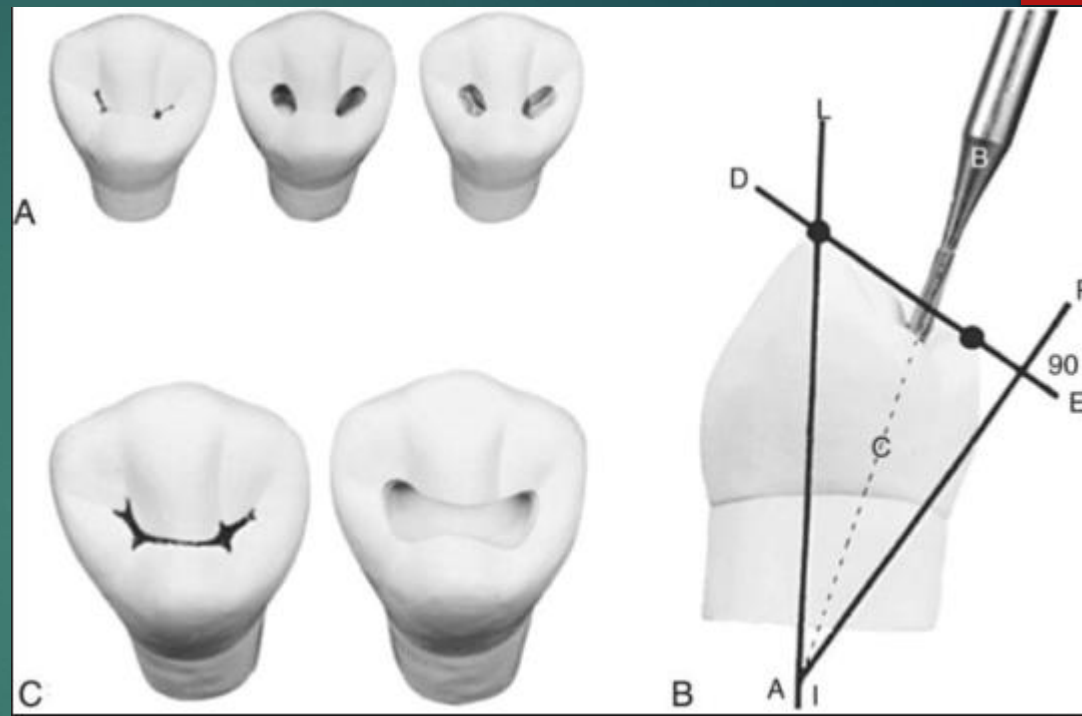
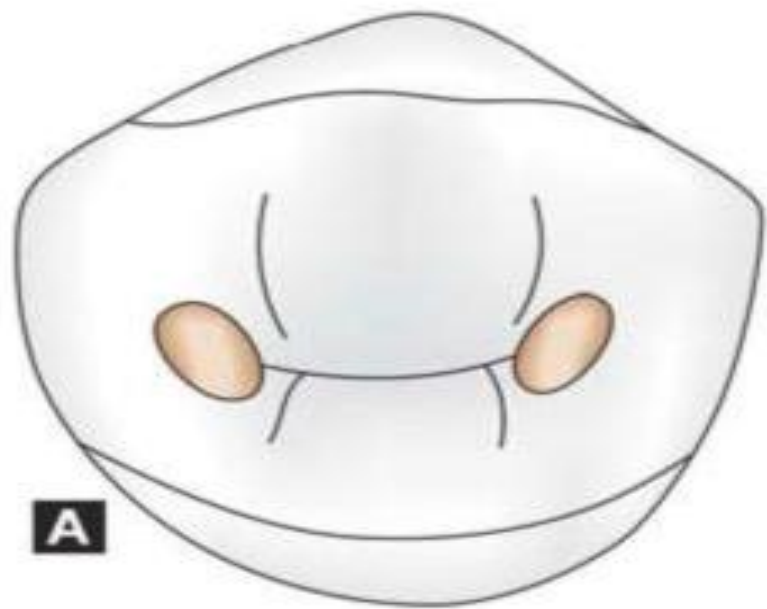
Occlusal pits of mandibular first premolars

Have **two** exception: ▶

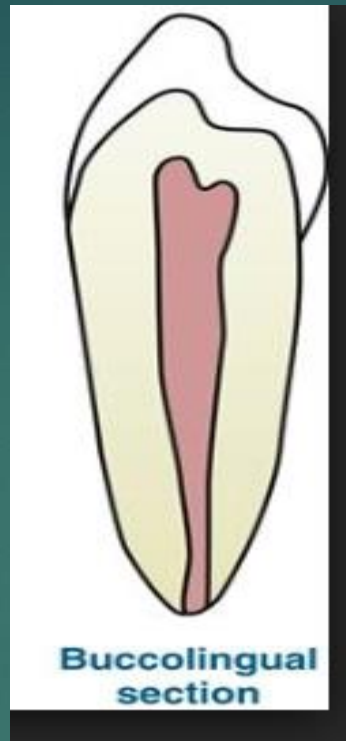
1-we can make 2 separated cavity one on mesial occlusal and other on distal with out including central fissure if this fissure not involved by caries because of presence of **transverse ridge**. ▶

