1. **Mercury concentrations in the human brain and kidneys in relation to exposure from dental amalgam fillings. (1987, Sweden)**
   https://www.ncbi.nlm.nih.gov/pubmed/3481133

   Samples from the central nervous system (occipital lobe cortex, cerebellar cortex and ganglia semilunare) and kidney cortex were collected from autopsies and analysed for total mercury content using neutron activation analyses. Results from 34 individuals showed a statistically significant regression between the number of tooth surfaces containing amalgam and concentration of mercury in the occipital lobe cortex. ... The kidney cortex from 7 amalgam carriers (mean 433, range 48-810 ng Hg/g wet weight) showed on average a significantly higher mercury level than those of 5 amalgam-free individuals ... It is concluded that the cause of the association between amalgam load and accumulation of mercury in tissues is the release of mercury vapour from amalgam fillings.

2. **Mercury accumulation in tissues from dental staff and controls in relation to exposure. (1989, Sweden)**
   https://www.ncbi.nlm.nih.gov/pubmed/2603127

   Samples, mainly from occipital cortex and pituitary gland, but also from rental cortex, olfactory bulbs, thyroid gland and liver were collected from autopsies of 8 dental staff cases and 27 controls. These samples were analysed for total mercury content ... The results revealed high mercury concentrations (median 815, range 135-4,040 micrograms Hg/kg wet weight) in pituitaries from the dental staff cases compared to controls ..... Renal cortex was analysed from three cases and contained clearly higher concentrations ... There is no control material for the other analysed samples, but one thyroid sample had an extremely high concentration of 28,000 micrograms Hg/kg.

3. **Mercury from dental amalgams: exposure and effects (1992, Sweden)**
   http://www.ncbi.nlm.nih.gov/pubmed/23510804

   .. mercury from amalgam may well contribute significantly to a number of modern health problems and to decreased quality of life in a large population group in many countries. Erroneous opinion as to "negligible" mercury exposure and lack of cooperation between the dental, medical and other professions are two important factors in the issue. There is both biological and metallurgical evidence that typical Hg-exposure levels produced by amalgam fillings are 5-10-fold higher than what are regarded as safe limits for exposure to mercury from other sources. There is no doubt that dental mercury should be taken into consideration as a possible etiological factor when considering neurological, immunological and endocrinological diseases of unknown etiology.

4. **Long-term mercury excretion in urine after removal of amalgam fillings. (1994, Sweden)**
   https://www.ncbi.nlm.nih.gov/pubmed/7814102

   Within 12 months the geometric mean of the mercury excretion was reduced by a factor of 5 from 1.44 micrograms/g (range: 0.57-4.38 micrograms/g) to 0.36 microgram/g (range: 0.13-0.88 microgram/g). ... These results show that the release of mercury from dental amalgam contributes predominantly to the mercury exposure of non-occupationally exposed persons. The exposure from amalgam fillings thus exceeds the exposure from food, air and beverages.

5. **Human exposure to mercury and silver released from dental amalgam restorations. (1994, Sweden)**
   https://www.ncbi.nlm.nih.gov/pubmed/7944571

   Oral emission ranged up to 125 micrograms Hg/24 h, and urinary excretions ranged from 0.4 to 19 micrograms Hg/24 h. .. The worst-case individual showed a fecal mercury excretion amounting to 100 times the mean intake of total Hg from a normal Swedish diet. .. With regard to a Swedish middle-age individual, the systemic uptake of mercury from amalgam was, on average, predicted to be 12 micrograms Hg/24 h.

6. **Poison In The Mouth, PANORAMA, BBC (1994)**
   https://youtu.be/9MytAMiKiRc
   28:30 - pogovor s švedsko paralamentarko Siw Persson

   Faced with opposition from the dental lobbies and anxious at the potential legal implications parliament carefully wrapped the legislation up in a total environmental package. The members of Parliament who pushed for the ban knew what the real targets were. "People say that the only reason the Swedes are banning dental amalgam is on environmental grounds. Now is that true?" Siw Persson: "No, really not. It's one reason. But the most important reason is of course of health reasons". "Why is Sweden the first country to ban dental amalgam, because there's still no evidence, there is no final proof that dental amalgam actually hurts human beings". Siw Persson: "We said we have seen enough. Now we have to stop it before much more people are more sick than they are today".

   Del odgovora ministrstva za zdravje januarja 2018: *"Kar zadeva ostale ukrepe za postopno opustitev uporabe zobnega amalgama, ... pa bo pri oblikovanju potrebno upoštevati razvoj in strokovno mnenje stomatološke stroke... "*. Bi Švedska amalgam opustila, če bi za mnenje spraševala stomatološko stroko?

