

Progress Toward Mercury-Free Dentistry in Europe and the Americas

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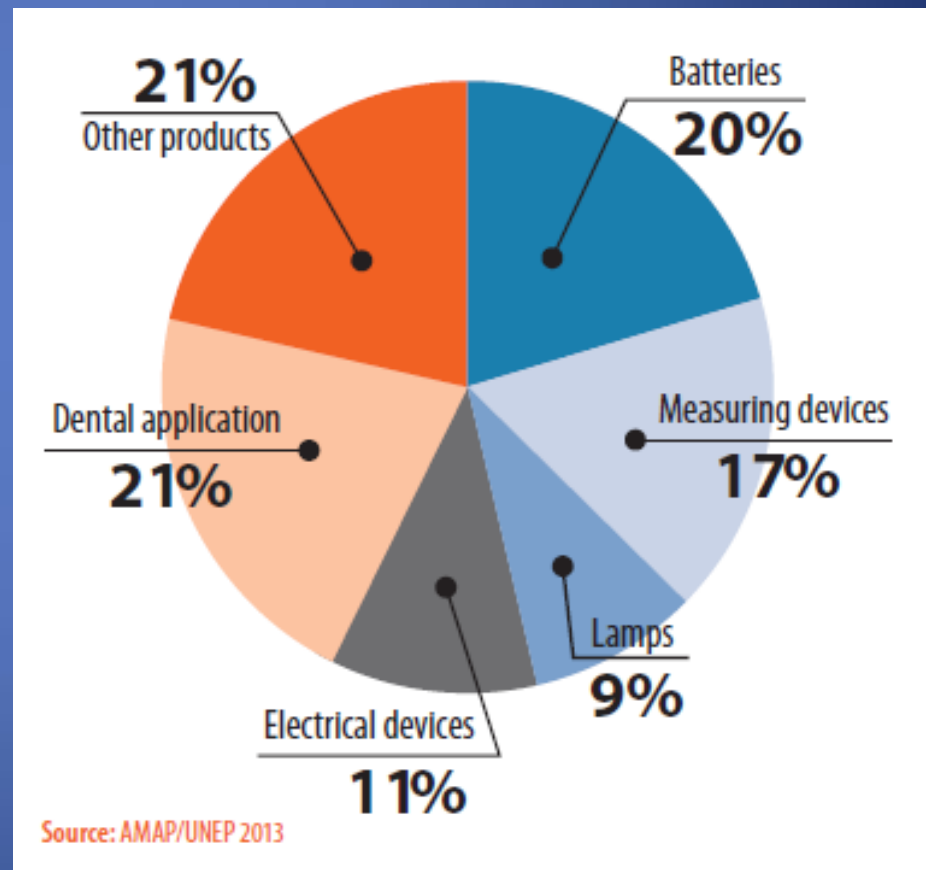


Why Mercury-Free Dentistry?

- Amalgam's mercury harms the environment
- Amalgam is a major source of mercury exposure
- Mercury-free alternatives are available

