

FACT SHEET ON HUMAN HEALTH RISKS FROM DENTAL AMALGAM MERCURY FILLINGS

Prepared by the International Academy of Oral Medicine and Toxicology
(IAOMT, www.iaomt.org)



All silver-colored fillings are dental amalgams, and each and every one of these fillings is comprised of 45%-55% mercury.¹ The World Health Organization has stated, “Recent studies suggest that mercury may have no threshold below which some adverse effects do not occur.”² Although a number of other countries have banned or limited their use, dental mercury amalgams are currently used on about 45% of direct dental restorations worldwide,³ including in the USA.⁴

Mercury is continuously emitted from amalgam fillings, and it is absorbed and retained in the body, particularly in the brain, kidney, liver, lung, and gastrointestinal tract.⁵ The output of mercury can be intensified by the number of fillings and other activities, such as chewing, teeth-grinding, and the consumption of hot liquids. Mercury is also known to be released during the placement, replacement, and removal of dental mercury amalgam fillings.

Scientific studies have documented the potential risks these fillings pose to human health:

1) The General Population: Mercury in amalgam fillings has been scientifically linked to a number of health conditions. Individual response to mercury varies, and some of the factors known to potentially impact those exposed to mercury include their allergies, diet, gender, genetic predispositions to adverse reactions from mercury, the number of amalgam fillings in the mouth, and concurrent or previous exposures to other toxic chemicals such as lead (Pb). Scientific studies have identified dental mercury as a potentially causational or exacerbating factor in the conditions included on the table to the right. →

Allergies	Alzheimer’s disease	Amyotrophic lateral sclerosis (Lou Gehrig’s disease)	Antibiotic resistance	Autism spectrum disorders
Autoimmune disorders/ immunodeficiency	Cardiovascular problems	Chronic fatigue, fatigue, myalgic encephalomyelitis/ chronic fatigue syndrome	Complaints of unclear causation	Dermatitis
Fibromyalgia	Gastrointestinal issues and/or irritable bowel syndrome	Hearing loss	Kidney disease	Multiple sclerosis
Oral lichenoid reaction and oral lichen planus	Orofacial granulomatosis	Parkinson’s disease	Periodontal disease	Psychological issues such as depression and anxiety
Reproductive dysfunction	Suicidal ideations	Symptoms of chronic mercury poisoning	Systemic lupus erythematosus	Thyroiditis

2) Pregnant Women and Children: Scientific studies have documented the impact mercury can have on pregnant women and children, and the number of maternal amalgam fillings has been associated with mercury levels in cord blood; in the placenta; in the kidneys and liver of fetuses; in fetal hair; and in the brain and kidneys of infants; as well as the risk of perinatal death.

3) Dentists and Dental Personnel: Researchers have also demonstrated dangers to dental personnel who routinely work with amalgam, and the Norwegian Labour and Welfare Service has officially recognized mercury injury as an occupational disease.

4) Safe Removal of Existing Amalgam Fillings: Whereas “mercury-free” dentists no longer place amalgam fillings and use available alternatives, “mercury-safe” dentists apply special techniques to remove existing amalgam fillings. In fact, the IAOMT has developed rigorous recommendations, known as [the Safe Mercury Amalgam Removal Technique \(SMART\)](#), for removing existing dental mercury amalgam fillings to assist in mitigating the potential negative outcomes of mercury exposure to patients, dental professionals, dental students, office staff, and others.⁶

In September 2020, the FDA advised that the following groups avoid getting dental amalgam whenever possible and appropriate: pregnant women and their developing fetuses; women who are planning to become pregnant; nursing women and their newborns and infants; children, especially those younger than six years of age; people with pre-existing neurological disease such as multiple sclerosis, Alzheimer’s disease or Parkinson’s disease; people with impaired kidney function; and people with known heightened sensitivity (allergy) to mercury or other components of dental amalgam.⁷



For more detailed information and a full list of sources, download the IAOMT’s “Comprehensive Review of Dental Mercury” by scanning the code to the left or visiting <https://iaomt.org/wp-content/uploads/Comprehensive-Review-Dental-Mercury.pdf>

¹ World Health Organization. Mercury in Health Care [policy paper]. August 2005: 1.

² *Ibid.*

³ Heintze SD, Rousson V. Clinical effectiveness of direct Class II restorations—a meta-analysis. *J Adhes Dent.* 2012; 14(5):407-431.

⁴ Makhija SK, Gordan VV, Gilbert GH, Litaker MS, Rindal DB, Pihlstrom DJ, Gvist V. Dental practice-based research network restorative material: Findings from the characteristics associated with type of practitioner, patient and carious lesion. *J Am Dent Assoc.* 2011; 142: 622-632.

⁵ Many scientific studies support this, but an example from a reputable government agency is Health Canada. *The Safety of Dental Amalgam.* 1996: 4.

⁶ IAOMT. Safe Removal of Amalgam Fillings. Available from: <https://iaomt.org/safe-removal-amalgam-fillings/>.

⁷ United States Food and Drug Administration. FDA Issues Recommendations for Certain High-Risk Groups Regarding Mercury-Containing Dental Amalgam. September 24, 2020. Available from: <https://www.fda.gov/news-events/press-announcements/fda-issues-recommendations-certain-high-risk-groups-regarding-mercury-containing-dental-amalgam>.

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Representing a global network of dental, medical, and research professionals with more than 1000 members in over 30 countries, the IAOMT has been researching the damage dental mercury inflicts on the environment and humans since the non-profit organization was created in 1984.

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The IAOMT is an accredited member of the United Nations Environment Programme (UNEP)’s Global Mercury Partnership