

# Scientifically Proven Facts About Mercury & Dental Amalgam

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1. Dental Amalgam contains about 50% Mercury.
2. Mercury has been scientifically demonstrated to be more toxic than Lead, Cadmium, or even Arsenic.
3. Mercury leaves dental amalgam continuously throughout the lifetime of the filling.(7)
4. Mercury vapour is the main way that mercury comes out of amalgam.(31)
5. Mercury vapour is absorbed at a rate of 80% through the lungs into the arterial blood. (31, 55)
6. Mercury is cytotoxic. Ie. It kills cells
7. There is NO harmless level of Mercury Vapour Exposure. (63)
8. Mercury from amalgam binds to -SH (sulphydryl) groups. These exist in almost every enzymatic process in the body. Mercury from amalgam will thus have the potential of disturbing all metabolic processes. ( 25, 33,60).
9. Mercury from amalgam is transported freely via the blood.(19,34,35,)
10. Mercury vapour is absorbed directly into the brain. (34, 55a)
11. Mercury from amalgam will result in a slow build up of mercury in body tissues. (20,26, 34)
12. Mercury crosses the blood brain barrier. (34,55a)
13. Mercury is implicated in the pathogenesis of Alzheimer's Disease. (67,68)
14. Mercury from amalgam is stored in the foetus and infant before the mother. (20,61)
15. Mercury from amalgam is stored in the breast milk and the foetus up to 8 times more than the mother's tissues. (18,19)
16. Mercury (Mercury Vapour / Methylmercury) crosses the placenta.(18, 31)
17. Mercury Crosses into breast milk.(18,31,61)
18. Mercury will severely reduce reproductive function.(2, 3, 4, 20, 22, 24, 31, 37,38, 39, 40, 41, 49)

19. Mercury rapidly depletes the immune system.(27,34,35,42,43,44,45,46,47,48,60)
20. Mercury will induce a number of Auto Immune Diseases.(27,34,35,42,43,44,60)
21. Mercury will cause an increase in number and severity of allergies.(1,34,60)
22. Mercury from amalgam is stored principally in the kidneys, liver and brain. (1,20,31)
23. Mercury from amalgam (shown in animal experiments) causes kidney damage.(59)
24. Mercury from will cause a 50% reduction in Kidney filtration as shown in a study of sheep after amalgam placement.(59)
25. Methyl Mercury is more toxic than elemental Mercury.
26. Mercury from amalgam is methylated in the mouth.(51,53,54,)
27. After chewing, Mercury Vapour levels will remain raised for at least another 90 minutes. (1,15,16,18,47)
28. Mercury from amalgam will migrate through the tooth.(25,27,30)
29. This rate of migration is increased if a gold crown is placed over a tooth filled with amalgam. (27,30)
30. Teeth are living tissue and are a part of our bodies.
31. Teeth have a massive communication via blood, lymph and nerves with the rest of the body.(34)
32. Mercury from amalgam is absorbed into the body at a rate of 3 to 17 mcg / day. ( WHO 1991 Criteria 118)
33. Mercury release is increased by; increases in temperature, friction & increase in electrical currents.(28,31,56)
34. Mercury from amalgam will enter the body as; Elemental Mercury, Inorganic Mercury, Vapour, charged Mercury ions.
35. In the Brain, Mercury from amalgam is stored preferentially in the Pituitary Gland and Hypothalamus. (20,34)
36. Micro-Mercurialism is principally characterised by Neurological symptoms.(34)
37. Mercury is transported along the axons of nerve fibres.(33,34,50)
38. Mercury from amalgam may be stored in every other cell in the body. Each area affected will produce its own set of symptoms.

