



World Alliance for Mercury-Free Dentistry
Alliance Mondiale pour une dentisterie sans mercure
Всемирный альянс за стоматологию без ртути
Alianza Mundial por una Odontología Sin Mercurio
التحالف العالمي لطب أسنان خال من الزئبق
世界无汞牙科联盟

Enforce the Children's Amendment—it's the law of the treaty. Deadline: 28 September 2023

No mercury fillings for children!

No mercury fillings for pregnant & breastfeeding women!

Dental amalgam is 50% mercury.

To protect the most vulnerable population groups from amalgam, the Parties added **the Children's Amendment** to the Minamata Convention: *“Exclude or not allow, by taking measures as appropriate, or recommend against the use of dental amalgam for the dental treatment of deciduous teeth, of patients under 15 years and of pregnant and breastfeeding women, except when considered necessary by the dental practitioner based on the needs of the patient.”*

Parties must act. They must choose one of several routes to enforce the Children's Amendment:

- 1. Phase out all amalgam use:** Each year the list grows of countries banning amalgam use or adopted a date soon in the future for its end: *Africa:* Tanzania; *Arab States:* Bahrain, Kuwait, Qatar, United Arab Emirates; *Asia:* Mongolia, Nepal, Philippines, Indonesia, Japan; *Islands:* St. Kitts and Nevis, New Caledonia; *Europe:* Moldova, Sweden, Norway.¹
- 2. No amalgam for children:** Dozens of countries ended all amalgam use in children: *Asia:* Bangladesh, Thailand, Vietnam; *Arab States:* Saudi Arabia; *Africa:* Tunisia, Mauritius, Zambia; *GRULAC:* Ecuador, Panama; *Europe:* the 27-nation E.U., Albania, Iceland and United Kingdom. Many on this list ended amalgam too in pregnant and breastfeeding women.²

The World Alliance urges: No amalgam in public programs: Poland, Bolivia, El Salvador, Paraguay, Peru, Guyana, Saint Lucia and Mozambique ended amalgam use in public programs. It is most essential to protect the poor!³

- 3. Recommend to dentists, manufacturers, consumers, and parents: stop amalgam in vulnerable populations:** Countries not ready to do full or partial ban must recommend to the stakeholders that amalgam use in children and pregnant & breastfeeding women end now. No Party may sit on their hands! As a minimum, Parties should call for safety communications, require manufacturer warnings, print patient brochures, change dental school curriculum, etc. The United States and Canada, via their health agencies, adopted such recommendations.⁴

Information / Assistance

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Benefits of Enforcing Children's Amendment

- **The Children's Amendment protects vulnerable populations:** Children's developing brains and neurological systems are especially susceptible to the neurotoxic effects of mercury. As the Minamata Convention says, Parties are "Aware of the health concerns, especially in developing countries, resulting from exposure to mercury of vulnerable populations, especially women, children, and, through them, future generations."⁵ Mercury-free fillings are available for children. As the World Health Organization report *Future Use of Materials for Dental Restoration* explains, "Alternative restorative materials of sufficient quality are available for use in the deciduous [milk] dentition of children."⁶ Between the irrelevancy of filling longevity in short-lived milk teeth⁷ and amalgam's higher failure rates in these teeth⁸, using amalgam instead of mercury-free fillings in children can longer be justified. By ending amalgam use in children under 15 and pregnant and breastfeeding women, implementing the Children's Amendment protects the people most vulnerable to mercury.
- **The Children's Amendment protects the environment:** Between 226 and 322 tonnes of dental mercury is used around the world annually.⁹ Dental mercury enters the environment via many unsound pathways, polluting (1) air via cremation, dental clinic emissions, and sludge incineration; (2) water via dental clinic releases and human waste; and (3) soil via landfills, burials, and fertilizer.¹⁰ As a result, many children around the world are exposed to a double dose of amalgam's mercury: first when it is implanted in their teeth and a second time when it contaminates their environment and the fish they eat. Studies show that after environmental costs are factored in, amalgam is more expensive than composite.^{11,12} By reducing amalgam consumption, implementing the Children's Amendment protects the environment.
- **The Children's Amendment protects and improves oral health:** Studies show mercury-free composite fillings can last as long as – and even longer than – amalgam (although this fact is not relevant for children's short-lived baby teeth).^{13,14,15,16,17,18,19,20} Mercury-free fillings also offer both health and cost-saving advantages over amalgam. First, mercury-free fillings preserve tooth structure that must be removed to place an amalgam filling, which can increase the longevity of the tooth itself.^{21,22,23,24,25,26,27,28,29,30,31} Second, mercury-free fillings can help prevent future caries.^{32,33,34} Third, composite can be easier to repair than amalgam.^{35,36,37} By promoting use of mercury-free fillings, implementing the Children's Amendment protects oral health.

