

## A History of Occupational Exposure to Mercury

During the 1970's I was employed by a dentist as a practice manager and nurse. I was solely responsible for the running of the practice and was employed for three years in this capacity.

I spent many hours each day mixing mercury/amalgam fillings in a rubber finger stall, exposed to mercury vapour from the action of rubbing silver alloy and mercury together. I had no personal protection equipment; gloves or mask and no air extractor in the surgery. If I spilt the mercury, I simply wiped it up with a cloth. Any surplus amalgam was stored in an uncovered pot in a drawer, along with the liquid mercury. The only way I could see if the amalgam were to the correct consistency was by peering into the finger stall.

Dental amalgam was the cornerstone of dentistry as it was durable, easy to use, and inexpensive. It has been extensively employed as a tooth filling material since the early 19th century. Children of the post-war years were exposed to an inordinate amount of amalgam; 21 year old adults in 1968 had an average of 16 fillings. It is composed of 50% mercury, silver, copper, tin and sometimes zinc.

In November 2004, after many years of suffering with insomnia and depression, I was diagnosed with chronic mercury toxicity by an allergy specialist. Taken aback by these findings, I decided to consult a doctor in Leicestershire who specialised in mercury related illnesses. He agreed with the allergy specialist's diagnosis and decided to do a further specific test, the 'Kelmer test.'

Here, the levels before and after administration of DMSA (Dimercaptosuccinic acid) were taken. DMSA releases mercury by chelation and the amount released gives an indication of body burden.

This test produced an increase of 857% in my mercury levels. In addition, it made me feel very unwell. Such tests can be extremely dangerous for sensitive patients as they produce a lot of free mercury to flow around the body. Added to which, the kidney is not designed for mercury excretion and can be damaged when mercury is forced through it.

The initial test showed I had a mercury level in urine of 3.0mcg/l and a creatinine level in urine of 6.7mmol/l. (mercury/creatinine ratio 2.23 nmol Hg/mmol creatinine) After taking dimercaptosuccinic acid, I had a mercury level in urine of 6.0 mcg/l and a creatinine level in urine of 1.4 mmol/l (mercury/creatinine ratio 21.39 nmol Hg/mmol creatinine)

Unfortunately, at this stage, I was unaware of the MELISA Test. This is a blood test that measures very accurately, the sensitivity or allergy type response to a host of different metals and pollutants.

I started IV therapy with large doses of vitamin C, in February, 2005. I was advised to have my amalgam fillings removed in order to complete the detoxification.

My treatment was carried out by a mercury-free dentist in the UK. It involved the removal of twelve amalgam fillings and a piece of amalgam which was surgically removed from my jaw bone. During this ten day period, I continued with further chelation involving intravenous vitamin C, combined with glutathione. My amalgam fillings were replaced with composites and ceramic inlays.

Research conducted by Dr Linda Jones, Massey University, New Zealand, found that dental nurses suffered many side effects after handling mercury amalgam, including anxiety, sleep disturbance and hand tremors. Dental nurses who had mixed the amalgam by hand before the practice was stopped in 1974 had a far higher rate of needing hysterectomies than the general population of women; around four times the rate expected for women in their age bracket. "Difficulty with conception, having children with birth defects, having children with learning difficulties – the dental nurse group were over-represented in those categories."

For three years I corresponded with Tordis Klausen, a former dental nurse; she was instrumental in the total ban of mercury in Norway, January 2008. She helped thousands of women occupationally exposed to mercury. She is now considered a pioneer, and received the Zola-prize in 2006.

Amalgams have been banned in several countries, including Norway, Sweden, Denmark, Russia, and largely in Japan; the European Union is also taking steps aimed at reducing mercury usage. In Norway, environmental protection was given as the reason for the ban, but strict restrictions on the use of dental amalgam were already in place since July 2003, for both health and environmental reasons. Amalgam separators have been mandatory in dental clinics in Norway since 1995. This raises the question: Is the human body part of the natural environment? Why should the natural environment be protected from mercury, but not the human body?

In 2011, Professor Stejskal invited me to work with MELISA Diagnostics, dedicated to the science of metal allergy and its diagnosis:

<http://www.melisa.org/our-team/>

\*Update 2018: Article 10 of Regulation (EU) 2017/852 sets the following restrictions:

- As from **1 July 2018**, the use of dental amalgam is prohibited for dental treatment of (i) deciduous teeth, (ii) of children under 15 years and (iii) of pregnant or breastfeeding women, unless deemed strictly necessary by the dental practitioner on the ground of specific medical needs of the patient.

- By **1 July 2019**, each Member State must set out and publish on the Internet a national plan on measures to phase down the use of dental amalgam.

For advice on safe removal of dental amalgams and mercury detoxification, please contact:

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