

Here is the list of mercury related research with a sentence of explanation. You will see that it lays out a very clear picture of exposure, intake, body burden, distribution and pathophysiology related to mercury released from set dental amalgam. The authors email was provided when I had their address. Almost all of the authors are available if needed except Michael Ziff who has passed away.

Vimy MJ, Lorscheider FL: Intra-oral air mercury released from dental amalgam. J Den Res 64:1069-71, 1985 Murray Vimy <dr-vimy@shaw.ca>
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3860538&dopt=Abstract
First they measured the intra-oral levels of mercury generated using a standardized technique.

Vimy MJ, Lorscheider FL: Serial measurements of intra-oral air mercury; Estimation of daily dose from dental amalgam. J Dent Res 64(8):1072-5, 1985. Murray Vimy <dr-vimy@shaw.ca>
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3860539&dopt=Abstract
Next they measured these levels over time and found that they slowly drop back to baseline after 90 minutes.

Vimy MJ, Luft AJ, Lorscheider FL, Estimation of Mercury Body Burden from Dental Amalgam Computer Simulation of a Metabolic Compartment Model J. Dent. Res 1986 65(12):1415-1419, December, 1986 Murray Vimy <dr-vimy@shaw.ca>
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3465771&dopt=Abstract
Then they used a computer simulation to determine what body burden they would likely produce.

Hahn LJ ; Kloiber R; Vimy MJ; Takahashi Y; Lorscheider F; Dental "silver" tooth fillings: a source of mercury exposure revealed by whole-body image scan and tissue analysis. FASEB J. 3:2641-2646; 1989 Murray Vimy <dr-vimy@shaw.ca>
<http://www.fasebj.org/cgi/content/abstract/3/14/2641>
The Calgary Medical School felt that further human experimentation might unnecessarily expose experimental subjects to excessive levels of mercury so our work turned to animals. The sheep is the most common obstetric mammal. The first experiment with sheep was a distribution tracer study that found out where the mercury spread to once released from the fillings.

Vimy M. Hahn LJ. Kloiber R Takahashi Y. Lorscheider FL. Mercury uptake in sheep fetus from dental fillings, 32nd Annual Meeting of the Canadian Federation of Biological Societies 14-17 June 1989 and 2nd Meeting of the International Society for Trace Element Research in Humans 8/89 Murray Vimy <dr-vimy@shaw.ca>
The next experiment looked at spread of mercury from installed amalgam fillings into a fetus since the fetus is the most vulnerable to harm from heavy metal exposure during development.

Summers, A.O.; Wireman, J.; Microbiology Department University of Georgia: Vimy, M.J.; Lorscheider, F.L. Department of Medicine and Physiology, University of Calgary, Alberta, Canada Increased mercury resistance in monkey gingival and intestinal bacterial flora after placement of dental "silver" fillings abstract The Physiologist 8/15/90 Email: Ann Summers <summers@arches.uga.edu>
Dr. Summers contacted the research team in Calgary and asked to participate in the next project. She found that installing amalgam fillings in wild caught monkeys caused antibiotic resistant organisms to develop in the intestinal flora within two weeks.

Hahn, Leszek J.; Kloiber, Reinhard; Leininger, Ronald W.; Vimy, Murray J.; & Lorscheider, Fritz L. Whole-body imaging of the distribution of mercury released from dental fillings into monkey tissues. FASEB, Vol. 4, Nov. 1990, pp. 3256-3260.
<http://www.fasebj.org/cgi/content/abstract/4/14/3256>

[Murray Vimy <dr-vimy@shaw.ca>](mailto:dr-vimy@shaw.ca)

The Calgary Medical School team repeated the amalgam mercury distribution study and found that primates spread the mercury from amalgam just like sheep.

Vimy M.J., Boyd N.D., Hooper D.E. and Lorscheider F.L., Glomerular filtration impairment by mercury released from dental "silver" fillings in sheep. Department of Medicine, Pathology, and Physiology, University of Calgary, Alberta, Canada. Abstract The Physiologist August 15, 1990 Murray Vimy [<dr-vimy@shaw.ca>](mailto:dr-vimy@shaw.ca)

Measurements of sheep kidney function found a 60% drop in inulin clearance. This is a clear sign that amalgams impacted kidney function in the sheep.

