World Health Organization

UNEP
United Nations Environment Programme

Dental amalgam and its impact on the environment

Information for Dentists

Some facts and figures

Dental amalgam is composed of approximately 50% elemental mercury and of 50% silver-zinc-tin-copper alloy

Mercury is toxic to human health and environment

An estimated 250-350 metric tonnes of mercury was used for dental amalgam in 2005, representing approximately 10% of global consumption, or 20% of total global mercury consumption in products

Dental amalgam is often the largest source of mercury in municipal wastewater: in the soil via wastewater sludge, land disposal and the burial of deceased persons with fillings. It is also an important source of mercury air pollution from wastewater sludge incineration and cremation due to the amalgam retained in the teeth of the deceased

Mercury-free dental restoration materials reduce mercury pollution and contribute to preserve our ecosystems for future generations

Contacts:

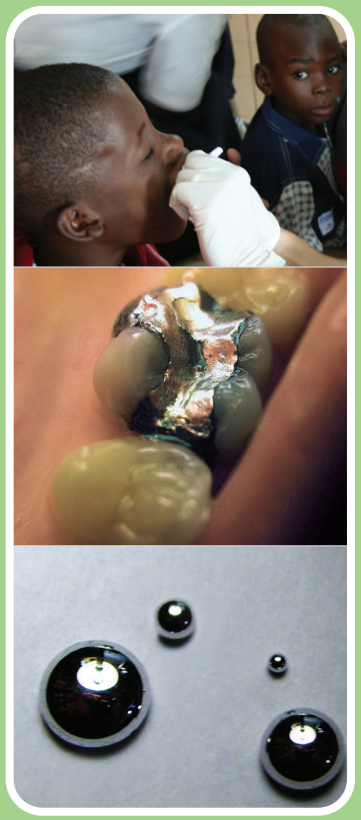
World Health Organization (WHO)
Prevention of Noncommunicable Diseases
Oral Health Programme
20 Avenue Appia
1211 Geneva 27
Switzerland
E-mail: healthpromotion@who.int

United Nations Environment Programme (UNEP)
Division of Technology, Industry & Environment
Chemicals Branch
11-13 chemin des Anémones
1219 Châtelaine/Geneva
Switzerland
E-mail: mercury.chemicals@unep.org

For further information, please visit:
www.who.int/oral_health
www.unep.org/hazardoussubstances

This brochure was developed as part of the East Africa Dental Amalgam Phase-down Project.

Major responsibilities



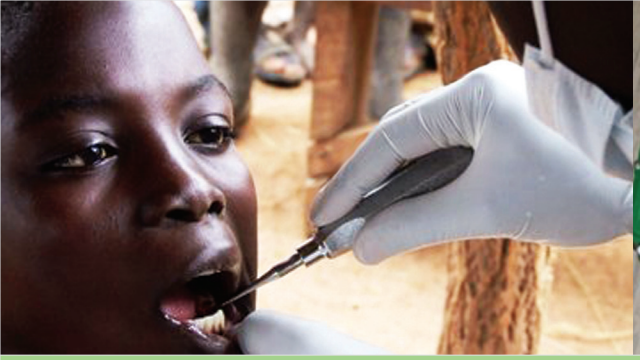
Oral health of the population

Dental care according to the patient's needs

Outreach to the poor and disadvantaged groups

Discarded amalgam waste pollutes the environment

Photos Cover: Top **David Axe**; middle **Kauzio**; bottom **pgordon2**
Inside: Left **David Axe**; middle UNEP; right **rhodesj**; below **John Spooner**



Oral health of the population

- Reach out to the community and educate people about the benefits of oral health promotion and disease prevention as the best practice to reduce oral disease and maintain oral health and quality of life

Dental care according to the patient's needs

- The choice of dental restorative materials should be based on clinical indication and depend on the type of tooth, size of the disease lesion and the availability of dental materials

Outreach to the poor and disadvantaged groups

- Dental caries is a serious disease that still affects a large number of the population, particularly the poor and disadvantaged groups
- Disease prevention is the best strategy to reduce the need for restorative dental care

About dental restorative materials . . .

- Dental amalgam contains mercury, and the improper disposal of amalgam scrap contributes to environmental pollution
- It is desirable to reduce the use of dental amalgam and protect the environment
- Although alternative materials are available, further research is ongoing to improve the quality and minimize potential side effects on health and the environment
- Dental research and manufacturers are making an effort to develop clinically satisfactory materials that do not pollute the environment
- When dental amalgam is used, it should be in encapsulated form

. . . . and don't forget

to ask for the latest information on oral health promotion, disease prevention and on new dental materials from your national dental association, Chief Dental Officer, or consult national or international dental literature