39. Mercury binds to haemoglobin in the red blood cell thus reducing oxygen carrying capacity.(1,16,17,21,26,35)
40. Mercury damages blood vessel reducing blood supply to the tissues (micro-angiopathies).(34)
41. Amalgam fillings produce electrical currents which might be injurious to health. These currents are measurable in Micro Amps. The Central Nervous System (Brain) operates in the range of Nano-Amps this is One Thousand times less than a Micro Amp.(28)
- 41A. Dissimilar metals in the mouth [eg Gold & Amalgam] will produce higher electrical currents.(19,30)
42. Mercury from amalgam (shown in animal experiments) will induce Antibiotic Resistance and Mercury resistance in bacteria in the mouth and Gastrointestinal tract.(58)
43. Brain levels of mercury are in a direct linear proportion to the number of Surfaces of amalgam fillings in the mouth.(1,19,25)
- 43A The level of Mercury, in brain tissue of foetus's, new born, and young children, is proportional to the number of amalgams in the mother's mouth.(61)
44. Mercury will cause single strand breaks in DNA.(41,42)
45. Mercury levels in the body can not be assessed by either blood or urine levels. (26)
46. Mercury from amalgam fillings is the single greatest source of dietary mercury for the general population. (W.H.O. Criteria 118., 1991).
47. Dental personnel are severely effected by exposure to mercury. (3,13,49)
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## References

- 1 Sandra Denton MD : Proceedings of the First International Conference on Biocompatibility 1988
- 2 EPA Mercury Health Effects Update Health Issue Assessment. Final report 1984 EOA-600/8- 84f. USEPA, Office of Health and Environmental Assessment Washington DC 20460
3. Gordon - Pregnancy in Female Dentists- a Mercury hazard. Proceedings of Intl conference on Mercury Hazards in Dental Practice Sept. 2-4 Glasgow 1981
- 4 Lee, L.P. and Dixon Effects of Mercury on Spermatogenesis J Pharmacol Exp Thera 1975: 194(1); 171-181.

- 5 Anonymous . Mercury in Fish . Bull WHO 64(5) : 634 1986
- 6 Schulein,T.M.; Reinhardt, J.W. and Chan K.C. Survey of Des Moines area dental offices for Mercury vapour. Iowa Dent. J. 70(1):35-36 1984
- 7 JonesDW, Sutton EJ, and Milner EL Survey of Mercury vapour in dental offices in Atlantic Canada.Can. Dent. Assoc. J. 4906:378-395, 1983
- 8 Ochoa, R. and Miller RW. Report on independant survey taken of Austin dental offices for Mercury contamination. Texas Dent. J. 100(1):6-9, 1983
- 9 Kantor,L. and Woodcock C, Mercury vapour in the dental office- does carpeting make a difference? JADA103(9):402-407,1981
- 10 Skuba, A. Survey for Mercury vapour in Manitoba dental offices J Can. Dent. Assoc. 50(7):517-522, 1984
- 11 Chop GF. and Kaufman EG. Mercury vapour related to manipulation of amalgam and to floor surfaces.Oper. Dent. 8(1):23-27,1983
- 12 RoydhouseRH. FergMR . and Knox RP. Mercury in dental offices J Can Dent Assoc 51(2):156-158, 1985
- 13 Butler J. Proceedings from the First International Conference of Biocompatibility. 1988
- 14 Magnus Nylander, Mercury concentrations in the human brain and kidneys in relation to exposure from dental amalgam fillings. ICBM 1988
- 15 Svare CW et.al. The effects of dental amalgam on Mercury levels in expired air. J. Dent. Res.60(9):1668-1671,1981
- 16 Ott K et. al. Mercury burden due to amalgam fillings. Dtsch. Zahnarztl Z 39(9):199-205, 1984
- 17 Abraham J, Svare C , Frank C,. The effects of dental amalgam restorations on Blood Mercury levels. J. Dent. Res. 63(1):71-73,1984
- 18 VimyMJ. LorscheiderFL. Intra oral Mercury released from dental amalgams. J. Dent Res. 64(8):1069-1071.,1985
- 19 Matts Hanson. Amalgam hazards in your teeth,. Dept of Zoophysiology., University of Lund, Sweden.J. Orthomolecular Psychiatry Vo12 No 3 Sept 1983
- 20 VimyMJ, TakahashiY, LorscheiderFL Maternal -Fetal Distribution of Mercury Released From Dental Amalgam Fillings. Dept of Medicine and Medical Physiology , faculty of Medicine, Univ of Calgary, Calgary Alberta Cannada 1990 published in FASEB
- 21 Goyer RA Toxic effects of metals. Cassarett and Doull's toxicology--The basic science of poisons , ed3, New York , MacMillan Publ.Co 1986, pp582-609

