

Natural Heavy Metal Chelators: Do They Work?

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Abstract

This paper examines the systematic research that has been conducted over the last 5 years on various natural substances that are purported in the literature to work at chelating and eliminating heavy metals. The research presented here examines the results using a number of natural substances, and their combinations, as well as a unique compound that had powerful synergistic effects against the majority of heavy metals, including mercury.

Most of the natural substances were tested using a double blind, placebo controlled study – some were found to work with some metals, one particular one, Cilantro, was found to retain more metals than baseline (which could be detrimental) and only one compound was found to chelate all metals tested. This particular oral formula called HMD™ underwent further double-blind, placebo controlled trials with 350 people.

Pre- and post-provocation samples of urine and feces were collected and analyzed for a variety of heavy metals using Inductively Coupled Plasma Mass Spectrometry (ICP-MS) as well as Atomic Fluorescence Spectrometry (AFS).

Much of this research on HMD™ was presented in a separate paper in Explore! Volume 14, Number 4, 2005, entitled The Discovery of a Unique Natural Heavy Metal Chelator.¹ This paper will reiterate some of this research while introducing new data on mercury chelation using HMD™ that was not published previously.

Key Words: Heavy metals, toxic metals, natural oral heavy metal chelators, metal detox, mercury detox, heavy metal detox, toxic metal detoxification

We Are All Toxic!

Heavy metal poisoning is now so common that it is literally impossible to avoid it. There would not be many scientists knowledgeable in heavy metals and xenobiotics that would disagree with the statement that “we are all toxic”. What is the proof? Well, there are many studies that have found many of these heavy metals and xenobiotics in new-born babies. In September 2005, Greenpeace International with the World Wildlife Fund, published a document entitled “Present for Life: Hazardous Chemicals in Umbilical Cord Blood.”² The research was a real eye-opener as it showed convincingly that newborns tested for hundreds of different xenobiotics showed high numbers and levels of these toxins. Specifically, the blood tests showed that these newborns had an average of 287 toxins in their bodies, 180 of these are known carcinogens.

Toxins in Newborns

This study also quantifies the antibacterial agent triclosan in human blood; this chemical was found in almost 50% of the samples. DDT, the notorious pesticide that is banned for agricultural use worldwide but which is still used in some places to control malaria, was still found in virtually all blood samples. Similarly, the organochlorine by-product and pesticide hexachlorobenzene – also subject to a global ban - was found in the samples. Perfluorinated compounds like PFOS and PFOA, used to make non-stick pans and water repelling coatings, were present in all but one maternal blood sample. PFOS was detected in all cord blood samples and PFOA in half of them.

We could make the assumption that this study was conducted in America where the level of toxicity is probably higher, compared to other countries. In order to address this question, let's examine a similar study conducted on pregnant women living in the North Pole where generally most people feel is a clean part of the earth! The research was published in The Science of the Total Environment and was entitled, *Organochlorines and heavy metals in pregnant women from the Disko Bay area in Greenland.*³

¹ Georgiou, G.J. *The Discovery of a Unique Natural Heavy Metal Chelator*. Explore! Volume 14, Number 4, 2005. ² Schuiling, J., van der Naald, W. (Greenpeace International, Greenpeace Netherland, World Wildlife Fund – UK), *Present for Life: Hazardous Chemicals in Umbilical Cord Blood*. Sept. 2005. <http://www.detoxmetals.com/images/newsletter/Chemicals%20in%20newborns.pdf> ³ Bjerregaard, P.U., Hansens, J.C. *Organochlorines and heavy metals in pregnant women from the Disko Bay area in Greenland*, The Science of the Total Environment 245, 2000,195-202. <http://www.detoxmetals.com/images/newsletter/HMs%20in%20pregnant%20women%20in%20Greenland.pdf>

Toxins in the North Pole!

The study showed high concentrations of heavy metals, such as mercury, and organochlorines in the blood and fatty tissue of the Inuit. This is attributed in particular to their high consumption of the meat and blubber of marine mammals. In this present study, 180 pregnant women and 178 newborn babies were studied, amounting to 36% of the total number of births in the Disko Bay area during 1994-1996. The pesticides found in the highest concentrations in maternal blood were DDE - 4.8 µg/l wet wt., trans-nonachlor - 1.6 µg/l and hexachlorobenzene - 1.2 µg/l; while the total concentration of PCB (Aroclor 1260) was 19.1 µg/l. Calculated on a lipid basis, concentrations were slightly higher in maternal than in cord blood. The mercury concentrations were 16.8 µg/l in maternal blood and 35.6 µg/l in cord blood. In a linear regression analysis, the concentrations of organochlorines, mercury and selenium increased with maternal age. Concentrations of mercury and cadmium increased with the consumption of marine mammals, and cadmium was associated with smoking.

