“Stay Healthy, Stop Mercury” Campaign

Health & Environment Alliance (HEAL)
Health Care without Harm (HCWH)

Frequently Asked Questions

THE HAIR TESTING

Q° 1. Why was hair sampling chosen as the method for investigating mercury levels?

Hair sampling was chosen because it is not an invasive technique and provides information about exposure to mercury over time, making it preferable to blood analysis. Depending upon the length of the hair sample, it is possible to review exposure to mercury over several months. (See question 6)

Q° 2. Is hair sampling the only method to measure mercury levels?

No. Other methods to monitor mercury levels exist, such as analysis of blood, urine and saliva. Hair is particularly relevant in assessing exposure to methylmercury in the diet.

Q° 3. Why was it important that my hair was unwashed?

This was a request from the laboratory that did the analysis of the hair samples, following a standardised analytical method, in order to avoid external contamination by shampoo that might contain traces of mercury. Nevertheless, laboratory technicians have carefully washed the hair samples in order to remove any external contamination that may be present.

Q° ***4. Can the fact that I have my hair dyed regularly have an impact on my test result?***

Yes. It can influence the results because substances including heavy metals, such as mercury compounds, can sometimes be found in products used to dye hair.

THE RESULTS OF THE TEST

Q° 5. What is recommended as a safe level of mercury in a hair sample?

The World Health Organisation (WHO) has decided that a level of total mercury in hair of less than 10 micrograms per gram (noted as µg/g) of hair is unlikely to be associated with adverse health effects. This level corresponds to the limit above which there is a risk of neurological impairment for the foetus. (A risk of neurological impairement means the possibility of a negative health impact to the foetus’ developing nervous system).

Q° 6. If my level is above this limit, does the result of the hair test tell me anything about my state of health?

No. Your result indicates the concentration of total mercury in your hair and your exposure to mercury during the past few months, depending on the length of your hair sent to the laboratory since the average rate of growth of hair is approximately 1 cm per month. It does not mean that the mercury to which you have been exposed has necessarily caused a negative impact on your body

or state of health. However, if your hair level is above the WHO limit, we would advise you to look for the source of exposure and reduce it if possible. For example, if you are regularly eating fish that are likely to be contaminated with high levels of mercury, you may want to switch to fish with lower mercury levels. (See below)

SOURCES OF MERCURY EXPOSURE

Q° 7. What are the current sources of mercury exposure?

The general population is primarily exposed to mercury (methylmercury) through the diet, especially fish, and to mercury vapour (elemental mercury) due to dental amalgams. However, air and water, depending on local mercury pollution load, can contribute significantly to the daily intake of total mercury. (See questions 8 and 9)

Use of skin-lightening creams and soaps, the presence of mercury in the home (e.g. broken thermometers) or in the working environment can result in substantial elevations of mercury exposure. For example, an elevated air level in homes can result from mercury spills caused by a broken thermometer. Additional but small exposures result from the use of thimerosal (or thiomersal) as a preservative in some vaccines.

Q° 8. How can I reduce my exposure to mercury?

Among the various forms of mercury, methylmercury is the most toxic form. The general population is primarily exposed to methylmercury through the diet, with fish and fish products being the dominant source of methylmercury. Intakes of methylmercury from fish are dependent on fish consumption habits and the concentration of methylmercury in the fish consumed.

Large predatory fish, such as shark, king mackerel, swordfish, marlin and some large tuna (as opposed to the smaller tuna usually used for canned tuna), as well as some freshwater fish like trout, pike, walleye, bass, perch, and eels, and mammals like seals and whales contain the highest average concentrations of methylmercury. (See question 12)

Q° 9. What are the risks related to dental amalgams?

The World Health Organization (WHO) confirmed that mercury contained in dental amalgam, the silver-coloured mixture used to fill teeth, is the largest source of mercury vapour in non-industrialized settings. Small amounts of mercury are continuously released from dental amalgam fillings and people who wear amalgams have exposure to mercury levels that significantly exceed those set for food and for air. In the body, the inorganic mercury from dental amalgams may be transformed by bacteria and yeast into methylmercury (via a process of methylation), and then add to the methylmercury levels ingested from fish. Nevertheless, with the exception of hypersensitivity, there is not yet a scientific consensus on the direct health effect related to amalgam fillings. Because health problems that may be associated with dental amalgams may vary from one individual to another, dentists and medical researchers remain divided over whether dental amalgam may be harmful to the health of some people.

The use of dental amalgams can, however, contaminate the environment with significant amounts of mercury. Mercury dental fillings constantly release significant amounts of mercury to the environment through 1) amalgam carriers' bodily discharges (saliva, exhalation, faeces, urine) 2) dental clinics' waste into the sewage system, and 3) burial and crematoria emissions.