- 22 Kuhnert P, Kunhert BRR and Erkard P Comparison of Mercury levels in maternal blood fetal chord blood and placental tissue. Am. J. Obstet and Gynecol., 139:209-212., 1981
- 23 Kuntz WD- Maternal and chord blood Mercury background levels; Longitudinal surveillance. Am J Obstet and Gynecol. 143:440-443., 1982
- 24 Brodsky JB. Occupational exposure to Mercury in dentistry and pregnancy outcome. JADA 111(11):779- 780., 1985
- 25 Malmström C., Hansson M., Nylander M., Conference on Trace Elements in Health and Disease. Stockholm May 25-1992
- 26 Lorscheider & Vimy The Lancet Vol 337; may 4, 1991.
- 27 Matts Hanson. Why is Mercury toxic. Basic chemical and biochemical properties of Mercury/amalgam in relation to biological effects. ICBM conference Colorado 1988
- 28 Sheppard AR and Eisenbud M., Biological effects of electric and magnetic fields of extremely low frequency. New York university press. 1977
- 29 Mareck and Hockman. Simulated crevice corrosion experiment for pH and solution chemistry determinations. CORROSION 1974:23;1000-1006.
- 30 Till et al. Zahnärztl. Welt/reform 1978:87;1130-1134.
- 31 Langan, Fan, Hoos. The use of Mercury in dentistry: a critical review of the literature. JADA Vol 115 December 1987., 867 Donated by The ADA
- 32 Jonnes, Suttow and Milner. Survey of Mercury vapour in dental offices in Atlantic Canada., Canadian Dental Association Journal ., 49(6):378-395., 1983
- 33 Goyer Toxic effects of metals. Casaret and Doull's toxicology- the basic science of poisons. ed3 New York. Macmillan Publishing. 1986 pp582-609
- 34 Patrick Störtebecker Formerly Associate Professor of Neurology, Karolinska Institute , Stockholm.. Mercury Poisoning from Dental Amalgam- a hazard to the human brain.
- 35 Hal Huggins. Observations From The Metabolic Fringe. ICBM conf. Colorado 1988
- 36 Sam Queen; Chronic Mercury Toxicity; New Hope Against an Endemic Disease.000
- 37 Mohamed et al. Lazer Light Scattering Study of the Toxic Effects of Methyl Mercury on sperm motility. J. Androl., 7(1):11-15., 1986.
- 38 Ziff S. and Ziff M. Infertility and birth defects. 1987
- 39 Inouye M., Murao K., Kajiwara Y., Behavioral and neuropathological effects of prenatal methyl Mercury exposure in mice.. Neurobehav. Toxicol Teratol. , 1985:7;227-232