Toxins in Wildlife!

Similar studies have also shown that wildlife in the arctic^{4,5} are also being killed due to high levels of toxic chemicals in their environment. The study showed that several arctic mammal and bird species that indicate chemical exposures are likely adversely affecting the health of these species. Some of the effects seen are potentially quite serious (e.g. immune suppression, hormone disturbances, altered behaviour).

Before we leave the Arctic Circle, there is another interesting study entitled, Human health implications of environmental contaminants in Arctic Canada: a review⁶ published in *The Science of the Total Environment* that has looked at the the Inuit Eskimos are being exposed to chemicals such as chlordane, toxaphene pesticides as well as PCBs.

Toxic Contamination Through Generations

Another fascinating study conducted by the World Wildlife Fund set out to explore whether there was any relationship between the types and levels of contamination found in three generations of families, and to examine possible links between contamination and a family's lifestyle, consumption patterns and everyday products.

The report entitled, Contamination: The Next Generation⁷ summarises the findings of the analysis of 104 different chemicals in the blood of 33 volunteers from seven families living in England, Scotland and Wales.

The volunteers in each family spanned three generations, generally comprising the grandmother, mother and two children. The volunteers comprised 14 children, 13 adults and six grandmothers. The ages of the volunteers ranged from nine years to 88 years.

All three generations tested, including the children, were contaminated by a cocktail of hazardous man-made chemicals. The results reveal that every child, from as young as nine years (none younger were tested), was contaminated by the same range of hazardous chemicals: organochlorine pesticides, PCBs, brominated flame-retardants, phthalates and perfluorinated ("non-stick") chemicals. Five chemicals found in each parent and grandparent was also found in every child.

While it might be expected that chemical burden increases with age, this study has shown that this conventional assumption is not always true: children can be more contaminated by higher numbers and levels of certain "newer" chemicals than their parents or even their grandparents, despite being exposed to these chemicals for only a fraction of the time. These "newer" chemicals include brominated flame retardants (used in sofas, textiles and electrical appliances) and perfluorinated chemicals (used in the manufacture of non-stick pans, coatings for takeaway food packaging and treatments for carpets, furniture, clothing and footwear).

The results show that chemicals used daily were found in the families tested in the survey, including the children. For example, fifty seven per cent of the seven people found to be contaminated by deca-BDE, a brominated flame retardant, were children. Of the volunteers tested, 82 per cent were contaminated by one or more perfluorinated chemical. The perfluorinated chemicals PFOA (perfluorooctanoic acid) was found in more than a third of the children tested. A related chemical PFOS (perfluorooctane sulphonate) was found in five of the family members tested.

There have been similar studies in the USA too - in July 2005, the Department of Health and Human Services, Centres for Disease Control and Prevention, USA, published a 475-page document entitled, Third National Report on Human Exposure to Environmental Chemicals⁸ which clearly indicates the growing number of chemical toxins present in all age-groups in the USA.

The American Council on Science and Health published a document in May 2003 entitled, Traces of Environmental Chemicals in the Human Body: Are They a Risk to Health?⁹ This research looked at the different types of xenobiotics found in US citizens, as

⁴ World Wildlife Fund. *Killing Them Softly: Health Effects in Arctic Wildlife Linked to Chemical Exposures*. 2006. <http://www.detoxmetals.com/images/newsletter/Chemicals%20in%20the%20arctic.pdf> ⁵ Brown, V. (World Wildlife Fund). *Causes for Concern: Chemicals and Wildlife – Toxic Chemicals, a Threat to Wildlife and Humans*. Dec. 2003. <http://assets.panda.org/downloads/causesforconcern.pdf> ⁶ Vahter, M., Kesson, A.A., Lind, B., Bjok, V., Schuktz, A., Berglund, M. *Longitudinal Study of Methylmercury and Inorganic Mercury in Blood and Urine of Pregnant and Lactating Women, as Well as in Umbilical Cord Blood*. Environmental Research Section A 84, 186-194 (2000). <http://www.detoxmetals.com/heavymetal/Research%20Articles/Hg%20in%20pregnant%20urine%20and%20cord.pdf> ⁷ WWF-UK. *Contamination: the next generation. Results of the family chemical contamination survey*. October 2004 <http://www.detoxmetals.com/images/newsletter/Contamination%20-%20The%20next%20generation.pdf> ⁸ Department of Health and Human Services, Centers for Disease Control and Prevention. *Third National Report on Human Exposure to Environmental Chemicals*, July 2005. <http://www.detoxmetals.com/images/newsletter/CDC%203rd%20Report%20on%20Chemical%20Exposure.pdf> ⁹ Kamrin, M. (The American Council on Science and Health). *Traces of Environmental Chemicals in the Human Body: Are They a Risk to Health?* May 2003 <http://www.detoxmetals.com/images/newsletter/Environmental%20chemicals%20in%20human%20body.pdf>

well as their quantity. While chemicals that have been banned for many years are still being detected, generally there is a downward trend with up to 90% reduction in the last few decades of toxins such as DDT and lead.