7. **Mercury in saliva and feces after removal of amalgam fillings. (1997, Sweden)**
   https://www.ncbi.nlm.nih.gov/pubmed/9169079

   Before removal, the median Hg concentration in feces was more than 10 times higher than in samples from an amalgam free reference group consisting of 10 individuals (2.7 vs 0.23 mumol Hg/kg dry weight, $p < 0.001$). A considerable increase of the Hg concentration in feces 2 days after amalgam removal (median 280 mumol Hg/kg dry weight) was followed by a significant decrease. Sixty days after removal the median Hg concentration was still slightly higher than in samples from the reference group. In plasma, the median Hg concentration was 4 nmol/liter at baseline. Two days after removal the median Hg concentration in plasma was increased to 5 nmol/liter and declined subsequently to 1.3 nmol/liter by Day 60.

8. **Mercury levels in plasma and urine after removal of all amalgam restorations: the effect of using rubber dams. (1997, Sweden)**
   https://www.ncbi.nlm.nih.gov/pubmed/9823089

   RESULTS: .. After removal of all amalgam restorations, only the non-rubber dam group showed significant increases in the mercury levels found in plasma ($p = 0.012$) and urine ($p = 0.037$). However, one year later, the mercury levels in plasma and urine had sunk significantly below the pre-removal levels for both groups. SIGNIFICANCE: The study showed that dental amalgam had a statistically significant impact on the mercury levels found in plasma and urine in the patients tested, and that the use of a rubber dam during removal of all amalgam restorations significantly reduced the peak of mercury in plasma following removal.

9. **Increased mercury emissions from modern dental amalgams (2017, Sweden)**
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5352807/

Abstract: All types of dental amalgams contain mercury, which partly is emitted as mercury vapor. All types of dental amalgams corrode after being placed in the oral cavity. Modern high copper amalgams exhibit two new traits of increased instability. Firstly, when subjected to wear/polishing, droplets rich in mercury are formed on the surface, showing that mercury is not being strongly bonded to the base or alloy metals. Secondly, high copper amalgams emit substantially larger amounts of mercury vapor than the low copper amalgams used before the 1970s. High copper amalgams has been developed with focus on mechanical strength and corrosion resistance, but has been sub-optimized in other aspects, resulting in increased instability and higher emission of mercury vapor. This has not been presented to policy makers and scientists. Both low and high copper amalgams undergo a transformation process for several years after placement, resulting in a substantial reduction in mercury content, but **there exist no limit for maximum allowed emission of mercury from dental amalgams**. These modern high copper amalgams are nowadays totally dominating the European, US and other markets, resulting in significant emissions of mercury, not considered when judging their suitability for dental restoration.

Droplets on the surface of non-γ2-amalgams: ... One would expect that droplets rich in mercury found on high copper fillings should have been published and discussed in journals commonly read by dental personnel, especially in an issue involving safety. As far as we can find, this has not happened. ..

Increased emission of mercury vapor in non-γ2-amalgams: ... In the four investigations above, the main researchers in dental amalgam are all reaching similar results. When the reducing oxide layer is removed, the emission of mercury is inversely related to the amount of tin in the gamma-1 phase. This oxide layer is very fragile, so touching the surface with a piece of cotton wool will result in higher levels of mercury vapor. ... Unfortunately, we cannot find any openly published information/discussion on increased emission of mercury vapor from modern amalgams in any journal commonly read by dental personnel. On the contrary, several big national and international dental organizations have stated that mercury fillings are stable. .....

Conclusion: **The non-γ2-amalgams** are marketed as superior in strength and corrosion resistance. When trying to meet these goals for development, a strong sub-optimization has occurred. In experimental set ups, these amalgams, **being introduced in the 1970s, emit about ten times more mercury vapor than the ones previously used**. Ordinary dental personnel, **politicians and other decision makers has not been informed about the instability of modern non-γ2-amalgams**.

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10. **Field study on the mercury content of Saliva** (University of Tübingen, Article in Toxicological & Environmental Chemistry- Volume 63, **1997**)

    20 000 subjects were enrolled in a large-scale field study to determine the concentration of total mercury in saliva. A statistical relationship was found between the mercury concentration in the pre-chewing saliva and chewing saliva, and the number of amalgam fillings. The mean number of amalgam fillings was 9 and the median mercury concentration was 11.6 µg/1 in the pre-chewing saliva and 29.3 µg/1 in the chewing saliva, which is considerably higher than reported in most previous publications. Extrapolation to the uptake of total mercury per week has shown that the provisional tolerable weekly intake (PTWI) value of the WHO is exceeded in at least 30% of the subjects.

    V EU je dovoljen nivo svinca v pitni vodi 10 µg/L in dovoljen nivo živega srebra 1 µg/L. Kako smiselne so take vrednosti živega srebra v slini ljudi z amalgamom? Živo srebro je povsod in v vseh oblikah toksin. Hlapi živega srebra, kot se deloma izločajo iz amalgamov, so še posebej problematični. Pa vendar je v stomatologiji s tem domnevno vse v redu, ker se to počne že 150 let? V medicini nasploh velja načelo previdnostnega principa, kjer proizvajalec zdravila ali izdelka dokazuje njegovo neškodljivost. Zakaj je amalgam izjema, kjer velja neke vrste obratno dokazno breme?