- 40 Koos et al., Mercury toxicity in pregnant women, fetus and newborn infant. Am J Obstet And Gynecol., 1976:126;390-409
- 41 Khera et al., Teratogenic and genetic effects of Mercury toxicity. The biochemistry of Mercury in the environment. Nriagu, J.O.Ed Amsterdam Elsevier, 503-18,1979
- 42 Babich et al ., The mediation of mutagenicity and clastogenicity of heavy metals by physiochemical factors. Environ Res., 1985:37;253-286
- 43 Hansen K et al A survey of metal induced mutagenicity in vitro and in vivo J Amer Coll Toxicol ., 1984:3;381-430
- 44 Verchaeve L et al., Comparitive in vitro cytogenetic studies in Mercury exposed human lymphocytes Mutation Res., 1985:157; 221-226.
- 45 PelletierL et al., In -vivo self reactivity of mononuclear cells to T cells and macrophages exposed to Hg Cl2 Eur. J Immun., 1985: 460-465
- 46 Veron et al Amalgam Dentaires et allergies J Biol Buccale., 1986 : 14; 83-100
- 47 Huggins H., Its All In You Head.1990
- 48 Stortebecker P. Mercury Poisoning from Dental Amalgam (Bioprob pub. 1985)
- 49 Amalgam Hazards - an assesment of research By Irwin Mandel DDS Assoc. Dean for Research School of dental and Oral Surgery Columbia University New York Published JADA Vol. 122 August 1991
- 50 Nylander et al. Fourth international symposium Epidemiology in Occupational Health. Como Italy Sept 1985
- 51 Methylation of Mercury from dental amalgam and mercuric chloride by oral Streptococci. Heintz, Edwardson, Derand, Birkhed Scan. J. Dent. Res. 1983, 91:150-152
- 52 Bacterial Growth on Dental Restorative Materials in Mucosal Contact. Orstavic, Arneberg, Valderhaug Acta Odontol. Scand.1981, 39:267-274
- 53 The Methylation of Mercuric Chloride by Human Intestinal Bacteria. Rowland, Grasso, Davies Experientia. Basel 1975 ,31: 1064-1065
- 54 Formation of methyl Mercury Compounds from inorganic Mercury . by Chlostridium cochlearium Yamada, Tonomura J Ferment Technol1972 50:159-166
- 55 Hanson J Orthomolecular Psychiatry 1983, 12: 194-201
- 55a Amalgam Restorations and Mercury Toxicity. Dr P Sheridan, Masters Thesis, University of Sydney 1991
- 56 MARXKORS, R.: Korrosionserscheinungen an Amalgamf llungen und Deren Auswirkungen auf den Menschlichen Organismus. Das Deutsche Zahn rztebl. 24, 53, 117 and 170, 1970.

57 Campbel & M. Godfrey Research into provocation testing of DMPS - urine samples of Mercury.

58 Summers AO, Wireman J., Vimy MJ., IORSCHIEDER FLY., MARSHAL B., EVY SB., Bennet S., Billard L. J. Of Anti-microbial Agents and Chemotherapy 37[4]:825-34 April 1993

59 BOYD, N. D., H. BENEDIKTSSON, M. J. VIMY, D. E. HOOPER, AND F. L. LORSCHIEDER. Mercury from dental "Silver" tooth fillings impairs sheep kidney function. Am. J. Physiol. 261 (Regulatory Integrative Comp. Physiol. 30): R1010-R1014, 1991

60 Vera Stejskal, Sweden "MEMORY LYMPHOCYTE IMMUNO- STIMULATION ASSAY - MLISA"

61 Dr Gustav Drasch, Institute of Forensic Medicine, University of Munich. Public announcement 25 January 1994 Bio Probe March 1994

62 Dr W. Kostler., President of the Austrian Oncology Society. Paper presented at the World Congress on Cancer. April 1994 Sydney Australia.

63 World Health Organisation Criteria 118 1991 Geneva Switzerland

64 Health damage due to exposure to mercury vapour (Mercury) Szkody zdrowotne wywołane narazaniem na pary rtęci (Mercury). Moszczynski-P Jr; Moszczynski-P Czas-Stomatol. 1989 Apr; 42(4): 233-81989POLISH;POLAND

65 In vivo mercury and methyl mercury levels in patients at different intervals after amalgam restorations. Fung-YK; Molvar-MP; Strom-A; Schneider-NR; Carlson-MP College of Dentistry, University of Nebraska Medical Center, Lincoln. Northwest-Dent. 1991 May-Jun; 70(3): 23-6

66 Regional brain trace-element studies in Alzheimer's disease. Thompson CM Markesbery WR Ehmman WD Mao YX Vance In: Neurotoxicology (1988 Spring) 9(1):1-7

67 A search for longitudinal variations in trace element levels in nails of Alzheimer's disease patients. Vance DE Ehmman WD Markesbery WR In: Biol Trace Elem Res (1990 Jul-Dec) 26-27:461-70

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Mercury is Poisonous - There is NO safe form of Mercury in living tissue