

Use of dental amalgam

Queensland Health Guideline

QH-GDL-975:2023

1. Statement

This Guideline provides recommendations regarding best practice for the clinical use of dental amalgam in Queensland Health oral health services.

2. Scope

This Guideline provides information for all Queensland public health system employees (permanent, temporary and casual) and all organisations and individuals acting as its agents (including partners, contractors, consultants and volunteers).

Compliance with this guideline is not mandatory, but sound reasoning must exist for departing from the recommended principles within a guideline.

3. Guideline for the use of dental amalgam

Queensland Health supports the specific measures outlined in the Minamata Convention on Mercury aimed at reducing the impact of mercury and its compounds on human and environmental health. This includes the progressive phase-down of dental amalgam use through decreasing the demand for its need.

Oral health services are encouraged to seek ways to improve oral health through community and individual oral health promotion and disease prevention, minimising the need for dental restorations. Where restorations are indicated, evidence-based approaches to material selection should be applied.

This Guideline also provides amalgam disposal practices to support environmental best practice to minimise the release of mercury compounds generated from dental care.

3.1 Clinical use of amalgam

Dental amalgam remains a useful direct restorative material in some patients and in certain locations in the mouth because of its physical properties and technical requirements.

Existing amalgam restorations remain safe and there is no scientific evidence supporting their removal or replacement with alternative restorative materials unless determined to be clinically necessary by a dental practitioner. However, global public health and environmental health principles dictate that where possible, exposure to mercury, including from dental amalgams, should be reduced.

Given cost effective, mercury-free alternative materials are available to dental practitioners to support modern evidence-based approaches to restorative care, these alternative materials should be used wherever possible, unless deemed to be clinically unsuitable. In particular, it is prudent that the placement or replacement of dental amalgam restorations should be avoided in special populations, including:

- children under the age of 15 years;
- pregnant women, especially during the first trimester;
- women who are breastfeeding;
- persons with existing kidney disease; and,
- in rare cases, where persons have a known allergic hypersensitivity to mercury.

The choice of restorative material should be based on sound clinical principles and in the patient's long term interests. Dentists should provide their patients with appropriate information on risks and benefits of all dental materials to assist them in making an informed choice regarding alternative dental treatments.

If amalgam is clinically indicated, only pre-encapsulated amalgam should be used by dental practitioners. If placing or removing dental amalgam, measures should be taken to minimise exposure to mercury vapour, including the use of rubber dam, adequate water supply and high-volume evacuation.

3.2 Dental amalgam waste management

The Minamata Convention on Mercury outlines measures to minimise the emission of mercury from dental practice into the environment to protect human health and the environment. All clinics should be equipped with dental units that have filters and separators that comply with ISO 11143 to enable efficient capture of amalgam waste.

Dental clinics should collect, store safely and ensure amalgam waste (including teeth containing amalgam) is sent to a licensed mercury waste processing facility for mercury recovery. If necessary, the Department of Environment and Science should be contacted for specific requirements for the disposal of mercury.

Amalgam and amalgam-filled extracted teeth should not be placed in general or contaminated waste or sharps disposal containers, where contents are often incinerated.

4. Definitions

Term	Definition
Minamata Convention	Global treaty to protect human health and the environment from the adverse effects of mercury. The Convention was ratified by Australia on 7 December 2021.

5. References and Suggested Reading

International Association for Dental Research Policy and Position Statements on the Safety of Dental Amalgam Ajiboye, A.S. ; Mossey, P.A. ; Fox, C.H. Journal of dental research, 2020, Vol.99 (7), p.763-768

6. Document approval details

Document custodian

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Version Control

Version	Date	Comments
1.0	October 2011	New guideline
2.0	6 September 2023	Updated to reflect current best practice including Minamata Convention principles