Low Dose Exposure

Toxicologists studying chemical toxicity usually have a reference range of values which indicate the “safe levels” of these chemicals. New research is showing, however, that even low-dose exposure¹⁰ is accumulative over time and can lead to children having decreased performance in areas of motor function and memory. Similarly, disruption of attention, fine motor function and verbal memory was also found in adults on exposure to low mercury levels. It is an occupational hazard for dental staff, chloralkali factory workers and goldminers, etc. Mercury has been found to be a causative agent of various sorts for disorders, including neurological, nephrological, immunological, cardiac, motor, reproductive and even genetic. Recently heavy metal mediated toxicity has been linked to diseases like Alzheimer’s, Parkinson’s, Autism, Lupus, Amyotrophic lateral sclerosis, etc. Besides this, it poses danger to wildlife. This low-dose toxicity and its effects on health will be the toxicologists next goal for future research.

Conventional Treatment

Many health practitioners use synthetic chelating agents such as DMPS, DMSA, EDTA and others to mobilize and eliminate heavy metals from the body. There are advantages and disadvantages to using these. One advantage is the power of their mobilizing activity – they are quick to mobilize and eliminate certain metals in the body, but this may place a huge burden on the body’s detoxification systems. Further symptoms have been reported by natural medical physicians throughout the U.S., such as intractable seizures in paediatric patients and multiple sclerosis in adult patients, due to taking high doses of DMSA over extended periods of time.¹¹⁻¹³

These are valid reasons to be at least cautious in the use of DMSA for the treatment of mercury toxic paediatric patients. The fragile brains and nervous systems of children with autism, PDD and seizure disorders should be handled with considerable care so as not to increase the damage. DMSA and DMPS can certainly be life-saving drugs in cases of acute metal poisoning. Toxicologists have noted that synthetic chelators should be used only in cases of acute metal poisoning, or as a last resort for intractable chronic poisoning. Natural methods should be exhausted first.

Natural Heavy Metal Chelators

The literature is full of claims about natural substances that apparently chelate and eliminate heavy metals. When one asks for the scientific studies to support these claims, then one becomes unstuck! One of the intentions of this author and researcher was to test a variety of different natural substances found in the literature to see whether there was any truth in their claims.

Over a period of three years, a number of natural substances were tested using double blind, placebo controlled trials. Substances tested included:

- ◆ Chlorella pyrenoidosa and vulgaris
- ◆ Homeopathic Chlorella
- ◆ Cilantro tincture
- ◆ Chlorella Growth Factor
- ◆ Homeopathic DMSA
- ◆ PleoChelate
- ◆ Homeopathic Chlorella + Chlorella Growth Factor (CGF) + Cilantro
- ◆ Homeopathic Chlorella + Chlorella Growth Factor (CGF) + Cilantro + PleoChelate
- ◆ Homeopathic Chlorella + Chlorella Growth Factor (CGF) + Cilantro + PleoChelate + Homeopathic DMSA
- ◆ Cilantro paste (not tincture) with vitamin C
- ◆ Cilantro paste, vitamin C and homeopathic lead
- ◆ Cilantro paste, vitamin C and homeopathic arsenic
- ◆ Cilantro paste, vitamin C and homeopathic cadmium
- ◆ Cilantro paste, vitamin C and homeopathic antimony

The summary of all these protocols is shown in *Table 1* on the next page, but detailed explanations can be found in *Explore!* Vol 14, no. 4, 2005.¹

General Results for All Protocols

The data presented in *Table 1* (N=220) shows the success (√) or failure (×) of these trials using the above named natural substances. Success meant that there was an increase in the specific metal in the post-testing, compared to baseline for the group being tested as a whole. It is important to bear in mind the stringent criteria that were used in this study to include a remedy as being “successful”. To be considered a successful remedy it must have shown the ability to eliminate metals in **all** the people involved in the particular trial.

