

منظمة الصحة العالمية

WORLD HEALTH ORGANIZATION  
ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ



世界卫生组织

ORGANISATION MONDIALE DE LA SANTE  
ORGANIZACION MUNDIAL DE LA SALUD

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The Director-General of the World Health Organization presents his compliments to the Governments of Member States and has the honour to transmit herewith a World Health Organization/FDI World Dental Federation Consensus Statement on Dental Amalgam. This Consensus Statement conforms to Environmental Health Criteria 118, Inorganic Mercury (World Health Organization, Geneva, 1991) and the FDI Policy Statement on Dental Amalgam (FDI World Press, January/February 1995. Volume 4, Number 1, p. 12).

The Director-General avails himself of this opportunity to renew to the Governments of Member States the assurance of his highest consideration.

GENEVA, 25 October 1995

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**WORLD HEALTH ORGANIZATION/FDI WORLD DENTAL FEDERATION  
CONSENSUS STATEMENT ON DENTAL AMALGAM**

**1. Rationale for the use of amalgam in dentistry**

Dental amalgam is the most frequently used material for restoring decayed teeth. Its main advantages include wide indications for use, ease of handling and excellent physical properties. It has been used in dentistry with good results for more than a century. The quality of dental amalgam has been improved during the last twenty years. Amalgam restorations are safe and cost-effective. One disadvantage with amalgam is that it is not tooth-coloured.

**2. Alternative filling materials for amalgam**

Much research has been devoted to the development of dental restorative materials, but to date there is no direct filling material available that can fully replace amalgam.

**3. Side-effects of amalgam**

Components in dental restorative materials, including amalgam, may, in rare instances, result in local side-effects or allergic reactions. A small amount of mercury is released from amalgam restorations, especially during placement and removal. However, many sources contribute to the mercury burden of individuals, including food (especially fish), water and air pollution. The risk of adverse side-effects is very low for all types of restorative materials, including amalgam and all resin-based materials.

Because of the fear of possible adverse effects of mercury, some patients with a variety of symptoms, may request removal of amalgam restorations. However, there is no support in the scientific literature indicating that general symptoms may be relieved by replacement of the restorations.

**4. Occupational risk to oral health personnel**

Although there is no evidence that the use of amalgam is hazardous to patients, a health risk of mercury exposure to dentists and other oral health personnel exists, if the material is not properly handled. They have fillings themselves and spend much of their professional life inserting amalgam fillings which could accumulate this exposure effect. The use of approved pre-capsulated amalgam alloys, good ventilation in the dental office, high vacuum evacuation and proper mercury hygiene during placement, removal or polishing of restorations, will significantly reduce mercury exposure. Open mixing and heating of amalgam should never be carried out and capsulated alloy/mercury should be properly sealed to prevent dispersion of tiny droplets of mercury during trituration.

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**5. Environmental concerns**

Mercury used in dentistry may contaminate the environment via the disposal of waste products from dental offices. Modern dental equipment is available to collect metallic waste generated during dental amalgam placement and removal. Appropriate technology is also available to prevent or markedly reduce mercury pollution of the environment, including that from crematoria provided mercury vapour collectors are used. Only minimal amounts of mercury are released into the environment when such equipment is used.

**6. Public opinion and mass media**

For environmental reasons some Member States have already suggested discontinuing and/or promoting relevant restrictions on all uses of mercury including dental amalgam.

Today there is considerable exchange of information on this subject around the world. However, due to the publicity in the mass media, in some cases the real situation in those countries which have undertaken restrictive action for amalgam use, is often misinterpreted, subsequently leading to numerous enquiries on the safety of dental amalgam and demand for amalgam filling replacements. Currently, the alternative filling materials available significantly increase the cost of dental care.