Stop placing mercury in our children's mouths!

Put amalgam where it belongs: the hazardous waste bins of history!

¹ First full national reports of the Minamata Convention on Mercury due by 31 December 2021, <https://www.mercuryconvention.org/en/parties/reporting>; Minamata Convention Initial Assessments (MIAs)

² Regulation (EU) 2017/852 of the European Parliament and of the Council of 17 May 2017 on mercury, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017R0852&from=EN>

³ First full national reports of the Minamata Convention on Mercury due by 31 December 2021 and other national submissions to the Secretariat of the Convention

⁴ USA: <https://www.fda.gov/medical-devices/safety-communications/recommendations-about-use-dental-amalgam-certain-high-risk-populations-fda-safety-communication>;

Canada: <https://www.canada.ca/en/health-canada/services/drugs-health-products/reports-publications/medical-devices/safety-dental-amalgam-health-canada-1996.html>

⁵ *Minamata Convention on Mercury* (2013), http://mercuryconvention.org/Portals/11/documents/Booklets/Minamata%20Convention%20on%20Mercury_booklet_English.pdf

⁶ World Health Organization, *Future Use of Materials for Dental Restoration* (2011), http://www.who.int/oral_health/publications/dental_material_2011.pdf, p.35

⁷ BIO Intelligence Service (2012), *Study on the potential for reducing mercury pollution from dental amalgam and batteries*, Final report prepared for the European Commission-DG ENV, p.69

⁸ Reinhard Hickel et al., *Longevity of occlusally-stressed restorations in posterior primary teeth*, AMERICAN JOURNAL OF DENTISTRY, Vol. 18, No. 3, June 2005

⁹ UN Environment (2017): *Global mercury supply, trade and demand*. United Nations Environment Programme, Chemicals and Health Branch, Geneva, Switzerland, 2017.

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¹¹ Concorde East/West, *The Real Cost of Dental Mercury* (March 2012), <https://mercuryfreedentistry.files.wordpress.com/2016/02/the-real-cost-of-dental-mercury.pdf>, pp.3-4

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¹⁴ Vieira AR et al. (2017) *A Pragmatic Study Shows Failure of Dental Composite Fillings Is Genetically Determined: A Contribution to the Discussion on Dental Amalgams*. Front. Med. 4:186.

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¹⁶ McCracken MS, et al. *A 24-month evaluation of amalgam and resin-based composite restorations: Findings from the National Dental Practice-Based Research Network*. J Am Dent Assoc. 2013;144(6):583-593

¹⁷ Heintze, S.D. & Rousson, V. 2012, *Clinical effectiveness of direct class II restorations - a meta-analysis*, The journal of adhesive dentistry, vol. 14, no. 5, p.408

¹⁸ N.J.M. Opdam, E.M. Bronkhorst, B.A.C. Loomans, and M.-C.D.N.J.M. Huysmana, *12-Year Survival of Composite vs. Amalgam Restorations*, JOURNAL OF DENTAL RESEARCH (October 2010), Vol. 89, 10: pp. 1063-1067

¹⁹ Opdam NJ, Bronkhorst EM, Roeters JM, Loomans BA. A retrospective clinical study on longevity of posterior composite and amalgam restorations. Dent Mater 2007;23(1):2-8

²⁰ BIO Intelligence Service (2012), *Study on the potential for reducing mercury pollution from dental amalgam and batteries*, Final report prepared for the European Commission-DG ENV, p.69

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²² Walls AW, et al. *The management of occlusal caries in permanent molars. A clinical trial comparing a minimal composite restoration with an occlusal amalgam restoration*. Br Dent J 1988; 164: 288-292, pp.363, 366

²³ Donovan T. *Longevity of the tooth/restoration complex: a review*, Journal of the California Dental Association [01 Feb 2006, 34(2):122-128], https://www.cda.org/Portals/0/journal/journal_022006.pdf

²⁴ JIM Roeters, ACC Shortall, and NIM Opdam, *Can a single composite resin serve all purposes?*, BRITISH DENTAL JOURNAL 199, 73 - 79 (2005), <http://www.nature.com/bdj/journal/v199/n2/full/4812520a.html>

²⁵ Christopher D. Lynch, et. al., *Minimally invasive management of dental caries: Contemporary teaching of posterior resin-based composite placement in U.S. and Canadian dental schools*, J AM DENT ASSOC 2011; 142: 612-620

²⁶ Andre V. Ritter, DDS, MS, *Clinical Techniques: A Review of Posterior Composites*, ADA Professional Product Review (Oct. 2011), p.3

²⁷ Joseph B. Dennison, DDS, MS & James C. Hamilton, DDS, *Treatment Decisions and Conservation of Tooth Structure*, Dent Clin N Am 49 (2005) 825-845

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