Vimy, MJ; Takahashi, Y; Lorscheider, FL Maternal-fetal distribution of mercury (203 Hg) released from dental amalgam fillings the American Physiology Society 0363-6119/90 R939-945 Murray Vimy [<dr-vimy@shaw.ca>](mailto:dr-vimy@shaw.ca) In this complex experiment twin sheep fetuses mercury blood levels were measured both during development and after birth. They found that mercury transferred across both the placental membrane prenatally and into the milk postnatally.

Lorscheider, Fritz L. Ph.D. Murray J. Vimy, D.M.D. Department of Physiology and Medicine Faculty of Medicine, University of Calgary, Alberta T2N 4N1Canada Mercury exposure from 'silver' fillings. The Lancet. Vol. 337, May 4, '91, p. 1103. Murray Vimy [<dr-vimy@shaw.ca>](mailto:dr-vimy@shaw.ca) This article is a point by point review of mercury from amalgam exposure.

Summers, A.O.; Vimy, M.J.; Lorscheider, F. University of Georgia, Athens, GA, USA & University of Calgary Medical School, Calgary, Alberta, Canada "Silver" dental fillings provoke an increase in mercury and antibiotic resistant bacteria in the mouth and intestines of primates. The Alliance for Prudent Use of Antibiotics Vol. 9 No. 3 Fall 1991 Murray Vimy [<dr-vimy@shaw.ca>](mailto:dr-vimy@shaw.ca) Email: Ann Summers [<summers@arches.uga.edu>](mailto:summers@arches.uga.edu) Professor Summers reports her additional research into the antibiotic resistance in primates that amalgam produce.

Boyd, N.D.; Benediktsson, H.; Vimy, M.J.; Hooper, D.E.; Lorscheider, F.L. Mercury from dental "silver" tooth fillings impairs sheep kidney function The American Physiological Society 0363-6119 P R1010-R1014 11/1991 Email: Boyd E. Haley [<behaley@uky.edu>](mailto:behaley@uky.edu) http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1928419&dopt=Abstract

The damage to the sheep's kidney from amalgam was given before the American Physiological Society.

Duhr, E; Pendergrass, C; Kasarskis, E; Slevin, J; Haley, B. Hg²⁺ Induces GTP-Tubulin Interactions in Rat Brain Similar to Those Observed in Alzheimer's Disease. Federation of American Societies for Experimental Biology (FESAB). 75th Annual Meeting. Atlanta, GA 21-25 April 1991. Abstract 493 <http://www.altcorp.com/DentalInformation/admercury.htm> Email: "Boyd E. Haley" [<behaley@uky.edu>](mailto:behaley@uky.edu) Curt Pendergrass [<cpender@altcorp.com>](mailto:cpender@altcorp.com) Dr. Haley's team found they could reproduce all of the 7 histological hallmark signs of Alzheimer's Disease only by using inhaled elemental mercury vapor. This is the form that comes off amalgam.

Ziff, MF. Documented Clinical Side-Effects to Dental Amalgam. Adv Dent Res, 6: 131-4, 1992 http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1292453&dopt=Abstract

Dr. Ziff reported an extensive list of diseases that have been linked to amalgam in the peer reviewed scientific literature including periodontal disease (gum disease).

Lorscheider, Fritz and Vimy, Murray Evaluation of the safety of mercury released from dental fillings. FASEB Journal Vol. 7 Dec. 1993 Murray Vimy [<dr-vimy@shaw.ca>](mailto:dr-vimy@shaw.ca) This is the first editorial ever published in the prestigious journal FASEB. It was by invitation of the editor since the earlier animal research published in FASEB had raised so much invalid criticism from the dental organizations.

Summers, A.O., Wireman, J., Vimy, M.J., Lorscheider, F.L. Marshall, B., Levy, S.B., Bennett, S., and Billard, L. Mercury released from dental "silver" fillings provokes an increase in mercury and antibiotic resistant bacteria in primates oral and intestinal flora. *Antimicrobial Agents and Chemotherapy*, Vol. 37 pp. 825-834, 1993 Email: Ann Summers <summers@arches.uga.edu> Murray Vimy <dr-vimy@shaw.ca> Dr. Summers continues to refine and define the findings of antibiotic resistance in animals and humans exposed to amalgam fillings.

J Wireman, CA Liebert, T Smith and AO Summers Association of mercury resistance with antibiotic resistance in the gram-negative fecal bacteria of primates. *Appl. Environ. Microbiol.*, Nov 1997, 4494-4503, Vol 63, No. 11 <http://aem.asm.org/cgi/content/abstract/63/11/4494> Dr. Wireman confirms the earlier research of Dr. Summers.