When mercury is discharged into the environment, it may directly enter water systems or it may vaporize and be transported though the atmosphere and later deposited on the earth in snow or rain. Once in the aquatic environment, it can be converted to methylmercury, which will bioaccumulate in fish.

RECOMMENDATIONS

Q° 10. Should I continue breastfeeding even if my result showed I had been exposed to mercury?

Yes. Although mercury can pass into breast milk, the amount of mercury in breast milk is not a problem under normal circumstances and health experts advise all breastfeeding women to continue to breastfeed for six months or more. The mother's diet appears to be the main source of mercury in breast milk. The primary danger from methylmercury in fish is to the developing nervous system of the unborn child, and mercury levels in breastfed babies usually decline significantly after 2-3 months.

Q° 11. Should I have my dental amalgams removed if I am pregnant or breastfeeding?

No. Women should avoid having dental amalgams removed while pregnant and breastfeeding. Replacement of amalgam fillings should also be postponed. Both of these interventions can generate an increase of mercury vapour, which can be transmitted from mother to developing foetus. If an intervention is necessary, the dentist should then take all precautions in order to minimize mercury vapour inhalation.

While there is a debate as to the clinical implications of exposure from dental amalgams, there is evidence that hot foods and liquids, as well as chewing, release mercury vapours from fillings. Therefore, if you have amalgam fillings, you should avoid chewing gum especially if you are pregnant or breastfeeding. The gum can pull traces of mercury off the surface of your fillings.

Q° 12. What is the kind and quantity of fish that I can eat safely?

The European Commission, based on a recommendation from the European Food Safety Authority (EFSA), advises:

> *"Women who might become pregnant, women who are pregnant or women who are breastfeeding should not eat more than one small portion (<100g) per week of large predatory fish, such as swordfish, shark, marlin and pike. If they eat this portion, they should not eat any other fish during this period. Also, they should not eat tuna more than twice per week. The advice also applies to young children."*

At national level, some Food Safety Authorities have issued recommendations that are more or less stringent than those of EFSA. They are adapted to the situation in each country.

The Swedish recommendation is the most stringent (and therefore the most protective) in the European Union, and they advise: women who are pregnant or thinking of becoming pregnant and breastfeeding women should NEVER eat large halibut, cod liver, eel, shark, swordfish, or tuna, fresh or frozen.

Please consult your national food safety authority to know if there is any recommendation on fish consumption in your country. For the fish types mentioned above, we recommend that women who are pregnant or thinking of becoming pregnant, or breastfeeding follow the most stringent recommendation. Please also see the attached table on seafood recommendations.

Q° 13. If I am pregnant or breastfeeding, should I stop eating fish?

No. Pregnant women should continue to eat fish at least twice a week, varying the types of fish eaten and favouring less contaminated types of fish. Seafood is an important source of

indispensable nutrients, and essential fatty acids are necessary for optimal neurological development of the foetus and young children.

Q° 14. Are mercury thermometers at home a risk?

Yes. These types of thermometers contain elementary mercury which, if the thermometer breaks, can vaporize at the temperature of the surrounding air, and be inhaled and pass into the blood stream. Elemental mercury can also pass into the blood stream following skin contact. Very high exposures to mercury vapour can cause acute poisoning. (See question 15)

There are safe alternatives to mercury thermometers (e.g. digital thermometers) and in some countries, the sale of mercury thermometers has already been banned. We urge you to replace your mercury thermometer before it breaks, and to give the mercury thermometer to a pharmacy or the appropriate hazardous waste facility near your home.

Q° 15. What should I do and not do with the mercury spill from a broken thermometer?

Immediately after the spill, all people, especially children, should be kept away from the spill area. In order to minimise mercury vapours, heaters and air conditioners should be turned off, and the area should be ventilated by opening windows as long as possible.

First of all, do not touch mercury with bare hands - you should wear gloves. **Never collect mercury spills with a vacuum cleaner**. All mercury beads should be collected with a carton and put in a sealed plastic bag. Once all beads of mercury are collected, put the material used for clean up into the bag, close it and label it as mercury waste before taking it to the pharmacy or to the appropriate hazardous waste facility near your home. On a carpet or a rug, the mercury-contaminated section should be cut out. In a sink of water, mercury will sink to the bottom and mercury should be recovered with eyedropper and placed in a bag.

Never collect mercury spills with a vacuum cleaner. The heat of the vacuum will vaporize the mercury into the air and increase exposure. If you have done so, take the vacuum bag in collection facilities for hazardous waste. Do not touch the mercury.

This FAQ sheet was reviewed by the laboratory that undertook the analyses of your hair samples.

If you want more information, please ask your national coordinator how you can contact the medical advisor for the project in your country. If you would like to become involved in the campaign to get rid of mercury, your national coordinator has information on what you can do to contribute.