



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

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

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# No mercury fillings for children!

## No mercury fillings for pregnant & breastfeeding women!

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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, Gabon, Uganda; *Arab States:* Bahrain, Kuwait, Qatar, United Arab Emirates; *Asia:* Mongolia, Nepal, Philippines, Indonesia, Japan; *Islands:* St. Kitts and Nevis, New Caledonia; *Europe:* the 27-nation E.U, Moldova, Norway.<sup>1</sup>
- 2. No amalgam for children:** Dozens of countries ended all amalgam use in children: *Asia:* Bangladesh, China, Thailand, Vietnam; *Arab States:* Saudi Arabia; *Africa:* Tunisia, Mauritius, Zambia; *GRULAC:* Ecuador, Panama; *Europe:* Albania, Iceland and United Kingdom. Many on this list ended amalgam too in pregnant and breastfeeding women.<sup>2</sup>

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

- 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.<sup>4</sup>

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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."<sup>5</sup> 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."<sup>6</sup> Between the irrelevancy of filling longevity in short-lived milk teeth<sup>7</sup> and amalgam's higher failure rates in these teeth<sup>8</sup>, 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.<sup>9</sup> Mercure dentaire pénètre dans l'environnement par de nombreuses voies dangereuses, polluant (1) l'air par la crémation, les émissions des cliniques dentaires et l'incinération des boues ; (2) l'eau par les rejets des cliniques dentaires et les déchets humains ; et (3) le sol par les décharges, les enterrements et les engrais.<sup>10</sup> 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.<sup>11,12</sup> 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).<sup>13,14,15,16,17,18,19,20</sup> 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.<sup>21,22,23,24,25,26,27,28,29,30,31</sup> Second, mercury-free fillings can help prevent future caries.<sup>32,33,34</sup> Third, composite can be easier to repair than amalgam.<sup>35,36,37</sup> By promoting use of mercury-free fillings, implementing the Children's Amendment protects oral health.

## Stop placing mercury in our children's mouths!

<sup>1</sup> 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)

<sup>2</sup> 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>

<sup>3</sup> 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

<sup>4</sup> 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>

<sup>5</sup> *Minamata Convention on Mercury* (2013), [http://mercuryconvention.org/Portals/11/documents/Booklets/Minamata%20Convention%20on%20Mercury\\_booklet\\_English.pdf](http://mercuryconvention.org/Portals/11/documents/Booklets/Minamata%20Convention%20on%20Mercury_booklet_English.pdf)

<sup>6</sup> World Health Organization, *Future Use of Materials for Dental Restoration* (2011), [http://www.who.int/oral\\_health/publications/dental\\_material\\_2011.pdf](http://www.who.int/oral_health/publications/dental_material_2011.pdf), p.35

<sup>7</sup> 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

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

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

<sup>10</sup> Concorde East West, *The Real Cost of Dental Mercury* (March 2012), [http://www.zeromercury.org/index.php?option=com\\_phocadownload&view=file&id=1583&Itemid=70](http://www.zeromercury.org/index.php?option=com_phocadownload&view=file&id=1583&Itemid=70)

<sup>11</sup> 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

<sup>12</sup> Lars D. Hylander & Michael E. Goodsite, *Environmental Costs of Mercury Pollution*, Science of the Total Environment 368 (2006) 352-370

<sup>13</sup> Palotie, U. et al., 2017, *Longevity of 2- and 3-surface restorations in posterior teeth of 25- to 30-year-olds attending public dental Service—A 13-year observation*. Journal of Dentistry 62, 13-17

<sup>14</sup> 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.

<sup>15</sup> Owen, Benjamin D., et al. *Placement and replacement rates of amalgam and composite restorations on posterior teeth in a military population*. U.S. Army Medical Department Journal, July-Sept. 2017, p. 88+

<sup>16</sup> 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

<sup>17</sup> 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

<sup>18</sup> 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

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<sup>20</sup> 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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<sup>25</sup> 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 DENTA ASSOC 2011; 142; 612-620

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

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

<sup>28</sup> NJM Opdam et al. (2016) *From "Direct Versus Indirect" Toward an Integrated Restorative Concept in the Posterior Dentition*. Operative Dentistry: September 2016, Vol. 41, No. 57, pp.527-534

<sup>29</sup> Norway Directorate for Health and Social Affairs, *A National Clinical Guideline for the Use of Dental Filling Materials: Information for Dental Health Care Personnel*, pp. 6, 8, 15

<sup>30</sup> European Commission Scientific Committee on Emerging and Newly Identified Health Risks, *Final opinion on the safety of dental amalgam and alternative dental restoration materials for patients and users* (2015), p.69

<sup>31</sup> 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.77

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<sup>33</sup> Mandari GJ, et al.: *Six-Year Success Rates of Occlusal Amalgam and Glass-Ionomer Restorations Placed Using Three Minimal Intervention Approaches*. Caries Res 2003;37:246-253

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