Ministry of Social Security, National Solidarity, and Environment and Sustainable Development (Environment and Sustainable Development Division)

MINIMISING MERCURY POLLUTION IN THE DENTISTRY SECTOR

Minamata Convention on Mercury

Purpose : To protect human health and the environment from anthropogenic releases of mercury and mercury compounds.

One key provision: To phase down the use of dental amalgam.

Facts on mercury

- Heavy, dense metal, liquid at ambient temperature.
- Toxic, persistent and bio-accumulative substance.
- Listed by World Health Organisation as one of the top ten chemicals of major public health concern.
- Can travel long distances through the oceans and the atmosphere.
- Prolonged exposure to mercury may lead to neurological damage, especially amoung the young, memory loss and damage to the brain, kidney and digestive system.

Dental amalgam (also known as silver fillings)

Facts on silver fillings

- Combination of metals such as mercury, silver, tin, copper, and other trace metals.
- Comprise about 50 per cent of mercury in elemental form.
- Available in pre-dosed capsules.
- Releases small amounts of mercury vapour (increased by chewing, eating, brushing, and drinking hot liquids) that can be inhaled and absorbed by the lungs.
- Can contribute to the mercury pollution e.g. enters the environment during the cremation and incineration of human remains.

How are amalgam wastes generated?

- From extracted teeth containing amalgam restorations.
- From non-contact or scrap amalgam.
- From used, leaking, or unusable amalgam capsules.
- From amalgam captured by chair-side traps, vacuum pump filters and other devices.

These wastes enter the environment during discharge of wastewater or disposal of sewage sludge and when these are disposed of together with normal solid wastes.

Alternative to dental amalgam: composite resins or white fillings

Facts on white fillings

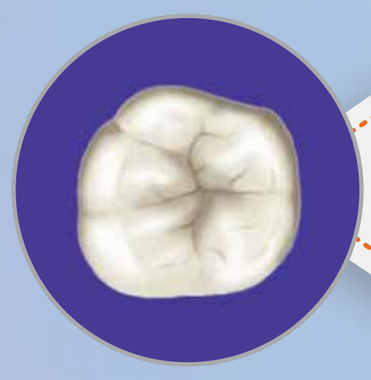
- Used for filling, inlays and veneers and sometimes for replacing parts of broken teeth.
- Mixture of glass filler and acrylic resin.
- Relatively strong material.
- Sometimes difficult and time-consuming to place.
- Costs more than amalgam.

The best thing to avoid the need for any fillings is to inform public how to prevent tooth decay in the first place!

Recommended practices for dentists and their assistants

DO'S

Provide patients with information about the risks associated with dental amalgam



Use amalgam substitutes wherever appropriate

Use only pre-capsulated dental amalgam

(i) Install chair-side traps and vacuum pump filters, (ii) consider purchasing an amalgam separator, (iii) replace trap and filter periodically

Wear appropriate personal protective equipment and ensure adequate ventilation during placement of dental amalgam

Empty waste from traps and filters into a marked waste container and store them in an air-tight labelled container

DON'TS

Do not place amalgam fillings in the teeth of pregnant and/or nursing women, young children (≤ 6 yrs), people with kidney problems and people known to be allergic to mercury

Do not flush amalgam waste down the drain, toilet or sewage system

Do not: (i) mix amalgam wastes with biomedical wastes, (ii) dispose amalgam wastes into the regular garbage

Do not rinse amalgam separator, traps and filters over the drains or sinks

Do not use bleach or chlorine-containing cleaners to flush wastewater or vacuum lines

Do not incinerate amalgam and amalgam-filled extracted teeth

For disposal of your dental amalgam wastes, please contact the
Solid Waste Management Division Tel: (230) 201-2742 - Fax: (230) 201-3748
Email: ylochee@govmu.org ; kguriah@govmu.org