11. **Pravilnik o ravnanju z amalgamskimi odpadki**
    https://www.uradni-list.si/glasilo-uradni-list-rs/vsebina/57939

    "... - amalgamski odpadki odlagajo v posode, ki so namenjene shranjevanju amalgamskih odpadkov,
    – amalgamski odpadki zbirajo ločeno od drugih odpadkov,
    – amalgamski odpadki shranjujejo in začasno skladiščijo v posodah ali vrečah, na katerih je vidna oznaka o vrsti odpadka,
    – amalgamski odpadki ne mešajo z drugimi odpadki...
    ... Povzročitelj odpadkov mora zagotoviti, da se amalgamski odpadki shranjujejo ali začasno skladiščijo tako, da ne onesnažujejo okolja ali ogrožajo zdravja ljudi."

    Ko se amalgamska zalivka pacientu odstrani, le-ta postane super toksičen odpadek. Dokler je amalgam v ustih pacienta, je pa neoporečen? In obratno: Če amalgam trdno in trajno veže živo srebro, pred čim in zakaj varujemo okolje?

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12. **Dental "silver" tooth fillings: a source of mercury exposure revealed by whole-body image scan and tissue analysis. (1989)**
https://www.ncbi.nlm.nih.gov/pubmed/2636872

Mercury (Hg) vapor is released from dental "silver" tooth fillings into human mouth air after chewing, but its possible uptake routes and distribution among body tissues are unknown. This investigation demonstrates that when radioactive 203Hg is mixed with dental Hg/silver fillings (amalgam) and placed in teeth of adult sheep, the isotope will appear in various organs and tissues within 29 days. Evidence of Hg uptake, as determined by whole-body scanning and measurement of isotope in specific tissues, revealed three uptake sites: lung, gastrointestinal, and jaw tissue absorption. Once absorbed, high concentrations of dental amalgam Hg rapidly localize in kidneys and liver.

13. **Whole-body imaging of the distribution of mercury released from dental fillings into monkey tissues. (1990)**
https://www.ncbi.nlm.nih.gov/pubmed/2227216

The fate of mercury (Hg) released from dental "silver" amalgam tooth fillings into human mouth air is uncertain. A previous report about sheep revealed uptake routes and distribution of amalgam Hg among body tissues. The present investigation demonstrates the bodily distribution of amalgam Hg in a monkey whose dentition, diet, feeding regimen, and chewing pattern closely resemble those of humans. When amalgam fillings, which normally contain 50% Hg, are made with a tracer of radioactive 203Hg and then placed into monkey teeth, the isotope appears in high concentration in various organs and tissues within 4 wk. Whole-body images of the monkey revealed that the highest levels of Hg were located in the kidney, gastrointestinal tract, and jaw. The dental profession's advocacy of silver amalgam as a stable tooth restorative material is not supported by these findings.

14. **Long-term dissolution of mercury from a non-mercury-releasing amalgam. (1991)**
https://www.ncbi.nlm.nih.gov/pubmed/1860296

Abstract: .. This study examined the mercury release from a "non-mercury-releasing" dental amalgam, Composil, over a 104-week period. Four cylindrical specimens were incubated in 10 ml of purified water at 37 degrees C. The incubate was changed at the end of each 24-hour period and assayed for its mercury content at biweekly intervals. ... Results showed that the overall mean release of mercury was 43.5 +/- 3.2 micrograms/cm2/24 hr, and the amount of mercury released remained fairly constant during the duration of the experiment. This study showed that Composil releases mercury in quantities that far exceed those detected in other amalgam systems.

15. **Urinary mercury after administration of 2,3-dimercaptopropane-1-sulfonic acid: correlation with dental amalgam score. (1992)**
http://www.ncbi.nlm.nih.gov/pubmed/1563599
http://www.keytoxins.com/hgbiblio-files/iaomt/iaomt_db/IMT_Aposhian_1992_FASEB.pdf
(Page 3: Table 1, Fig. 2 - amalgam wearers vs people without amalgams)

Two-thirds of the mercury excreted in the urine of those with dental amalgams appears to be derived originally from the mercury vapor released from their amalgams.

16. **Significant mercury deposits in internal organs following the removal of dental amalgam (1996)**
http://www.ncbi.nlm.nih.gov/pubmed/8914687

In spite of considerable care not to inhale mercury vapor or swallow minute particles of dental

amalgam during the process of removing it by drilling, mercury entered the body of the subject. Precautions such as the use of a rubber dam and strong air suction, as well as frequent water suctioning and washing of the mouth were insufficient. Significant deposits of mercury, previously non-existent, were found in the lungs, kidneys, endocrine organs, liver, and heart with abnormal low-voltage ECGs (similar to those recorded 1-3 weeks after i.v. injection of radioisotope Thallium-201 for Cardiac SPECT) in all the limb leads and V1 (but almost normal ECGs in the precordial leads V2-V6) the day after the procedures were performed. Enhanced mercury evaporation by increased temperature and microscopic amalgam particles created by drilling may have contributed to mercury entering the lungs and G.I. system and then the blood circulation, creating abnormal deposits of mercury in the organs named above.