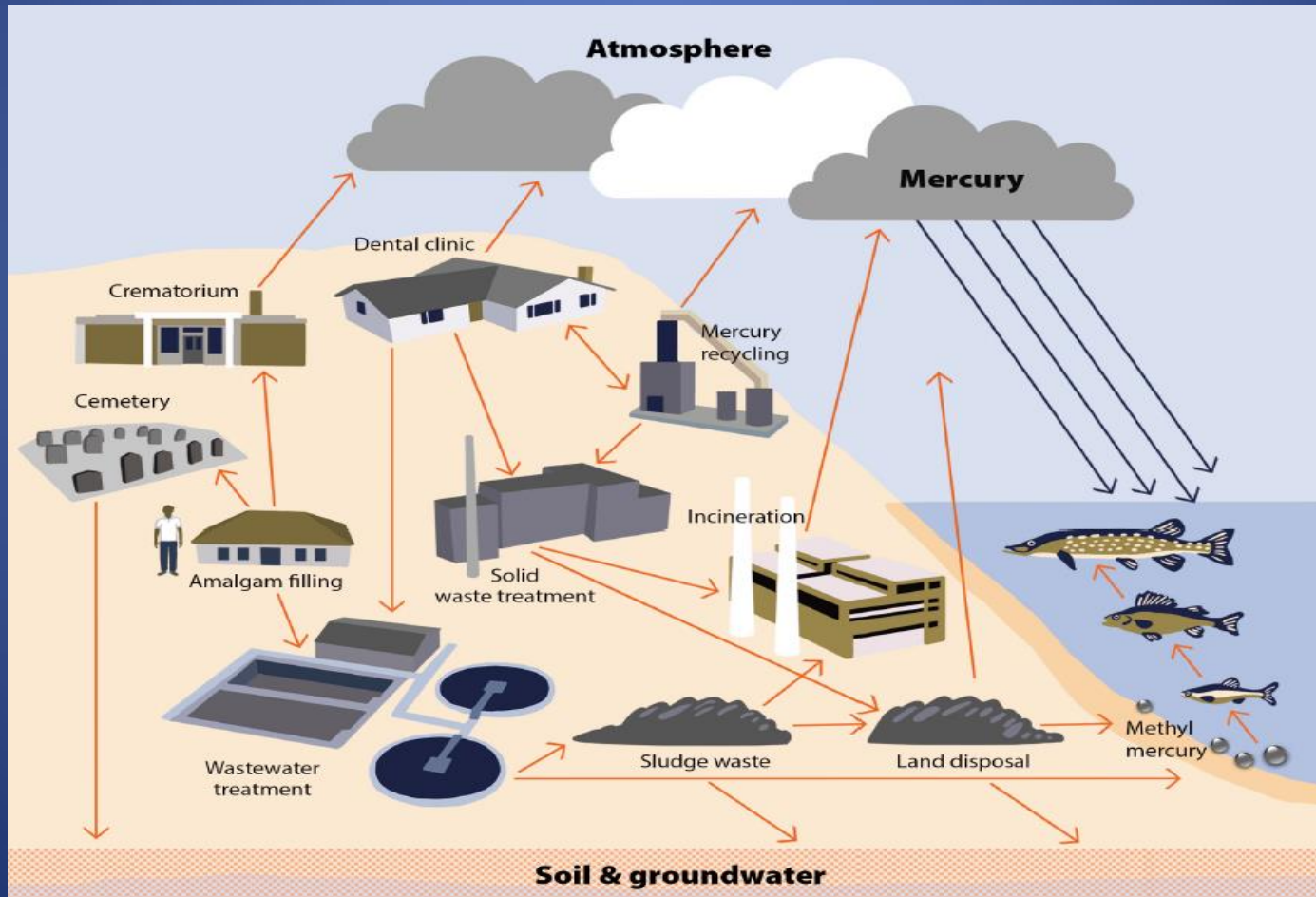
Amalgam use releases a significant amount of mercury

- WHO: *“A significant amount of mercury is estimated to be released to the environment from the use of dental amalgam...”*
- U.S. Geological Survey : *“The use of mercury in dental amalgam has been a source of growing concern and government investigation. Dental amalgam represents one of the leading uses of mercury in the United States at about 18 to 30 t annually and constitutes the largest amount of mercury in use in the United States.”*



Global mercury consumption for products

Amalgam's mercury pollutes air, water, and land via many pathways



Environmental health effects

EPA: Once amalgam is in the environment, “certain microorganisms can change elemental mercury into methylmercury, a highly toxic form that builds up in fish, shellfish and animals that eat fish.... Methylmercury can damage children’s developing brains and nervous systems even before they are born.”



Amalgam is a major source of mercury exposure



Dental amalgam is 50% mercury

Mercury-Free Filling Materials



Sweden and Norway ban amalgam use



KEMI
Swedish Chemicals Agency

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Mercury

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Prohibition to use dental amalgam

From 1 June 2009, it will be prohibited to use dental amalgam in ordinary dental care in Sweden and there will be a total ban to use it in the dental care of children and youth.