¹⁰ Zahir, F., Rizwi, S.J., Haqb, S.K., Khanb, R.H. Low dose mercury toxicity and human health, *Environmental Toxicology and Pharmacology*, March 2005. <http://www.detoxmetals.com/images/newsletter/Low%20dose%20Hg%20exposure.pdf> ¹¹ Smith, D.R., et al, Succimer and the urinary excretion of essential elements in a primate model of childhood lead exposure, *Toxicological Sciences*, 2000, Apr, 54 [2] 473-80. ¹² Mann, KV. and Travers, J.D., Succimer, an oral lead chelator, *Clinical Pharmacology*, 1991, 10 [12] 914-22. ¹³ Jorgensen, FM., Succimer: the first approved oral lead chelator, *American Family Physician*, 1993, 48 [8] 1495-1502. ¹ Georgiou, G.J. *The Discovery of a Unique Natural Heavy Metal Chelator*. *Explore!* Volume 14, Number 4, 2005.

| Treatment | Pb | Pb | Cd | Cd | Sb | Sb | As | As |
|---|-----|-----|-----|-----|-----|-----|-----|-----|
| | (U) | (F) | (U) | (F) | (U) | (F) | (U) | (F) |
| Chlorella Growth Factor | ✗ | ✗ | ✗ | ✓ | ✗ | ✗ | ✗ | ✗ |
| PleoChelate | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✓ | ✗ |
| Homeopathic DMSA | ✗ | ✗ | ✗ | ✓ | ✗ | ✗ | ✓ | ✗ |
| Cilantro tincture | * | * | * | * | * | * | * | * |
| Homeopathic Chlorella | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |
| Homeopathic Chlorella+CGF+ Cilantro | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Homeopathic | ✗ | ✗ | ✗ | | ✗ | ✗ | ✗ | |
| Chlorella+CGF+ | | | | ✓ | | | | ✓ |
| Cilantro+PleoChelate | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |
| Homeopathic Chlorella+CGF+Cilantro+PleoChelate+Homeopathic DMSA | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |
| Cilantro + vitamin C | ✗ | ✓* | ✗ | ✓* | ✗ | ✗ | ✗ | ✗ |
| Cilantro + vitamin C + homeopathic plumbum | ✓* | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |
| Cilantro + vitamin C + homeopathic arsenicum | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |
| Cilantro + vitamin C + homeopathic antimonium | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |
| Cilantro + vitamin C + homeopathic cadmium | ✗ | ✗ | ✓* | ✗ | ✗ | ✗ | ✗ | ✗ |

Table 1 – Summary of the different natural substances tested using double blind, placebo controlled trials (N=220).

Summary of Conclusions

There are a couple of things worth commenting on - the only compound that was effective at mobilizing and eliminating all metals was HMD™ consisting of homeopathic Chlorella, Chlorella Growth Factor (CGF) and Coriandrum sativum leaf tincture. Interestingly, when these individual components were tested separately, there was negligible chelating activity, but when they were combined together there was a **powerful synergy** that helped chelate and eliminate all the metals tested through the urinary route as opposed to the biliary route. This has added advantages as reabsorption of metals from the gut is avoided.

Another trial was run at a later date for mercury and the results for this are presented below in Fig. 1 – again a double blind, placebo controlled trial was used with 56 people. There was a 448 per cent increase in eliminated mercury in the post-test after 24 hour provocation with HMD™ in the 56 people tested, compared to the baseline sample ($t=5.395$, $df=55$, $p<.0005$). In the control group there was a negligible increase in mercury.

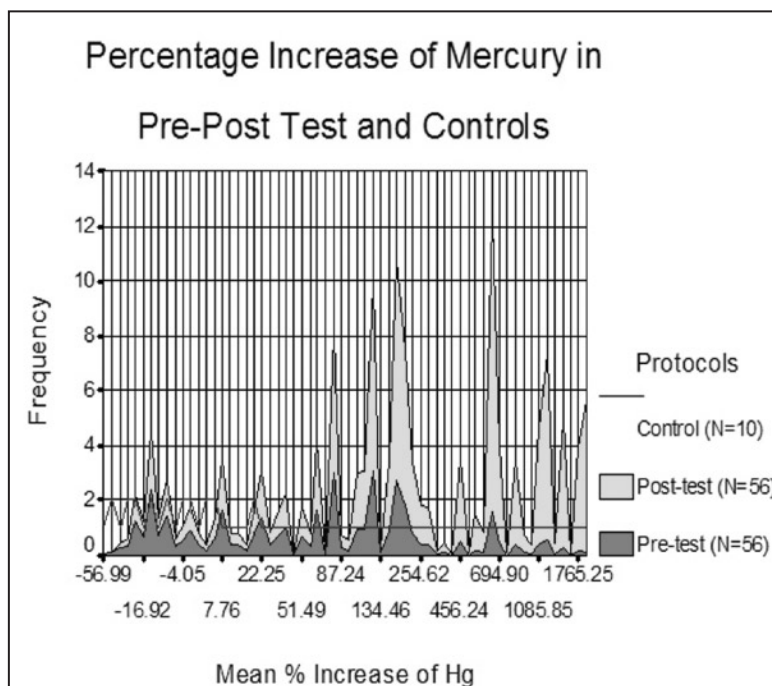


Fig 1 – Efficacy of HMD™ in Eliminating Mercury using Double Blind, Placebo Controlled Trials (N=56)