17. **Marked elevation of myocardial trace elements in idiopathic dilated cardiomyopathy compared with secondary cardiac dysfunction. (1999)**
http://www.ncbi.nlm.nih.gov/pubmed/10334427

A large increase (>10,000 times for mercury and antimony) of TE concentration has been observed in myocardial but not in muscular samples in all pts with IDCM. Patients with secondary cardiac dysfunction had mild increase (< or = 5 times) of myocardial TE and normal muscular TE. In particular, in pts with IDCM mean mercury concentration was 22,000 times (178,400 ng/g vs. 8 ng/g), antimony 12,000 times (19,260 ng/g vs. 1.5 ng/g), gold 11 times (26 ng/g vs. 2.3 ng/g), chromium 13 times (2,300 ng/g vs. 177 ng/g) and cobalt 4 times (86,5 ng/g vs. 20 ng/g) higher than in control subjects. .... CONCLUSIONS: A large, significant increase of myocardial TE is present in IDCM but not in secondary cardiac dysfunction. The increased concentration of TE in pts with IDCM may adversely affect mitochondrial activity and myocardial metabolism and worsen cellular function.

Od kje pride vso to živo srebro?

18. **Mercury exposure and early effects: an overview. (2002)**
https://www.ncbi.nlm.nih.gov/m/pubmed/12197264/

RESULTS: In an uncontaminated environment the general population is exposed to mercury vapour from the atmosphere and from dental amalgam, while the diet, mainly from fish, is the principal source for methyl mercury absorption. Mercury vapour release from amalgam fillings increases with chewing, with absorption and uptake by the brain and kidneys. .. CONCLUSIONS: As mercury can give rise to allergic and immunotoxic reactions which may be genetically regulated, in the absence of adequate dose-response studies for immunologically sensitive individuals, it has not been possible to set a level for mercury in blood or urine below which mercury related symptoms will not occur.

19. **Maternal amalgam dental fillings as the source of mercury exposure in developing fetus and newborn. (2008)**
https://www.ncbi.nlm.nih.gov/pubmed/17851449

A strong positive correlation between maternal and cord blood Hg levels was found (rho=0.79; P<0.001)**.** Levels of Hg in the cord blood were significantly associated with the number of maternal amalgam fillings (rho=0.46, P<0.001) and with the number of years since the last filling (rho=-0.37, P<0.001); these associations remained significant after adjustment for maternal age and education.

20. **Role of Mercury in Cardiovascular Disease (2011 Aug)**
http://www.ncbi.nlm.nih.gov/pubmed/21806773
https://www.omicsonline.org/open-access/the-role-of-mercury-in-cardiovascular-disease-2329-9517.1000170.php?aid=30773

Abstract: Mercury has a high affinity for sulfhydryl groups, inactivating numerous enzymatic reactions, amino acids, and sulfur-containing antioxidants (N-acetyl-L-cysteine, alpha-lipoic acid, L-glutathione), with subsequent decreased oxidant defense and increased oxidative stress. Mercury binds to metallothionein and substitute for zinc, copper, and other trace metals, reducing the effectiveness of metalloenzymes. Mercury induces mitochondrial dysfunction with reduction in adenosine triphosphate, depletion of glutathione, and increased lipid peroxidation. ... The overall vascular effects of mercury include increased oxidative stress and inflammation, reduced oxidative defense, thrombosis, vascular smooth muscle dysfunction, endothelial dysfunction, dyslipidemia, and immune and mitochondrial dysfunction. The clinical consequences of mercury toxicity include hypertension, coronary heart disease, myocardial infarction, cardiac arrhythmias, reduced heart rate variability, increased carotid intima-media thickness and carotid artery obstruction, cerebrovascular accident, generalized atherosclerosis, and renal dysfunction, insufficiency, and proteinuria. Pathological, biochemical, and functional medicine correlations are significant and logical. Mercury diminishes the protective effect of fish and omega-3 fatty acids. Mercury inactivates catecholaminei-0-methyl transferase (COMT), which increases serum and urinary epinephrine, norepinephrine, and dopamine.
.. The Environmental Protection Agency (EPA) has proposed that the safe daily intake of mercury is less than 0.1 microgram/kg/day. ... It is estimated that one dental amalgam filling releases about 3-17 micrograms of mercury vapor per day.

