Class 1 Amalgam Restoration

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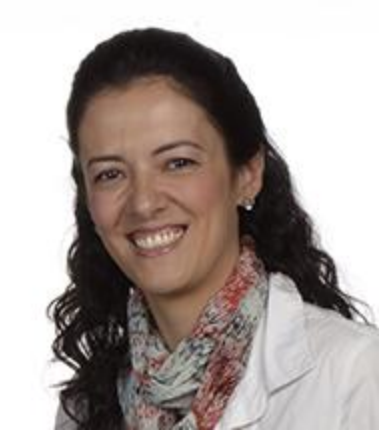

Class I lesions are associated with caries in the pits and fissures system. Dental amalgam may be recommended for the restoration of those lesions due its strength, resistance to wear and the ability to self-seal the margins of the restoration over time.

The materials needed for the placement of an amalgam restoration are:

1. Rubber dam materials and instruments;
2. Cotton pliers;
3. Explorer;
4. Copal varnish;
5. Amalgam capsules and triturator;
6. Amalgam carrier;
7. Condensers of different sizes;
8. Egg-shaped burnisher;
9. Small round burnisher;
10. Hollenback carvers;
11. Cleoid-Discoid carver

The placement of a class I amalgam restoration in a posterior tooth can be accomplished with the following steps:

1. Application of Copal varnish in two layers with a microbrush or a small cotton pellet for 10 sec., gently drying each layer with air
2. Selection of amalgam (high copper admixed alloy is preferred for this application) and size of capsule (one spill or two spill)
3. Activation and trituration of the capsule for the time recommended for the type of amalgam
4. Placement of the amalgam mixture in a dappen dish, to be carried to the cavity preparation with an amalgam carrier; (use amalgam immediately after trituration)
5. Condensation of amalgam in the cavity:

- Start by using the smallest condenser possible (try the condensers in before mixing the amalgam)
- Condense vertically as well as laterally under maximum compaction (you should feel the muscles in your shoulder contract) in order to achieve:
    - Absence of voids
    - Maximum adaptation to the cavity preparation to reduce marginal leakage
    - Removal of excess mercury
    - Maximum physical and mechanical properties
- Remember that larger condensers require higher forces

6. Overfill the cavity (approximately 1mm) in order to remove the mercury rich layer during the burnishing and carving;
7. Pre-carve burnishing with a large radius instrument (egg-shaped burnisher); it is performed from the center of the restoration to the margins of the restoration (M-D and B-L directions)

The purpose of this step is to:

- continue the condensation
- begin the carving procedure
- Increase adaptation and reduction of porosity at the cavosurface margin

8. Carving of the amalgam with a cleoid-discoid, Hollenback or other instrument;

This will help to further remove the mercury-rich layer while developing occlusal anatomy – it is important to keep in mind the anatomy of the surrounding tooth as well as the occlusal relationship with the opposing teeth.

9. Final burnishing with a round-ended burnishing instrument immediately after carving – apply light pressure to the carved surface to ensure a smooth finish with well adapted margins

The desired outcome is a long-lasting restoration, with no surface voids, no marginal gaps, and anatomy that is harmonious with the anatomy of the remaining tooth structure. At this point, finishing should be limited to occlusal adjustments only. No additional finishing or polishing is recommended within 24 hours of completion, to allow the amalgam to fully crystalize.

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