Before we discuss the further trials that were conducted with the HMD™, let me make a brief comment about another finding when using Cilantro tincture. When using Cilantro leaf tincture in a double blind, placebo controlled trial, it was found that there was a percentage decrease in the post sample compared to baseline. This is an indication that instead of eliminating the metals with the Cilantro tincture, the body was pulling back more than what was being measured at baseline. It is known that Cilantro tincture is a good intracellular chelator, facilitating the removal of metals from inside the cell into the mesenchyme. However, if the Cilantro by itself cannot chelate and eliminate the metals in the mesenchyme, then the osmotic potential will increase over time and there will be a backlash of metals going back into the cell. This could be very detrimental with neurological compromised patients, children and the elderly and is worthy of note by practitioners who tend to use Cilantro on its own.

The HMD™ Research – Further Trials

Just a reminder, HMD™ is a patent-pending, proprietary synergistic blend of three natural ingredients in liquid form that are taken orally:

- ◆ Chlorella Growth Factor (CGF)
- ◆ Organic Coriandrum sativum leaf tincture
- ◆ Homaccord of cell-decimated, energised Chlorella pyrenoidosa

Table 2 shows the summarized results of a number of different trials over a three-year period. The mean percentage increase of heavy metals after provocation with the HMD™ is compared with the elimination with placebo (a highly diluted chlorella tincture). The post-provocation urine samples were collected after 24 hours and the post-provocation faeces samples after 48 hours due to the slower transit time – “U” denotes the Urine samples and “F” the Faeces samples.

| Metals | Mean % Increase after Provocation | Mean % Increase of Placebo | Number in Sample | Results on Statistical Test | Degrees of Freedom | Significance |
|------------|-----------------------------------|----------------------------|------------------|-----------------------------|--------------------|--------------|
| Arsenic-U | 7,409% | 11.16% | 84 | – | – | $p < 0.0005$ |
| Arsenic-F | 59.83% | 61.13% | 84 | – | – | $p < 0.05$ |
| Lead-U | 466.47% | -16.95% | 84 | – | – | $p < 0.005$ |
| Lead-F | 142.16% | -6.012% | 84 | – | – | $p < 0.05$ |
| Cadmium-U | 67% | -27.91% | 84 | – | – | $p < 0.05$ |
| Cadmium-F | 43.13% | 22.62% | 84 | – | – | $p < 0.05$ |
| Antimony-U | 59.16% | 14.91% | 84 | – | – | $p < 0.05$ |
| Antimony-F | 50% | 6.61% | 84 | – | – | $p < 0.05$ |
| Nickel-U | 80% | 5.52% | 77 | $t=1.425$ | 76 | $p > 0.158$ |
| Bismuth-U | 564% | 7.95% | 19 | $t=2.109$ | 18 | $p > 0.04$ |
| Uranium-U | 707% | 18.23% | 76 | $t=1.015$ | 75 | $p > 0.03$ |
| Mercury-U | 448% | 0.799% | 56 | $t=5.395$ | 55 | $p > 0.0005$ |

Table 2 – HMD™ data over a number of trials over a 3-year period

Liver and Kidney Serum Test Results During the HMD™ Pre-Post Provocation Trials

During the HMD™ research trials, blood samples were taken from a small group of people (N=16) to determine the effects of the HMD™ provocation on liver and kidney function tests. The average percentage increase was calculated from the pre-and post sample figures of these biochemical tests.

Levels of Liver & kidney Function Tests During HMD™ Provocation

| | Creatinine | Bilirubin | Urea | ALT | AST |
|-------------------|------------|-----------|-------|-------|-------|
| % Increase | 11.95 | 3.15 | 25.35 | 16.74 | 5.25 |
| Minimum | 0 | 0 | 0 | 0 | 0 |
| Maximum | 42.80 | 20.19 | 53.73 | 75.00 | 38.46 |
| N= | 16 | 16 | 16 | 16 | 16 |

Table 3 – Details of the Liver and Kidney Function Tests

It can be concluded from these tests that HMD™ is a gentle chelator that does not adversely affect liver and kidney function tests and is tolerable by most people of all ages. However, based on clinical use of HMD™ over the last 2-3 years, it would be advisable for the practitioner to use a universal drainage remedy that can work concomitantly on all detoxification systems including the liver, kidney, skin, lymph and blood – the author has formulated such a natural herbal drainage remedy called Organic Lavage.

