

Class V and Class VI Tooth Cavity Preparations for Amalgam Restoration

Class V Tooth Cavity Preparations for Amalgam Restoration

Class V lesion is present on the gingival third of facial and lingual surfaces of all teeth. Amalgam is not indicated for anterior teeth except when esthetics is of no concern, for example in very aged patients.

Causes of Cl. V cavitation:

1. Dental caries.
2. Erosion: tooth loss caused by non-bacterial acids (Fig. 1).
3. Abrasion: tooth loss at gingival third due to mechanical action (Fig. 2).

Initial Tooth Cavity Preparation:

1. Outline form is dictated by extension of caries. Outline resembles kidney or bean shape.
2. Preparation is started round bur and outline extension prepared by using 169L or 271 tapered fissure bur, it should be perpendicular to long axis of tooth (Fig. 3).
3. Initial axial wall depth is maintained 0.5 mm into the dentin (total depth; 1-1.25 mm on enamel and dentin) and 0.75 mm into the cementum (on the root). Axial wall depth at the occlusal wall should be more than at the gingival wall (Fig. 4). This will result in a curved (convex) axial wall which to conform to the contour of the tooth.
4. Extend the preparation incisally, gingivally, mesially and distally till the cavosurface (90°) margins are placed on sound tooth structure.

Final Tooth Preparation:

1. Remove any remaining caries using a round bur.
2. Retention is achieved by giving grooves (0.2-0.3 depth into dentin) incisally and gingivally along axioincisal and axiokingival line angles using round bur.
3. Resistance form is achieved by making the occlusal and gingival walls perpendicular to the long axis of the tooth. It should not be converged to avoid forming unsupported enamel.



Figure 1: Dental erosion.



Figure 2: Dental abrasion.

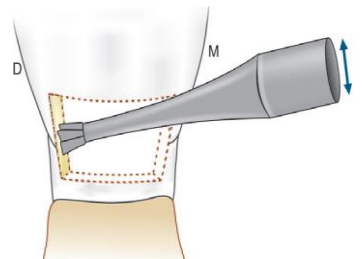


Figure 3: Entry into lesion with the help of inverted cone bur.

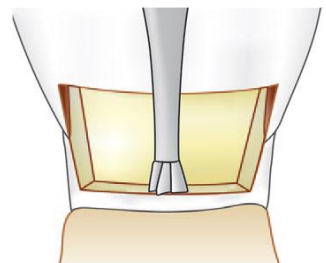


Figure 4: Preparation of gingival wall

- To prevent secondary caries, extend the preparation close but not to axial angles of the tooth. In young patients, it is extended under free margins of gingiva and in older patients, it is determined by extent of the lesion.
- Finally, Hoes and Chisels are used to finish the mesial, distal and gingival walls (Fig. 5).

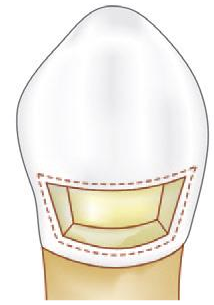


Figure 5: Completed class V preparation

Class VI Tooth Cavity Preparation for Amalgam Restoration

Class VI tooth cavity preparation involves restoration of incisal edge of anterior teeth or the cusp tip of posterior teeth.

Indications of restoration of class VI lesions with amalgam:

- In teeth where, because of too much wear, enamel is gone and the underlying dentin has become carious, commonly seen in geriatric patients.
- Hypoplastic cusp tips as these are more prone to caries.

Steps of Tooth Preparation:

- Penetrate enamel with a small tapered fissure bur extending to the depth of 1.5 mm.
- Prepare a 90° cavosurface margin on enamel.
- Make small undercuts along the internal line angles to provide retention (Fig. 6).

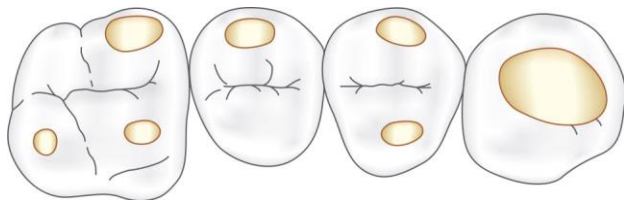


Figure 6: Completed class V preparation

Reference:

Textbook of operative dentistry. Nisha Garg and Amit Garg. (2015).