

## Mercury Hygiene Guidance [1]

October, 1998      Barcelona   Spain

October, 2007      Dubai   United Arab Emirates

### **Introduction**

The FDI Mercury Hygiene Statement includes recommendations on handling both precapsulated and bulk mercury. The use of precapsulated mercury/alloy is the preferred technique. Recommendations that are only applicable to bulk mercury are not necessary when there is no bulk mercury used in the operator.

1. Know the key issues on potential exposure to mercury:
  - avoid direct skin contact with mercury or freshly mixed dental amalgam
  - avoid exposure to the following potential sources of mercury vapour:
    - accidental mercury spills
    - malfunctioning amalgamators
    - leaky amalgam capsules
    - malfunctioning bulk mercury dispensers
    - during trituration
    - during placement and condensation of amalgam
    - during polishing or removal of amalgam
    - vapourization of mercury from contaminated instruments
    - open storage of amalgam scrap or used capsules.
2. Train all personnel involved in the handling of mercury and dental amalgam regarding the potential hazards of mercury vapour and the necessity of observing good mercury hygiene.
3. Install impervious, easy to clean surfaces including continuous seamless-sheet flooring extending up the walls.
4. Work in well-ventilated areas, with fresh air exchanges and outside exhaust. If the work areas are air-conditioned, replace the air-conditioning filter periodically.
5. Use pre-capsulated amalgam in order to:
  - eliminate the possibility of a bulk mercury spill
  - eliminate the mercury dispenser as a potential exposure source of mercury vapour
6. Use an amalgamator with a completely enclosed arm and which complies with international standard ISO 7488.
7. Recap single-use capsules after use if feasible. Store them in a closed container and dispose of them through a mercury reclamation company that handles amalgam waste.
8. Use high-volume evacuation systems (fitted with traps or filters) when finishing or removing amalgam.
9. Clean amalgam contaminants from instruments before heat sterilization or heat disinfection.
10. Avoid heating mercury or amalgam or any equipment used with amalgam.
11. Follow Best Management Practices for Amalgam Waste:
  - Salvage and send the following to a mercury reclamation company that handles amalgam waste:
    - used single-use capsules
    - amalgam scrap not contaminated with patient fluids
    - amalgam waste that is contaminated with patient fluids such as amalgam debris from restorations after removal
    - chair-side traps containing amalgam waste
    - vacuum pump filters or other amalgam collecting devices if they contain amalgam
    - extracted teeth that contain amalgam restorations (if the recycler requires extracted teeth to be disinfected then disinfect by immersion the extracted teeth in a disinfectant before recycling them along with chairside trap waste)
  - Do not put amalgam waste in biohazard containers, infectious waste containers or regular garbage.

- Use suction line cleaners (e.g. non-chlorine-containing cleaners) that minimize dissolution of amalgam.
  - Do not use bleach or other chlorine-containing cleaners to flush wastewater lines.
  - Use an amalgam separator which complies with International Standards ISO 11143, to address environmental concerns.
12. Clean up all mercury spills (regardless of size)
- Pick up droplets using an adhesive tape or hypodermic syringe.
  - Mix small mercury spills (less than 10g) with alloy powder to form amalgam and add the resultant scrap to the scrap container.
  - Use commercial mercury spill clean up kits to manage larger spills (10g or more).
  - Never use a vacuum cleaner of any type.
  - Do not use household cleaning products.
  - Do not pour or allow mercury to go down the drain.
  - Do not use a broom or a paintbrush to clean up mercury.
  - Prevent people whose shoes may be contaminated with mercury from walking around or leaving the spill area until the mercury-contaminated items have been removed.
13. Handling and use of bulk mercury is to be strongly discouraged. However, if it is used, then:
- Minimize the amount of mercury stored.
  - Store in unbreakable, tightly sealed containers.
  - Store containers in a well-ventilated place away from any source of heat.
  - Use mercury and amalgam equipment only in areas that have impervious and suitably lipped surfaces, so that spilt mercury or excess amalgam is confined and recovery is facilitated.
  - Exercise care in handling bulk mercury to minimize possibilities of spill (e.g. use a funnel when mercury is being dispensed into an amalgamator; place a lipped tray under the mercury dispenser).
  - Use only capsules that remain sealed during amalgamation.  
*Note: this can be checked by wrapping a piece of adhesive surgical tape around the junction of the two halves of the capsule, and doing a test mix. Leakage of mercury will show as a black line on the tape after it is removed*
  - Handle mercury dispensers carefully.
  - Select an appropriate alloy to mercury ratio to minimize the need for removal of excess mercury prior to placement.
  - Check mercury dispensers periodically for mercury leakage.
  - Examine the mercury dispenser orifice after use for residual mercury. Any mercury droplet remaining should be disposed of as described in recommendation 12.
  - Check the dental operator for mercury vapour, preferably annually or after a spill clean-up.

[Science Committee](#) [2] **Classification:** [Amalgam](#) [3]

[Exposure](#) [4]

[Mercury](#) [5]

[Minamata](#) [6]

[Waste management](#) [7]

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#### Links

[1] <https://www.fdiworlddental.org/resources/policy-statements-and-resolutions/mercury-hygiene-guidance>

[2] <https://www.fdiworlddental.org/standing-committees/science-committee>

[3] <https://www.fdiworlddental.org/policy-statement-classification/amalgam>

[4] <https://www.fdiworlddental.org/policy-statement-classification/exposure>

[5] <https://www.fdiworlddental.org/policy-statement-classification/mercury>

[6] <https://www.fdiworlddental.org/policy-statement-classification/minamata>

[7] <https://www.fdiworlddental.org/policy-statement-classification/waste-management>