Clinical Experience Using HMD™

Over the last 2-3 years a large number of people of all ages have used HMD™ for various health problems. Some have been under the guidance of a practitioner, while others have ventured out by themselves. The author believes that it is advantageous to always be under the care of a practitioner who is familiar with detoxification protocols.

It would be interesting to share some of these experiences that practitioners and their patients have had with HMD™ below:

- ◆ **Lead Poisoning University Graduate, Egypt**
My patient is a 28-year old university graduate whose problem began 7 years ago with neck pains that progressed to semi-paralysis of the hands and feet. She began taking certain vitamins and minerals in high dosages which helped initially but she was left with a limp.

About 2 years ago the same symptoms appeared again but the progressive degeneration was much faster this time. Her vision was affected with blurring and white shadows until she became completely blind. She also became chronically depressed.

Table 3 shows the percentage increase of these biochemical parameters in the post-serum samples, compared to the baseline serum sample before HMD™ was taken. Overall, there are small average increases in creatinine, bilirubin, urea, ALT and AST, but nothing that surpassed pathological parameters. The minimum and maximum levels are also shown, but generally the higher levels were present in one individual only.

During this time she saw many doctors of different specialties such as internal medicine specialists, neurologists, psychiatrists and others. She had developed a loss of sensation in the feet with excruciating pain in all her body to the point where anyone touching her caused excruciating pain – there was no way that she could be seated upright by herself. Her blood pressure had reached 200/100 and she was started on antihypertensive drugs to control this. Her pulse rate increased and she began vomiting with little appetite. She also had peeling of the skin of her feet which was quite marked.

During the last 5 months her symptoms got worse with oedema of the legs and clonus of the feet. She began biting her tongue and cortisone therapy was began to control the swelling. There were also chronic, unbearable abdominal cramps. Even her facial features had changed due to bone protrusion in her face. She had a very bad taste in her mouth with a metallic characteristic. Her voice was very erratic and it was difficult to understand what she was saying. She could not sleep for longer than a couple of hours at a time.

Interestingly, at the back of the skull on the occipital region there was a distinct softening of the cranial bone with a puss-like viscous fluid extruding from the skull making the hair all sticky.

Diagnostic testing using EMG showed chronic axonal polyneuropathy, MRI showed abnormal signal intensity in the white matter of the occipital and posterior parietal lobes on both sides consistent with white matter disease or dural matter disease. ESR was elevated at 70, RBC count was low at 3.81 and she is very anaemic looking, her HGB is low at 9.8, HCT low at 26, MCV low at 70.1, S. creatinine low at 0.3 and albumin low at 2.1.

A Tissue/Hair/Mineral Analysis was performed as an initial screening test to determine the levels of toxic metals – lead was found to be 1,000% higher than the reference range 9.9 (ref range: <1.0), Antimony and Arsenic were also elevated, and copper, zinc, phosphorus, selenium, sulphur and germanium were all low.

About 2 months ago this lady began taking HMD™ (Heavy Metal Detox) once the hair analysis showed high toxic metals, particularly lead. Within a short period of time she began seeing dramatic improvements such as:

1. The sensitivity of the skin and pain in the bones had gone completely and it was possible to touch her again.
2. The stiffness in the knee had gone
3. The abdominal cramps had gone completely
4. Her facial features had changed as the bones in her face that had protrusions returned back to their initial position
5. Vision has improved somewhat and she is now able to see shadows
6. The oedema in the ankles has now gone and she can now sit unaided, something that was very difficult before
7. Her voice has now returned back to normal – before it was very erratic and communication was difficult
8. She can now sleep for long hours and get the rest that she requires
9. Her left arm that was completely paralysed and had swelled considerably has now gone and she can move her arm much better.

On the 29.07.07 this lady was seen by Dr. Georgiou at the DaVinci Clinic Egypt on one of his trips there and confirmed the diagnosis of lead poisoning with ART resonance testing showing lead accumulations in the occipital cortex, the liver and kidneys. A more detailed and complex detoxification regime was began for this lady, using HMD™ as one of the main chelators, along with drainage remedies and high levels of minerals, preferably ionic. Her progress will be carefully monitored and reported here for the benefit of all.

Dr. Hisham, M.D., Egypt.

5 Year Old Boy Diagnosed with Autism - North Shore, Auckland (reported by practitioner)

Behaviours included hyperactivity, anti-social behaviour, decreased cognitive function, still wearing day and night nappies. Mother had lots of amalgam fillings. Previous treatment of DMSA was stopped due to major regression. Mother had also tried several nutritional supplements over a period of time with no apparent response. May 2nd 2007 At first appointment with practitioner, was started on Ionic minerals and HMD™ after reviewing hair analysis which indicated High – Mercury, Aluminium Tin and Silver.