21. **Is dental amalgam safe for humans? (2011)**
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3025977/

It was claimed by the Scientific Committee on Emerging and Newly Identified Health Risks (**SCENIHR**)) in a report to the EU-Commission that "....no risks of adverse systemic effects exist and the current use of dental amalgam does not pose a risk of systemic disease...". SCENIHR disregarded the toxicology of mercury and did not include most important scientific studies in their review. But the real scientific data show that: ... Dental amalgam is by far the main source of human total mercury body burden. This is proven by autopsy studies which found 2-12 times more mercury in body tissues of individuals with dental amalgam. .... The half-life of mercury in the brain can last from several years to decades. .... An approx. 2-5-fold increase of mercury levels in blood and urine in living individuals with dental amalgam as well as a 2-12 fold increase in several body tissues was observed in deceased individuals with dental amalgam. Additionally, studies with animals have confirmed the fact that dental amalgam leads to significantly increased levels in the tissues. According to these studies, dental amalgam is responsible for at least 60-95% of mercury deposits in human tissues. ..... Mercury vapor inhalation in doses which also occur in humans with many amalgam fillings and chewing led to pathological changes in the brains of animals after 14 days. .... The average mercury level in the brain of EU citizens with more than 12 amalgam fillings was 300 ng Hg/g brain tissue [11], which is well above mercury levels proven to be toxic in vitro on neurons. .... Mercury levels in thyroid- and pituitary glands were 55 ng Hg/g and 200 ng Hg/g respectively and again, these levels correlates significantly with numbers of amalgam fillings. .... The average mercury load in brain tissues of individuals with Alzheimer`s disease was 20 to 178 ng Hg/g; in some cases the load exceeded up to (236- 698 ng Hg/g). ... It must be noted that about 30-50% of German people above the age of 85 years have Alzheimer's disease (AD) and there are many hints that mercury plays the major pathogenic role in AD. ..... Maternal amalgam fillings lead to a significant increase of mercury levels in fetal and infant body tissues including the brain. .... Drasch et al. found mercury levels of up to 20 ng Hg/g in German infant brain tissues which were mainly caused by dental amalgam fillings of their mothers. .... Mercury has been shown to be 10 times more toxic than lead (Pb) in vitro [88-90].

Mercury is the most toxic non-radioactive element. Mercury vapor is one of the most toxic forms of mercury along with some of the organic mercury compounds. ... Mercury vapor from amalgam penetrate into tissues with great ease, because of its monopolar atomic configuration. ...Once inside the cells, mercury vapor is oxidized to Hg^{2+}, the very toxic form of mercury which binds covalently to thiol groups of proteins inhibiting their biological activity. .... Hg^{2+} is more toxic than Pb^{2+}, Cadmium (Cd^{2+}) and other metals because it has a higher affinity due to "covalent bond" formation with thiol groups (cysteines in proteins) causing irreversible inhibition. ....in contrast to test animals in experiments, humans are exposed to many other toxins simultaneously ... it has been proven that the combination of the Lethal Dose 1% of mercury ($LD1_{Hg}$) together with the LD1 of lead (Pb) results in the death of all animals, so the following toxicological equation can be assumed: LD1 (Hg) + LD1 (Pb) = LD 100 ..... Dental amalgam fillings have been found to cause DNA damage in human blood cells. [115]. Even low levels of inorganic mercury lead to significant DNA damage in human tissue cells and lymphocytes. ... Constant low-dose mercury exposure, as is common in amalgam bearers, has been considered a possible cause for certain autoimmune diseases, e.g. multiple sclerosis, rheumatoid arthritis or systemic lupus erythematosus (SLE). .... Recent brain pathology studies have revealed elevations in mercury levels and mercury-associated oxidative stress markers in patients diagnosed with autistic disorders. ..... Autistic children show decreased levels of the natural mercury chelator glutathione [272]; it is known that mercury is capable of causing this phenomen [273]. .... Some studies which found no associations between mercury exposure and autism have severe methodical flaws....

The **SCENIHR** amalgam expert group consisted of one engineer (chairman), four dentists, a toxicologist and two veterinarians. The chairman has tight contacts to the industry. No experts for medicine or environmental medicine were included. One must wonder why it were the dentists who represented the strongest party in SCENIHR. Due to their education and clinical experience, dentist are not able to judge medical systemic adverse side effects caused by dental amalgam, like multiple sclerosis, autism, autoimmunity, Alzheimer's disease, psychiatric diseases etc ... Every amalgam patent has been produced according to dental organisations specifications.... the strategies of organized dentistry used to influence science and politics over the last decades [287-290] may be analogous to other well known topics with existing conflicts of interest..

Je SCENIHR res neodvisen in znanstveni komite?

22. **Mercury release of amalgams with various silver contents after exposure to bleaching agent (2016)**
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4946001/

Background: Since it is possible for carbamide peroxide (CP) bleaching agent to contact old amalgam restorations... Results: The amount of mercury released after exposure to CP was significantly higher than that released after exposure to buffered phosphate ($P < 0.001$). In addition, the amount of mercury released from dental amalgam with a silver content of 43% was significantly higher than that released from dental amalgam with a silver content of 69% ($P < 0.001$).