2- buccal horn of pulp is higher than lingual one , cavity floor should be inclined lingual (not flatted in order not to harm the pulp) ▶

Mandibular first premolar



Bur tilted for entry



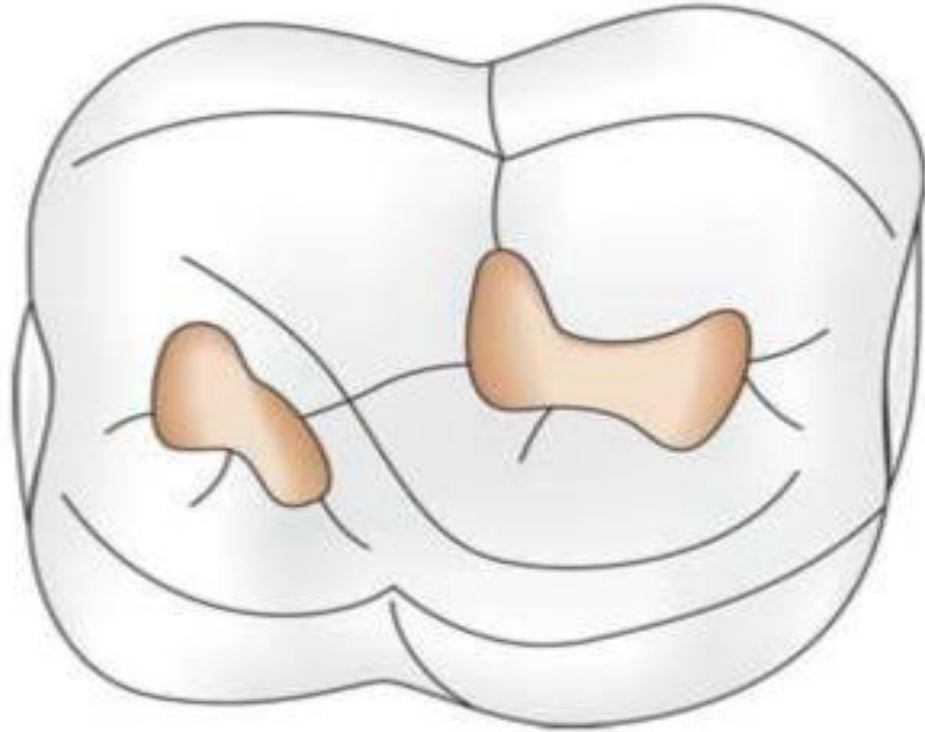
Buccal horn higher than
lingual one

Cavity preparation of maxillary first molars

Which have 2 exception because of anatomy of the tooth ▶

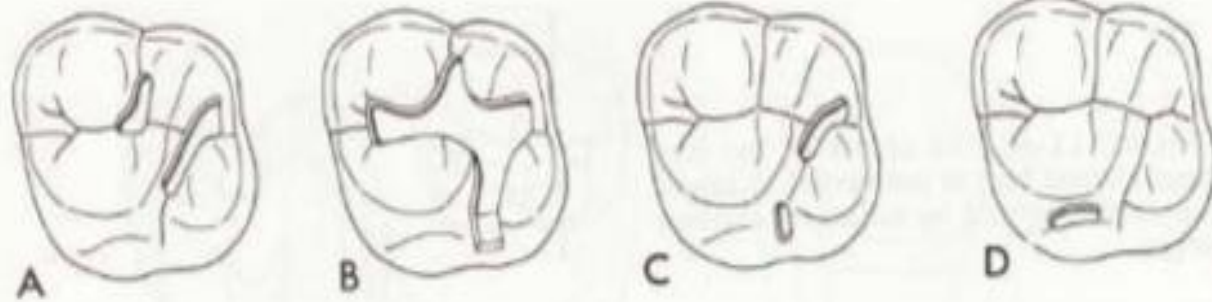
Present of **oblique ridge** in between disto-buccal and mesio-palatal gives the possibility to do 2 separated cavities . ▶

Maxillary molar



2 separated cavity disto-buccal and mesio-occlusal .

VARIATIONS IN DESIGN FOR CLASS I MAXILLARY 1ST MOLAR



Buccal and lingual extension



Class I Cavity Preparation for Amalgam Restoration

**By
Prof. Dr. Abbas F. Alhuwaizi**

Establishing the depth of the cavity ▶

Make 3 holes inside the cavity by use 1mm in diameter round bur ▶

The bur must be perpendicular to the occlusal plane at the depth of the fossa ▶

Depth of the cavity 1.5 to 2 mm ▶

The depth must be uniformly ▶

Use fissure bur to make out line form of the cavity ▶

The buccal and lingual wall should be convergence occlusally , its done by tilted the bur 5 degree under the cusp to establish the retention form ▶

The width of the cavity $\frac{1}{4}$ of the distance between buccal and lingual cusps ▶

The mesial and distal wall should be perpendicular to the occlusal plane ▶

Check the convenience form ▶

Thank you ▶