In Sweden, the use of amalgam has been reduced by 95 per cent since 1987. In 2003, only 2-4 per cent of restorations made with amalgam. Amalgam is still used for certain patients within the hospital dental care.

The Swedish Chemicals Agency and the Swedish Health and Welfare have agreed on the necessary exemption to use amalgam in the dental care from June 2012, if there are particular medical reasons other treatments have been judged to be insufficient.

It is allowed to place mercury on the market for the manufacture of dental amalgam and amalgam until 31 December 2011.

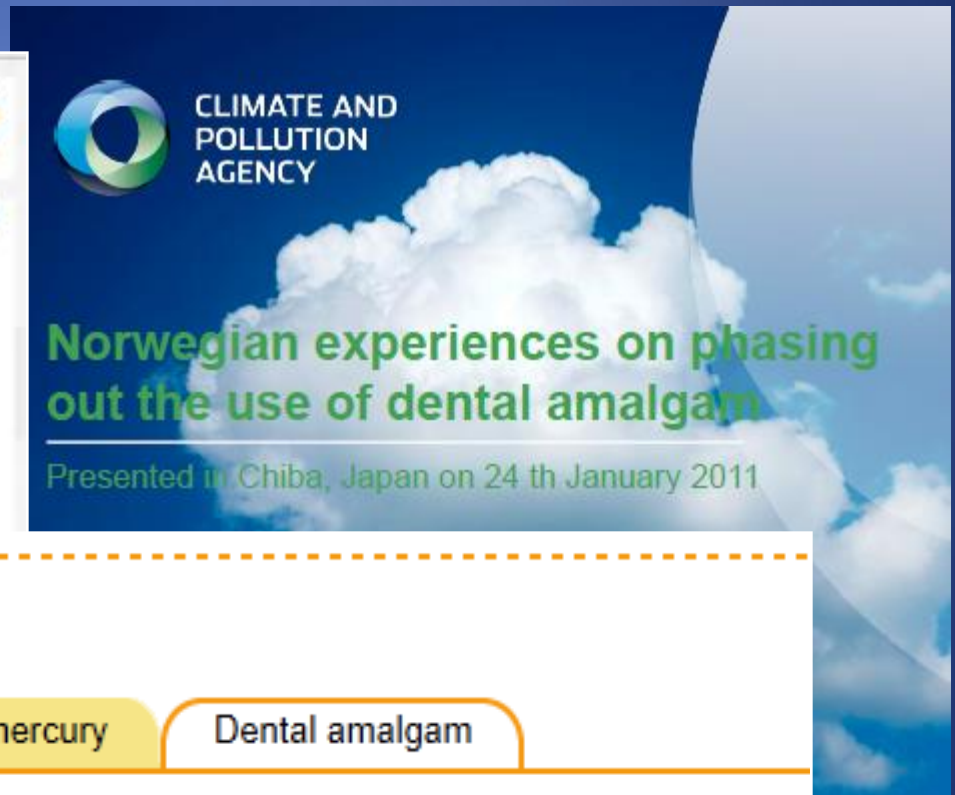
Duty to report and to make note

An obligation for the hospital dental care sector to use amalgam will be initiated to evaluate the use of amalgam in the dental care. The National Board of Health and Welfare must be informed if treatment with amalgam starts. There is no requirement to report amalgam restorations made at the same clinic. Informative particulars, medical reasons for using amalgam.

National Board of Health and Welfare

Activities in the EU

About 120 tonnes of mercury are used annually. This is the largest single use of mercury in the EU. The European Commission has requested a...



CLIMATE AND POLLUTION AGENCY

Norwegian experiences on phasing out the use of dental amalgam

Presented in Chiba, Japan on 24 th January 2011

Mercury

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Prohibition to use dental amalgam

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Finland, Slovakia, Ireland, and Czech Republic announce plans to phase out amalgam use

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EU member states set dental amalgam phase-out provisions

3 September 2019 / Alternatives assessment & substitution, Europe, Metals

Four EU member states have introduced provisions for a complete and immediate phase-out of dental amalgam.