Palkiewicz, Pawel; Zwiers, Henk & Lorscheider, Fritz ADP-Ribosylation of Brain Neuronal Proteins Is Altered by In Vitro and In vivo Exposure to Inorganic Mercury *Journal of Neurochemistry* 62, 2049-2052 1994
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?md=Retrieve&db=PubMed&list_uids=8158153&dopt=Abstract Palkiewicz finds that mercury can produce the neurochemical lesions of Alzheimer's Disease both in the test tube and in live animals.

Status Quo and Perspectives of amalgam and other Dental Materials, International Symposium Proceedings Friberg, LT; Schrauzer, G.N. eds Georg Thieme Verlag Stuttgart - New York 1995 ISBN 3-13-102471-2 1994

The German Department of Health had banned amalgam use in women and children following the International Academy of Oral Medicine and Toxicology in Düsseldorf in 1992. Members of the dental profession protested that they hadn't been given an opportunity to present their evidence of safety. This conference consisted of 25 presenters and 2 moderators who are experts in mercury. The peer reviewed conclusions supported the German ban on exposure of children and women of childbearing age to mercury from amalgam.

7 members of the IAOMT participated in this historic conference:

1. D C Kennedy Biocompatible Restorative Dentistry
Email: davidkennedy-dds@cox.net
2. B E Haley & J C Pendergrass Mercury-EDTA Complex Specifically Blocks Brain b-Tubulin-GTP Interactions: Similarity to Observations in Alzheimer's Disease
Email: "Boyd E. Haley" <behaley@uky.edu>
3. F L Lorscheider Mercury Exposure from "Silver" dental Fillings: Current Research Findings about Uptake, Tissue Distribution, and Pathophysiology
4. M F Ziff Dental amalgam: Status Quo, Political Aspects, International Situation
5. D J Pleva Mercury Release From Dental Amalgam
6. Masi, J. V. Corrosion of amalgams in restorative materials: the problem and the promise.
James Masi <jmasi@wnec.edu>

Toxic Teeth: Chronic Mercury Poisoning of Modern Man, Vimy Chemistry and Industry p 14-17 1/95

Murray Vimy <dr-vimy@shaw.ca>

Echeverria, D.; Aposhian, H.V.; Woods, J.S.; Heyer, NJ; Aposhian MM; Bitner, AC, Jr; Mahurin, RK; Cianciola, M., Neurobehavioral effect from exposure to dental amalgam Hgo: New distinctions between recent exposure and Hg body burden *FASEB J.*, Vol. 12 pp. 971-980, 1998 <http://www.fasebj.org/cgi/content/full/12/11/971>

This research team in a series of experiments has measured significant neurological impairment in amalgam bearers and dental personnel as well as mercury-free dentists.

Vimy MJ, Hooper DE, King WW, Lorscheider FL : Mercury from Maternal "Silver" Tooth Fillings in Sheep and Human Breast Milk *Biological Trace Element Research* Vol. 56, 1997

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9164660&dopt=Abstract The Calgary research team demonstrated that mercury from amalgam enters both animal and human milk and, therefore, poses a significant risk to infants.

Leong CCW, Syed NI, Lorscheider FL Retrograde Degeneration of Neurite Membrane Structural Integrity of Nerve Growth Cones Following in vitro Exposure to Mercury NeuroReport Vol. 12 #4, 2001 You can watch this video and animation on the IAOMT web site at www.iaomt.org The video from this research shows that the introduction of 100 times less mercury than found in the cerebral spinal fluid of amalgam bearers into a cell culture of growing nerve cells immediately halts growth and produces neurofibrillar tangles similar to those seen in Alzheimer's Disease.

WHO Environmental Health Criteria 118: Inorganic Mercury. World Health Organization, Geneva, 1991

<http://www.inchem.org/documents/ehc/ehc/ehc118.htm>

The WHO has determined that dental amalgam is the predominant source of human exposure to mercury.

human daily dose of mercury from various sources is:

Dental amalgam	= 3.0-17.0µg/day (Hg vapor)
Fish and Seafood	= 2.3 µg/day (methylmercury)
Other food	= 0.3 µg/day(inorganic Hg)
Air & Water	= Negligible traces

"A specific no-observed--effect level (NOEL) cannot be established"

In 1991 Dr. Murray Vimy our founder participated in the WHO assessment of the daily dose received from amalgam in Genoa, Italy. The conclusions of this expert ad hoc committee are now in the Criteria document 118. Email: Murray Vimy <dr-vimy@shaw.ca>