The following are events or reactions which the child has not previously displayed. During the first two weeks of treatment the child, picked up his school bag and got into his taxi to go to school, without guidance from the parent. During this time he greeted the driver and said “my name is ____ and I’m going to school”. The mother said “you could have knocked me over with a feather”.

Usually he would not even make eye contact with the driver, let alone communicate. In the past the boy would tear the place up in the morning and his mum would often end up wearing his breakfast. He is now coming down the stairs for breakfast without creating a disturbance and sitting to eat his breakfast. At the second follow up appointment it was noted that, his teacher had noticed a significant improvement in his behaviour, greater concentration on tasks given and generally more settled at school. Throughout the detoxing process his sleep patterns have improved significantly.

Prior to treatment he would only concentrate for about a minute at a time, now he is sitting cross legged and concentrating for periods of 10 to 15 minutes. He is cleaning his own teeth, putting his own pyjamas on, nappies at night time only now, and the most impressive is lying down for the chiropractor to work on him which in the past was a real challenge.

Practitioner Reporting on Chronic Fatigue Syndrome – Patient in Auckland, New Zealand

This 43-year old male patient was suffering with chronic tiredness, unable to focus on tasks, anxious, having trouble sleeping, had previously done a lot of running but hasn’t been able to, because of breathlessness.

Hair analysis showed high lead, also aluminium, mercury, arsenic and cadmium (previously was a mechanic). Has tried DMSA and EDTA with little success of reducing symptoms. Initially started taking Ionic minerals which helped stop the progression of symptoms.

May 2007 - started HMD™ and within the first month of treatment noticed a great increase in energy levels. He started running and was able to do 3 runs a week by the end of the first month, without cramping or becoming breathless. After the first month he has noticed he is much more organized and focused on tasks. No longer is he anxious, and is sleeping much better.

Metal Sensitivity in Female Patient Reported by a Friend – USA

I just received a call from a gal that I gave a HMD™ sample to a week ago. She was so highly toxic that even touching coins would cause a metal taste in her mouth. After 2 days she noticed she woke up - wide awake- as she says. This has never happened.

She can now, after a week, pick up a metal fly swatter without feeling and tasting metal in her teeth as drastically as she had before. She still got a small charge in her mouth. She is on a very low dose - 20 drops twice a day. She was so afraid to start anything more “heavy” as her reaction could be dire. She worked in the plumbing industry for years and handled metals, thus her build-up. She is feeling encouraged and feeling much better.

Mother Reporting on the Progress of Her Autistic Boy – USA

Alex is doing beautifully on the HMD™. I have been able to raise the dose. His speech is more frequent and clearer. His teacher reports “great” days at school. He is pretty regular and seems to actually be stimulated to move his bowels after his daily dose of HMD™ most times. There are other changes such as: singing with me, just knowing the words all of a sudden to songs, understanding us better, hearing better, etc. Mary – mother.

User Reporting on Symptom Improvement After Amalgam Removal – UK

I have been taking HMD™ now for 4 months consecutively at a dosage of 50 drops x 3 daily. I began taking it after having 6 amalgams removed with no detoxification programme to cover me - after a few months I felt really tired, dry skin, sore muscles and a general apathy towards life. A test showed that I had high levels of mercury as well as arsenic (I am a vegetarian so eat plenty of vegetables with pesticides as I cannot afford organic). I now feel so much better with the HMD™ - my energy has greatly improved and the pain in my muscles has gone completely. I am also feeling so much better and more alive! A.G. – Borehamwood, UK

Memory and Low Energy After Amalgam Removal – Cyprus

As a new user of HMD™ (two & a half weeks) the measurable health improvements have been remarkable. Within a couple of days of commencing with HMD™ I first noticed how much healthier I felt. Most significant was the tangible increase of my energy levels. To achieve this normally involved consuming numerous cups of tea & coffee to kickstart my system, whereas now they are not required. I am now more alert & dynamic throughout the day. In addition, my short term memory is also showing signs of improvement. I have no doubt these changes are attributable to the HMD™ product and will be purchasing a second bottle in the near future. Maybe someone should advise people not to have their amalgams removed unless they are on some form of chelation protocol like the HMD™.

Severe Endocrine Disturbances Lasting a Lifetime Regulated with HMD™ – Spain

I am 46 and until a month ago, having started a course of HMD™, had never had a normal menstrual period in my life! Until I went on the Pill, my periods had always

been very erratic in frequency and lasting about 15 days! I would have an unpleasant brownish discharge for about 10 days premenstrually and then the normal flow would come for about 5 days.