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23. **The rise and fall of pink disease. (1997 Aug)**
Ancestry of pink disease (infantile acrodynia) identified as a risk factor for autism spectrum disorders. (2011 Sep)
Genetic variation associated with hypersensitivity to mercury (2014 Dec)
http://www.ncbi.nlm.nih.gov/pubmed/11619497
http://www.ncbi.nlm.nih.gov/pubmed/21797771
http://www.ncbi.nlm.nih.gov/pubmed/25948960

"This paper explores the social and medical history and context of pink disease (acrodynia), a serious disease of infants and young children that baffled the medical world during the first half of the twentieth century until it was shown to be caused by mercury poisoning. In the English-speaking world the commonest source of the mercury was teething powders, which were widely available and advertised with increasing sophistication. ... The resistance to the evidence of mercury poisoning is typical of resistance to new medical knowledge and declined only when the opponents and sceptics grew old and disappeared from the scene."
"The results showed the prevalence rate of ASD among the grandchildren of pink disease survivors (1 in 22) to be significantly higher than the comparable general population prevalence rate (1 in 160). The results support the hypothesis that Hg sensitivity may be a heritable/genetic risk factor for ASD."
"Survivors of pink disease (PD; infantile acrodynia) are a population of clinically identifiable individuals who are Hg sensitive.. Analyses revealed significant differences between groups in genotype frequencies for rs662 in the gene encoding paraoxanase 1 (PON1) and rs1801131 in the gene encoding methylenetetrahydrofolate reductase (MTHFR)."

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24. **http://www.draloisdengg.at/bilder/pdf/BoydHaleyToxicity_Oral_Infection_Amalgam.pdf**

Slide 43: "Exposure of neuroblastoma cells to 10-9 molar mercury increases Tau phosphorylation and secretion of beta-amyloid. Both of these events occur in Alzheimer's diseased brain. Amyloid plaque formation is the "diagnostic hallmark" of Alzheimer's disease. Olivieri et al. J. Neurochemistry, 74, 231, 2000." (https://www.ncbi.nlm.nih.gov/pubmed/10617124)

"Exposure of cultured neurons to 10-7 to 10-10 molar mercury rapidly causes the stripping of tubulin from the neurofibrils forming the neurite processes leading to the formation of neurofibillary tangles, a "diagnostic hallmark" of Alzheimer's disease. Leong et al. NeuroReports 12(4), 733, 2001" (https://www.ncbi.nlm.nih.gov/pubmed/11277574)

25. **Does inorganic mercury play a role in Alzheimer's disease? A systematic review and an integrated molecular mechanism. (2010 - Journal of Alzheimer's Disease)**
https://www.ncbi.nlm.nih.gov/pubmed/20847438
https://pdfs.semanticscholar.org/c1be/611df62db64ba040c58beeb16b132c407501.pdf

Abstract: Mercury is one of the most toxic substances known to humans. It has been introduced into the human environment and has also been widely used in medicine. Since circumstantial evidence exists that the pathology of Alzheimer's disease (AD) might be in part caused or exacerbated by inorganic mercury, we conducted a systematic review using a comprehensive search strategy.... In vitro models showed that inorganic mercury reproduces all pathological changes seen in AD, and in animal models inorganic mercury produced changes that are similar to those seen in AD. Its high affinity for selenium and selenoproteins suggests that inorganic mercury may promote neurodegenerative disorders via disruption of redox regulation. Inorganic mercury may play a role as a co-factor in the development of AD. It may also increase the pathological

influence of other metals. Our mechanistic model describes potential causal pathways. As the single most effective public health primary preventive measure, industrial, and medical usage of mercury should be eliminated as soon as possible. ...

26. **Mercury induced the Accumulation of Amyloid Beta (Aβ) in PC12 Cells: The Role of Production and Degradation of Aβ (2013)**
https://www.ncbi.nlm.nih.gov/pubmed/24578793
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3936175/

Extracellular accumulation of amyloid beta protein (Aβ) plays a central role in Alzheimer's disease (AD). ... Hg and MeHg increased amyloid precursor protein (APP), which is related to Aβ production. Neprilysin (NEP) levels in PC12 cells were decreased by Hg and MeHg treatment. These results suggested that Hg induced Aβ accumulation through APP overproduction and reduction of NEP.

27. **Association between dental amalgam fillings and Alzheimer's disease: a population-based cross-sectional study in Taiwan. (2015)**
https://www.ncbi.nlm.nih.gov/pubmed/26560125
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4642684/