The move by the Czech Republic, Finland, Ireland and Slovakia goes a step beyond the obligations set by the EU's 2018 mercury **Regulation** that aligned it with the Minamata Convention on mercury.

EU bans amalgam use in children, pregnant women, and breastfeeding mothers



Canada warns against amalgam use in children, pregnant women, breastfeeding mothers, and people with kidney impairments

Health Canada advises dentists to take the following measures:

1. Non-mercury filling materials should be considered for restoring the primary teeth of children where the mechanical properties of the material are suitable.
2. Whenever possible, amalgam fillings should not be placed in or removed from the teeth of pregnant women.
3. Amalgam should not be placed in patients with impaired kidney function.
4. In placing and removing amalgam fillings, dentists should use techniques and equipment to minimize the exposure of the patient and the dentist to mercury vapour, and to prevent amalgam waste from being flushed into municipal sewage systems.
5. Dentists should advise individuals who may have allergic hypersensitivity to mercury to avoid the use of amalgam. In patients who have developed hypersensitivity to amalgam, existing amalgam restorations should be replaced with another material where this is recommended by a physician.
6. New amalgam fillings should not be placed in contact with existing metal devices in the mouth such as braces.
7. Dentists should provide their patients with sufficient information to make an informed choice regarding the material used to fill their teeth, including information on the risks and benefits of the material and suitable alternatives.
8. Dentists should acknowledge the patient's right to decline treatment with any dental material.

Australia warns against amalgam use in children, pregnant women, breastfeeding mothers, and people with kidney disease

Dental amalgam – filling you in

A guide to current thinking
on the use of dental amalgam



Endorsed 24 October 2002



When should amalgam be avoided?

Pregnancy

During pregnancy, placement of new amalgam fillings or removal of old ones is not recommended, because the level of mercury in the blood tends to rise briefly in these situations. The mercury can cross the placenta and enter the bloodstream of the fetus^{4,5}. There is no scientific evidence of any link between amalgam use and birth defects or stillbirths. However, current thinking is that it is better to avoid dental work involving amalgam when possible during pregnancy, unless the effects of avoiding treatment could cause greater problems, eg the loss of a natural tooth.

Breastfeeding

Women who are breastfeeding should also avoid having amalgam fillings inserted or removed, because mercury can be passed to the baby through breast milk. Of course, there are some situations during pregnancy or breastfeeding where dental work using amalgam might be necessary, and there is no scientific evidence that this will cause harm.

Children

Amalgam is now generally avoided for filling children's teeth. Growing children tend to be more sensitive to the effects of exposure to any chemical substance in their environment. Several of the new tooth-coloured materials are suitable for use where cavities are small, as they often are in children. Also, it is sometimes possible to treat a child's tooth with a preventive resin filling that stops existing decay and prevents further decay, rather than inserting an amalgam filling.

Kidney disease

Because high levels of mercury exposure may affect the kidneys, people with kidney disease may be more concerned than others to minimise exposure to mercury.

USA warns that amalgam use not proven safe in children, pregnant women, and breastfeeding mothers

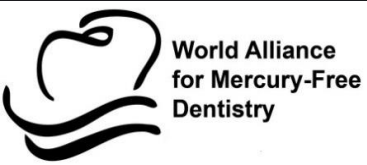
“The developing neurological systems in fetuses and young children may be more sensitive to the neurotoxic effects of mercury vapor. Very limited to no clinical information is available regarding long-term health outcomes in pregnant women and their developing fetuses, and children under the age of six, including infants who are breastfed.”

GRULAC countries

- St. Kitts and Nevis announced phasing out the use of dental amalgam
- Amalgam is practically no longer used in Suriname. Nevertheless a program will be set up to completely halt the use of mercury amalgam in the dentistry.

**Oral health and environmental health
go hand in hand. Using mercury-free
dental fillings promotes both!**

Thank you!



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