On coming off the Pill, in order to start a family, it became apparent that I was infertile and medical tests showed a hormonal abnormality, but no explanation could be found for this. On leaving off the Pill, my periods were more regular, but the discharge continued and I started taking HMD™ 2 months ago, corresponding with the beginning of a menstrual cycle, and at the end of that month, for the first time, there was no discharge at all prior to the period!

At the end of the second month, there was just a tiny amount on the 2 days premenstrually, which I am very happy about.

Other improvements I've noticed since starting HMD™ are that I no longer wake up in the mornings in a mental fog which would previously take a couple of hours to shake off, and in general I feel more alert and focused and I used to be allergic to deodorants, but on trying one recently, there was no resultant itchy rash, as I had experienced prior to taking HMD™.

My hair, which has always been thin and lifeless, looks healthier and more full-bodied. I intend to continue taking HMD™ having experienced this new lease of life, with the added bonus of knowing that my body is becoming less toxic by the day, and that I can expect to have a healthier life in the future. D.S. – Spain.

We have had many more reports from females with endocrine problems coming back into balance while using HMD™ for 2-3 months. We believe that HMD™ is eliminating other xenobiotics, apart from heavy metals, such as Bisphenyl A and other endocrine-disrupting chemicals. Trials are presently under way to see if HMD™ can genuinely remove these detrimental chemicals using double blind, placebo controlled trials using urine and serum blood samples in a pre-post provocation trial. There are also further research studies underway with autistic children as the results seen so far with autism have been quite good to quite dramatic.

There is enough evidence from scientific, methodologically sound research studies to suggest that every human living on this planet is toxic with heavy metals and xenobiotics – finding a natural chelating agent that can chelate and eliminate these chemicals naturally and without side effects should be encouraged. The author has been working on a natural, heavy metal chelating protocol based on scientific and clinical evidence for over five years now. This is what he suggests can be used for most cases of heavy metal toxicity:

- ◆ HMD™ - 50 drops x 3 daily for adults – sensitive adults should begin with half this dose and increase by one drop x 3 daily, every day until they reach a comfortable level.

- ◆ **HMD™ Organic Lavage** – this is an herbal formula of wildcrafted and organic herbs such as Silybum marianum (Milk Thistle Seed), Taraxacum officinale (Dandelion Root), Arctium lappa (Burdock Root), Trifolium pratense (Red Clover Tops), Curcuma longa (Turmeric Root), Hydrangea arborescens (Hydrangea Root) and Arctostaphylos uva ursi (Bearberry Leaf). This herbal formula is designed to open up the detoxification organs such as the liver, kidneys, the lymphatics, the skin as well as clean the blood and act as a natural anti-inflammatory – 25 drops x 3 daily for adults, or more as directed by practitioner.
- ◆ **HMD™ Organic Chlorella** – there are many concerns about finding good quality, clean Chlorella that is void of heavy metals and xenobiotics. The author has searched and travelled far and wide and has found an excellent source that is provided with Certificates of Analysis with each pot. Available in 500mg tabs - adult dosage should be 2 tabs x 3 daily.
- ◆ **A-Lipoic Acid** – the author believes that when metals and other xenobiotics are mobilized in the body that there should be some protection against free radical damage. Lipoic acid is that extraordinary antioxidant that is both water and fat soluble, able to penetrate the brain and other nervous tissues, able to protect all parts of the body against free radical damage.
- ◆ **Minerals** – flushing the body with high levels of most of the minerals and trace elements will prevent the metals from re-entering the cell, as well as providing the raw materials for enzyme systems to reactivate, including detoxification systems.

The author will often fine-tune this protocol depending on the needs of the patient, but generally this works well for most cases as a basic protocol. 🌿

About the Author



Dr. Georgiou has been an active clinician for 25 years, and Natural Medicine Director and Founder of the DaVinci Natural Health Center (www.naturaltherapycenter.com) which specializes in the treatment of chronic diseases. He is

also the principal investigator of the HMD™ research and the worldwide patent-pending owner as well as Director of the DaVinci LifeSciences Research Center, in Larnaca, Cyprus where he conducts further laboratory and clinical research on heavy metal and xenobiotic chelation. He has nine degrees and diplomas in Natural Medicine from the U.K. and U.S., including the Biological Sciences, Clinical Nutrition, Naturopathy, Herbal Medicine, Iridology, Homeopathy, Su Jok Acupuncture, Clinical Psychology and Clinical Sexology as well as specialized training in VEGA bio-dermal screening, bioresonance, Live Blood Analysis, Thermography, ART, HRV, Heavy Metal testing using spectrometers, and other modalities. He is the International European Director for the University of Natural Medicine and founder of the DaVinci College of Natural Medicine in Cyprus. Tel: 00357-24-823322 email: drgeorge@detoxmetals.com www.detoxmetals.com