Introduction: Dental amalgam, a material for filling prepared cavities after removing caries, consists of about 50 % mercury [1]. Mercury vapor has been proven to be toxic to the central nervous system. In 2008, the European Commission asserted that there is no evidence showing negative effects on the human central nervous system when applying amalgam fillings as reported in previous studies. In 2009, a similar statement was made by the American Dental Association [2, 3]. The United States Food and Drug Administration, however, stated in 2008 that mercury in amalgam can increase neural risk in children and pregnant women [4]. Some scientific experiments showed that amalgam restorations in the oral cavity keep releasing human-absorbable mercury vapor [5–8]. Other studies have reported significant associations between mercury concentration in urine or in blood and quantities of amalgam restoration or number of total faces in amalgam restoration [9–11]. Furthermore, occupational studies on mercury exposure provided a strong association between mercury metal and the degeneration of the nervous system [12]. Inorganic mercury chloride ($HgCl_2$) at 0.025 to 25 μM has been associated with both neuronal degeneration and perturbed excitability [13]. Hock and colleagues have reported a two-fold increase in mercury levels among patients with Alzheimer’s disease (AD) when compared to control counterparts [14]. The influence of mercury on AD is not well understood. However, it has been demonstrated that mercury can dramatically promote heparin–induced aggregation of R2, the Alzheimer’s tau fragment [15].
METHODS: Data were retrieved from the Longitudinal Health Insurance Database (LHID 2005 and 2010). The study enrolled 1,943,702 beneficiaries from the LHID database. After excluding death cases and individuals aged 65 and under, 207,587 enrollees were finally involved in the study. ...
RESULTS: Individuals exposed to amalgam fillings had higher risk of Alzheimer's disease (odds ratio, OR = 1.105, 95 % confidence interval, CI = 1.025-1.190) than their non-exposed counterparts. Further analysis showed that the odds ratio of Ahlzheimer's disease was 1.07 (95 % CI = 0.962-1.196) in men and 1.132 (95 % CI = 1.022-1.254) in women. ...
Conclusions: After adjusting for age, income and residential region, women exposed to mercury amalgam fillings were 1.132 times more likely to have AD than were their non-exposed counterparts.

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Leta 2010 se je ministrstvo za zdravje v odgovoru med drugim sklicevalo na stališča in spletno stran ADA (American Dental Association). Če je Švedska leta 1994 rekla "iz naših študji smo videli dovolj", je FDA do tožbe leta 2008 trdila: "no science exists about the safety of mercury amalgam". Bi ADA in FDA take študije morali izvesti prvi na osnovi podatka, koliko živega srebra se pravzaprav sploh izloča pod kakimi pogoji iz kake vrste amalgamov?

28. **60 MINUTES on Mercury Fillings (probably recorded in 1990?)**
https://youtu.be/Ij-51ZZpyF8

Dr. Murray Vimy, dentist and author of the amalgam studies with a sheep and a monkey (12, 13), at 9:00: "What you see when you look into the FDA you see that the FDA's dental division has been platooned full of American Dental Association people. The entire committee is made up of people from dental institutions, practicing dentists, and people from the dental industry who make the dental materials. There is virtually no medical input or basic science input from medicine on that committee. And so anything the ADA wants they pretty much can get through the FDA. That's what's called effective lobbying."

29. **Amalgam, FDA expert panel hearings (2006**)
https://www.youtube.com/watch?v=jK2Uy49Z6CA

Question to Richard Kennedy, FDA toxicologist, at 1:05: You say it's between 1 and 5 micrograms per day. Since 1997 has anybody done studies to better characterize that range, perhaps the full distribution, or at least give us some probabilistic understanding of those numbers please? Richard Kennedy: "I would love to be able to answer that question."
Question to Ronald Zent, senior director of the ADA council on scientific affairs, at 2:00: Has the ADA ever characterized the exposure to its patients from dental amalgam in a probabilistic sense.. like means, averages, standard devitaions? Ronald Zent: "My understanding is that the component from dental amalgam is a lower component of te overall mercury exposure."

30. **The food and drug administration agrees to classify mercury fillings. (2008)**
https://www.ncbi.nlm.nih.gov/pubmed/19105536/

On Monday June 2, 2008, the lawsuit was settled with the FDA after it agreed to classify mercury fillings. During its negotiation session with the Appellants, the FDA indicated that it would change its website on mercury fillings. The FDA no longer claims that no science exists about the safety of mercury amalgam or that other countries have acted for environmental reasons only. On its website, the FDA now states the following: "Dental amalgams contain mercury, which may have neurotoxic effects on the nervous systems of developing children and fetus." The FDA also states that "Pregnant women and persons who may have a health condition that makes them more sensitive to mercury exposure, including individuals with existing high levels of mercury bioburden, should not avoid seeking dental care, but should discuss options with their health practitioner."

31. **FDA: About Dental Amalgam Fillings**
http://**www.fda.gov**/MedicalDevices/ProductsandMedicalProcedures/DentalProducts/DentalAmalgam/ucm171094.htm

Studies of healthy subjects with amalgam fillings have shown that mercury from exposure to mercury vapor bioaccumulates in certain tissues of the body including kidneys and brain. Studies have not shown that bioaccumulation of mercury from dental amalgam results in damage to target organs.

32. **Charlie Brown explains FDA classification of dental amalgam**
Charlie Brown Explains the FDA "white paper" on dental amalgam
FDA commissioner Margaret Hamburg's conflict of interest with amalgam rule
Charlie Brown explains the FDA & NIDCRs dental amalgam review scandal

https://www.youtube.com/watch?v=NhGENkQLXyk
https://www.youtube.com/watch?v=f2iIn6n6bqg
https://www.youtube.com/watch?v=VivBYrnJcCY
https://www.youtube.com/watch?v=NJujAGQkLAQ

..this joking around that mercury was safe if done by dentists.. ...
..even then.. they couldn't get the result FDA wanted without inverting the research question. The question was "Is there EVIDENCE amalgam is SAFE?". They had to flip the question and say "Is amalgam proven UNSAFE?". They kept saying it's not proven unsafe. That wasn't even the research question..

33. **Boyd Haley debunks the ADA claim: Only minute amounts of mercury are released from amalgam fillings**
https://www.youtube.com/watch?v=2WM1c7VSP70

We have taken single amalgam fillings, in a cylindrical form so we knew the weight and the surface area of that amalgam filling. We did this to over 90 feelings that were made by dentists and shipped back to me, nine different dentists. And we measured the amount of mercury that came of off a cylindrical filling .. sitting in distilled water at room temperature, where you have no acidity as you have it in your mouth that would encourage it to come out, no sulfur compounds like we have in our mouth that would make it come out, no heat, no grinding, and no galvanizem, which all would increase the amount. .. And the amounts that we came up with were 166 to over 600 times higher than what he (=FDA) estimated. ... The FDA is good at estimating. ... They could measure it.... Why don't they? .... I can tell you it's very very high. It's very toxic. And it corresponds to what people in other countries like the Swedes and Norwegians and the Fins have measured in the fecal material of people who have amalgam fillings. I mean it goes up dramatically high with existing amalgam fillings. You take those amalgam fillings out and the amount drops in their fecal material so it's not going into them from fish.

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34. **British Dental Association**
https://bda.org/amalgam

"No use of amalgam in the treatment of deciduous teeth, children under 15 years and pregnant or breastfeeding women, except when strictly deemed necessary by the practitioner on the ground of specific medical needs of the patient (from 1 July 2018). .... What is the BDA's position? We have worked alongside the Council of European Dentists (CED) to avoid a full ban of dental amalgam, which was included in earlier proposals of this Regulation and intended to be implemented by the early 2020s. ... It is important to note that the EU Regulation on Mercury is an environmental regulation, not a health regulation. .. "

Osrednji del besedila se je v začetku novembra 2017 še glasil tako: "BDA Lobying: The BDA and the Council of European Dentists (CED) have worked hard to avoid a full ban of dental amalgam, which was included in earlier proposals of this Regulation and intended to be implemented by the early 2020s." V času teh lobiranj je SCENIHR podal drugo mnenje o amalgamu. Je SCENIHR res neodvisen in znanstveni komite? Je možno, da ni niti eno niti drugo?

35. **Chief Executive of the British Dental Association loses it - BBC documentary**
https://www.youtube.com/watch?v=fq8E84PgP3g

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36. **Combined effects in toxicology -- a rapid systematic testing procedure: cadmium, mercury, and lead. (1978)**
https://www.ncbi.nlm.nih.gov/pubmed/731728
http://fluoridegate.org/wp-content/uploads/2013/03/proofSchubert_Combined_Hg-Pb1978.pdf

Page 6 (768): The degree of synergism can be remarkably high. In the Hg/Pb or (Hg+Cd)/Pb combination the acute lethal effect of lead became nearly equivalent to that of mercury. Administration of only 12.4 mcmol/kg lead with an LD1 dose of mercury resulted in 50% mortality. This amount of lead is 1/24 of its LD1, or 1/38 of its LD50 in the absence of mercury. It is interesting to note that a combination of the LD1 of each metal is 100% fatal.

37. **The Lead Industry and Lead Water Pipes "A MODEST CAMPAIGN" (2008)**
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2509614/

Lead pipes for carrying drinking water were well recognized as a cause of lead poisoning by the late 1800s in the United States. By the 1920s, many cities and towns were prohibiting or restricting their use. To combat this trend, the lead industry carried out a prolonged and effective campaign to promote the use of lead pipes. .... The LIA's activities over several decades therefore contributed to the present-day public health and economic cost of lead water pipes.

Svinčene vodovodne cevi, calomel, kajenje, azbest, amalgam. Zdi se, da take razprave in spremembe vedno potekajo na tako rekoč enak način. Se ničesar ne naučimo iz zgodovine?

ADA Accepted
American Dental Association ®

DOUBLE SPILL Gray/Gray

EACH CAPSULE CONTAINS:
600 mg. ALLOY / 600 mg. MERCURY

Actual text & logos from an amalgam label

WARNING ***Ingestion:*** May cause Neurotoxic Nephrotoxic effects.
Inhalation: May cause Bronchiolitis, Pneumonitis Pulmonary Edema
Eyes & Skin: May cause redness and irritation to eyes and skin
Acute Exposure: May cause sensitization dermatitis and possible visual disturbances
California Prop 66 Warning: This product contains mercury, a chemical known to the State of California to cause birth defects or other reproductive harm.
Store at temperature no higher than 25' C.
Mercury Complies to ISO 1560: I985
Keep Out Of Reach Of Children
Caution: Federal law restricts this device to sale by or on the order of a dentist.